

continued from page 3

**December 2005**

Make	#1	#2	#3	#4	#5	#6	#7	#8	#9	#10
General Motors	P0420	P0141	P0440	P1870	P0401	P0300	P0128	P0102	P1404	P0113
Daimler-Chrysler	P0134	P0403	P0455	P0300	P0442	P0401	P0740	P0743	P0132	P0138
Ford	P0401	P0171	P0174	P0420	P0340	P1744	P0133	P0402	P1443	P0141
Honda/Acura	P0420	P0401	P1456	P0135	P0301	P1491	P0141	P0303	P1457	P0300
Nissan/Infiniti	P0325	P0420	P0400	P0430	P0110	P0130	P0136	P0150	P0446	P1491
Toyota/Lexus	P0420	P0135	P0446	P0171	P0441	P0440	P0430	P0442	P1155	P1780
Other Japanese	P0420	P0171	P0421	P0105	P1131	P1627	P0106	P0125	P0133	P0134
Korean	P0442	P0100	P0133	P0441	P0501	P1154	P0136	P0171	P0422	P0446
German	P0170	P0171	P0340	P0173	P0420	P0455	P0740	P1128	P1582	P0116
Swedish	P0136	P0172	P0455	P0705	P0116	P0128	P0130	P0133	P0171	P0300
English	P0174	P0301	P0302	P0305	P0308	P0464	P1300	P1313	P1314	N/A

**KEY**

**General Motors** = Buick, Cadillac, Chevrolet, GEO, GMC, Oldsmobile, Pontiac, Saturn

**Daimler-Chrysler** = Chrysler, Dodge, American Eagle, Jeep, Plymouth

**Ford** = Ford, Lincoln, Mercury

**Honda** = Honda, Acura

**Nissan** = Nissan, Infiniti

**Toyota** = Toyota, Lexus

**Other Japanese** = Isuzu, Mazda, Mitsubishi, Subaru, Suzuki

**Korean** = Daewoo, Hyundai, Kia

**German** = Audi, BMW, Mercedes, Porsche, Volkswagen

**Swedish** = Saab, Volvo

**English** = Bentley, Land Rover, Jaguar, Mini, Rolls Royce

**DTC CATEGORY DEFINITIONS**

**PX1XX** = Fuel and Air Metering

**PX2XX** = Fuel Control

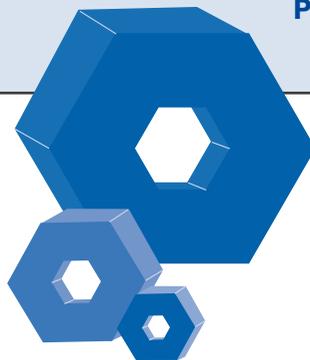
**PX3XX** = Ignition System or Misfire

**PX4XX** = Auxilliary Emission Controls

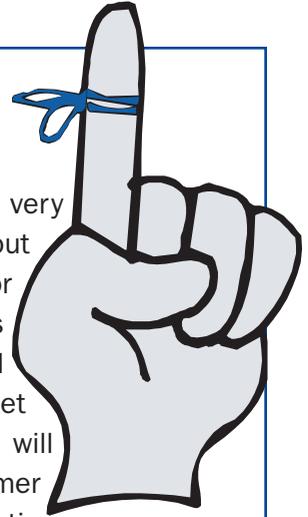
**PX5XX** = Vehicle Speed, Idle Control, Auxilliary Input

**PX6XX** = Computer and Auxiliary Output Devices

**PX7XX, PX8XX, PX9XX** = Transaxle/Transmission



## Here are a few reminders about some of the most common codes listed:



1) P0420 – P0439 DTCs – This range of DTCs covers catalytic converters and are very common codes represented on these three tables. Here a couple of reminders about repairing catalytic converters: 1) OEM Converters are covered under federal warranty for eight years or 80,000 miles. If you are servicing a vehicle that hasn't exceeded this warranty period, make sure to submit this repair under a warranty claim. 2) Not all replacement converters are created equally. The performance of new aftermarket converters are only warranted for 25,000 miles. Also, not all aftermarket converters will enable the catalytic converter monitor to reset. Make sure you consult with your customer before you install an aftermarket converter. 3) A vehicle that fails the OBDII test for catalytic converter code must have the catalytic converter monitor reset in order to pass the OBDII retest. If the monitor is unset, the vehicle will receive a REJECT test result. Be sure to set the catalytic monitor to "Ready" for your customers if you repair a converter DTC and/or replace a converter. 4) Catalytic converters are exempt from state sales tax. For more information on sales tax exempt parts, visit [www.dnr.state.mo.us/oac/pub1294.pdf](http://www.dnr.state.mo.us/oac/pub1294.pdf).

2) P0440 – P0459, P1443 DTCs – This range of DTCs covers the evaporative system and are very common codes represented on these two tables. Here a couple of reminders about repairing evaporative systems: 1) The IM240 tailpipe test was not designed to measure evaporative emissions, so the presence of these codes may have been ignored in the past. In other words, these codes may not have been repaired for an extended period of time. 2) Evaporative emissions are becoming an ever larger portion of the emissions from a vehicle. Therefore, it is important to repair these codes correctly to improve air quality. 3) Along with repairing these codes is the importance of setting the evaporative system readiness monitor so that evaporative system problems will be identified as soon as they occur. Learn how to set your customers' vehicle readiness monitors so that their vehicle will have an intact OBDII system. 4) With gasoline prices as high as they are, you can help keep your customers keep their vehicle efficiency as high as possible. By properly repairing evaporative system DTCs, you are preventing the gasoline they purchase from escaping the vehicle.

3) Nissan/Infiniti P0325 (#1 most common Nissan DTC for all three months) – This is not necessarily a code that turns the MIL on or causes the vehicle to fail the emissions test. The high frequency of this code indicates that vehicles that fail the OBDII test will have other DTCs along with this code, and those other DTCs are the reason the MIL is illuminated. For more information on this DTC, see the May 2004 and July 2004 Gateway Air Repair Newsletters. If you no longer have your copy of these newsletters, you can find these and all issues of the newsletter on the Web at [www.gatewaycleanair.com/mechanic/airmenu.htm](http://www.gatewaycleanair.com/mechanic/airmenu.htm).

4) General Motors P1870 (#3 most common GM DTC in October, #8 most common GM DTC in November and #4 most common GM DTC in December) – When this DTC is stored by a GM vehicle, a transmission component is slipping or the torque converter control is stuck in the off position. As a result, the vehicle is burning more fuel and is not operating as cleanly as it was designed to run. This transmission code does not necessarily require the replacement of the vehicle's transmission but should be repaired to keep the vehicle running as cleanly as possible. If you are not trained in transmission repairs, we recommend you consult with a transmission repair expert to help you diagnose the reason for this DTC being set. If this is the only DTC that the vehicle has, the vehicle is eligible for a transmission waiver from the Department of Natural Resources. For more information on transmission waivers, call (314) 416-2115.

## Help is a Phone Call (or Click) Away

The following resources are presented for informational purposes only and are not necessarily official productions of the Missouri Department of Natural Resources or the Gateway Clean Air Program. No one affiliated with the Gateway Clean Air Program is responsible for the content or accuracy of any unofficial site listed:

### EMISSIONS TESTING INFORMATION

[www.gatewaycleanair.com](http://www.gatewaycleanair.com)  
 Gateway Clean Air Program repair industry hotline:  
 1-888-748-0377  
 Gateway Clean Air Program general information  
 hotline: 1-888-748-1247  
 Missouri Department of Natural Resources:  
 (314) 416-2115 - information about Missouri  
 Recognized/Qualified Repair Technicians  
 (MRRT/MQRT) status and technical assistance.

### EMISSIONS REPAIR INFORMATION

Assistance Finding Emissions Parts:  
 HELP Smog Parts: 1-800-544-4357  
 Brown Recycling: 1-800-367-9271 – for  
 information on certified used catalytic converters.  
[www.tomco-inc.com](http://www.tomco-inc.com) or (314) 815-6944

### EMISSIONS-RELATED HEALTH INFORMATION

[www.lungusa.org](http://www.lungusa.org)  
[www.envirosafeshop.com](http://www.envirosafeshop.com)

### INDUSTRY SUPPORT

[www.iatn.com](http://www.iatn.com)  
[www.asecert.com](http://www.asecert.com)  
[www.acc-online.org](http://www.acc-online.org)  
[www.sts.sae.org](http://www.sts.sae.org)  
[www.theautomotivetechshop.com](http://www.theautomotivetechshop.com)  
[www.carcarecouncil.org](http://www.carcarecouncil.org)

### OBDII INFORMATION

[www.obdclearinghouse.com](http://www.obdclearinghouse.com)  
[www.obdiicsu.com](http://www.obdiicsu.com)  
[www.obdii.com](http://www.obdii.com)  
[www.autotap.com](http://www.autotap.com)  
[bob@servicemycar.com](mailto:bob@servicemycar.com) (for free OBDII software)

### OBDII OEM TECHNICAL WEB SITES

Below is a list of Original Equipment Manufacturer's Technical Web sites that can possibly provide useful information. The information on these Web sites can

help increase your successful OBDII repair rate and should be part of your toolbox. Please note that there is a fee required to visit the majority of these sites.

ACURA – [www.ServiceExpress.Honda.com](http://www.ServiceExpress.Honda.com) – \$500 per year, \$20 per 72 hours, \$50 per 30 days (the 30 day option will automatically renew)

BAVARIAN MOTOR WORKS (BMW)-  
[www.bmwtechinfo.com](http://www.bmwtechinfo.com) – \$2500 per year, \$300 per month, \$25 per day

CHRYSLER GROUP – <http://www.techauthority.com> - \$1500 per year, \$200 per 300 days, \$20 per day

FORD – <http://motorcraftservice.com> – \$2499.95 per year, \$19.95 per 72 hour –OBDII Theory and Operation – FREE OF CHARGE

GENERAL MOTORS- [www.acdelcotechconnect.com](http://www.acdelcotechconnect.com) – \$1200 per year, \$20 per day

HYUNDAI- [www.hmaservice.com](http://www.hmaservice.com) – FREE

INFINITI – [www.nissantechinfo.com](http://www.nissantechinfo.com) – \$2499.98 per year, \$299.98 per 30 day, \$19.99 per day

ISUZU – [www.isuzutechinfo.com](http://www.isuzutechinfo.com) – \$1650 per year, \$150 per 30 day, \$20 per day

KIA – [www.kiatechinfo.com](http://www.kiatechinfo.com) – \$299 per year, \$29 per month, \$19.00 per week, \$10 for three days

LEXUS - <http://techinfo.toyota.com> – \$350 per year, \$50 per month, \$10 per day

MAZDA- [www.mazdatechinfo.com](http://www.mazdatechinfo.com) – \$1500 per year, \$900 per six months, \$199.95 per 30 day, \$19.95 per day

MINI – www.minitechinfo.com – \$2500 per year,  
\$300 per 30 days, \$25 per day

NISSAN – www.nissantechinfo.com – \$2499.98 per  
year, \$299.98 per 30 days, \$19.99 per day

PORSCHE – http://techinfo.porsche.com – \$5200  
per year, \$110 per day , document search is free

SAAB – www.saabtechinfo.com - \$500 per year,  
\$180 per three months, \$175 per month, \$10 per  
day

SUBARU – http://saabtechinfo.com - \$2499.95 per  
year, \$19.95 per day

TOYOTA- http://techinfo.toyota.com – \$350 per year,  
\$50 per month, \$10 per day

VOLVO- www.volvotechinfo.com - \$3225 per year,  
\$322.50 per 31 days, \$49.50 per 72 hours

**TRAINNG and RESOURCES**

www.theautochannel.com

www.aspireinc.com or 1-800-247-1099

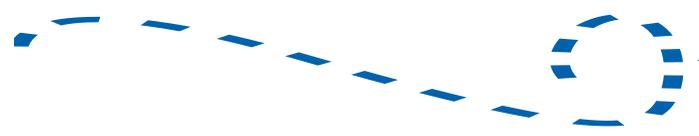
- www.caat.org
- www.ccar-greenlink.org
- www.sts.sae.org
- www.secondchancegarage.com
- www.autoed.com
- www.beyondparts.com
- www.fuelline.com
- www.fedworld.gov/pub/auto/auto.htm
- www.aera.org
- www.apra.org
- www.autoshop101.com
- www.toolsforeducation.com
- www.bergwall.com
- www.diagnostichotline.com
- www.learntofixcars.com
- www.asetestprep.com
- www.asecert.org
- www.allexperts.com
- www.asld.com
- www.smogfree.com
- www.car-sound.com
- www.mad-mechanic.com
- www.carleysoftware.com
- www.aecc.be

## **OBDD Drive Trace Information Available**

Effectively repairing and retesting an OBDD system can be complicated. Clearing all the codes also resets the readiness monitors to “Not Ready.” Before retesting can occur, these monitors will require resetting to “Ready,” a possibly time consuming process.

The National Center for Vehicle Emissions Control Systems (NCVECS) has available a handy CD that provides NCVECS developed OBDD drive cycles for the majority of vehicles. Performing the specific drive cycle needed allows you, the repair technician, to validate the repair and reset the monitor(s). This leaves all the readiness monitors set, which enhances your customers’ ability to acquire a retest and hopefully pass.

The cost for the Drive Trace CD is \$39.95 (plus \$4.50 S/H). To order call (970) 491-7240 or visit www.ncvecs.colostate.edu



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St. Charles, MO 63302-1034

# Training and Special Events

The following is a list of known training available in the St. Louis area. This information is for reference only and is neither endorsed nor sponsored by the Gateway Clean Air Program. To find out what training is currently being offered, please contact any of the training providers listed below. Training providers that accept the \$50.00 (fifty-dollar) MRRT Training Voucher are noted. Please contact trainers to confirm dates, course costs, and to arrange payment.

## [CARQUEST](#)

The trainer is Lou Nelson. For more information, contact Chris Chesney at (919) 573-3342 or Mike Mulcahy at (314) 566-4303. Courses are held at 800 N. 17th St., St. Louis, MO 63106. The MRRT Training Voucher is accepted.

## [Design Technology, Inc. \(DTI\)](#)

The trainer is Lou Craven. For information on training offered by DTI, call (636) 939-5670 or fax (636) 477-9093. The MRRT Training Voucher is accepted.

## [Federal Mogul](#)

6565 Wells Ave., St. Louis, MO 63133

Contact: Thomas Martin

(314) 977-0798; fax (314) 512-8398

The MRRT Training Voucher is accepted.

Technical Information: 1-888-819-5681 (no charge)

Technical Bulletins: 1-888-819-5681 (no charge)

Diagnostic Line: 1-900-486-0400 or 1-866-265-4170  
(\$3.95/min.)

Training Course Information: 1-888-771-6005

Web site: [www.federal-mogul.com/training](http://www.federal-mogul.com/training)

### [TEC301 Automotive Electronics](#)

Workshop Length: 2 1/2 days (20 hours), 2  
CEU's Awarded-\$479 (with hotel room), \$330  
(without hotel)

Designed for technicians desiring educational instruction on one of today's hottest subjects. This workshop will familiarize the technician with electricity and electronics, from the fundamentals to complex automotive circuits.

Become proficient with the diagnostic tools needed to service electrical systems. Learn skills necessary to develop diagnostic strategies and avoid lengthy trouble shooting. Exercises will include use of diagnostic tools, such as an oscilloscope, and demonstrate various types of automotive electrical repairs following SAE guidelines. Quickly identify electrical failures and recommend the proper repair. An excellent preface to the TEC304, TEC306 and TEC307 workshops. After completing this workshop, the student will be able to:

- Accurately define electrical and electronic components.
- Demonstrate various types of automotive electrical repair using SAE guidelines.
- Understand and employ the diagnostic tools needed for electrical diagnosis.
- Recognize the need for oscilloscope diagnosis and interpret signals.
- Utilize skills to develop diagnostic strategies and avoid lengthy diagnostic times while increasing profitability.
- Efficiently comprehend electrical schematics and apply knowledge to assist point of failure diagnostics.
- Compose and test electronic circuits.
- Identify electrical failures and recommend appropriate repair.

Dates (contact trainer for times):

Session 603 – March 20-22

Session 604 – July 17-19