TAMING TIRE TECHNOLOGY

Changes in Undercar Service

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Tool Tech 2010

CBA

- Started in 1982 in Houston, TX
- Currently has 70+ locations in 9 states
- Suburban & Urban
- Most are franchises (read: independent)
- 9-12 bays
- Customer waiting rooms, wireless internet, courtesy shuttle
- 450+ technicians
- We are a microcosm of a typical $1M-$2M/yr auto repair facility

Aftermarket Realities

- Cost to do business as a 2-5 bay facility has become greater than potential revenue (60 hrs/week tech)
- Technicians must be multi-brand knowledgeable
- Most dealer techs do not migrate well to AM.
- OEM dealerships by necessity have turned attention to service ops

Aftermarket Realities

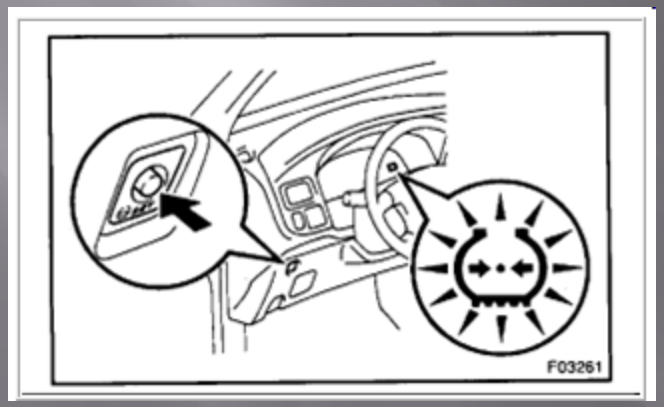
- 320,000 IAM shops 20 years ago
- 220,000 IAM shops/140,000 underhood
- When a job cannot be completed as designed, IAM has two choices:
  - Sublet
  - Send Away
- In AM, turning a customer away generally leads to **permanent** customer loss. Sublet is low GPM.
- Lifespan of repair
  - OEM 0-3 yrs
  - AM 3-retirement

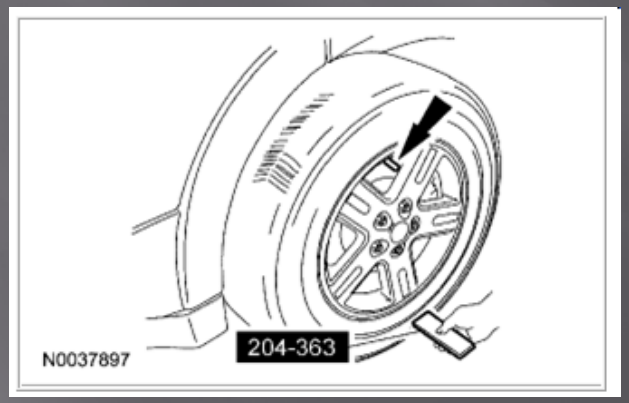
Three Significant Changes

- TPMS
- Steering Angle Sensors
- Low Profile Tires

TPMS

- Several different system designs requiring different reset/initialization procedures
  - Direct & Indirect
  - Manual method (button/switch)
  - Transmitter activation
  - Scan tool





TPMS

- Service challenges
  - Specific procedures needed to mount/dismount tires to avoid damaging the sensor in the rim
  - "Smart" systems vs. "Dumb" systems-absolute tire pressure vs. relative tire pressure
  - Pre & post repair verification

TPMS

- Service challenges
  - Technician training
  - Aftermarket wheel compatibility

Service Information

2007 Chevrolet Avalanche - 4WD | Avalanche, Escalade, Suburban, Tahoe, Yukon (VIN C/K) Service Manual | **Document ID: 2272292**

#09-03-16-002: Dealership Service Consultant Procedure as Vehicle Comes Into Service Drive for Tire Pressure Monitor (TPM) System Message, Light and Customer Information - (May 4, 2009)

- Only perform a TPM sensor re-learn after a tire rotation or system part replacements and use the Tech 2® to initiate the relearn whenever possible to avoid invalid sensor I.D. learns.

Important: Always take outside temperature and tire temperature into consideration to properly set tire pressures. For example, on colder days (20°F/-7°C), if setting the tire pressure when the vehicle has been indoors (60°F/16°C) or the tires are warm from being driven, it will be necessary to compensate for the low outside temperature by adding 21-27 kPa (3-4 psi) more than the placard pressure. At some later time, when the vehicle has been parked outside for a while, the tires will cool off and the pressures will drop back into the placard range.

Important: Recently, nitrogen gas (for use in inflating tires) has become available to the general consumer through some retailers. The use of nitrogen gas to inflate tires is a technology used in automobile racing. Tires inflated with nitrogen gas may exhibit less of a pressure change in response to outside temperature changes. Nitrogen gas inflation is compatible with GM TPM sensors. For additional information, refer to Corporate Service Bulletin 05-03-10-020B.

Important: *All Models (Except the Pontiac Vibe):* Do not perform a TPM relearn at PDI, the system has already been set at the Assembly Plant. Do not perform a TPM relearn after adding air to tires. The low tire light is similar to the low fuel indicator and adding something (fuel, air) to the vehicle makes that light turn back off again. Note that because of system behavior, some vehicles must be driven a short distance before the sensors recognize the increase in pressure and turns the light off again.

IS reset button to turn off the light. The system will update and light will turn off when all tire pressures have been adjusted followed by short

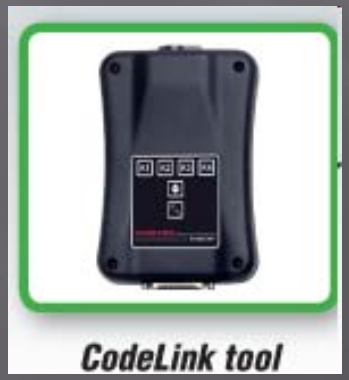
tiac Vibe): Each tire monitor sensor is learned to a specific vehicle corner. When performing a TPM relearn (only after a tire rotation or e), always use the Tech 2® to initiate the J 46079 relearn process. Tech 2®-initiated relearns lock out other vehicle TPM signals that may be initiated by the J 46079 tool will be accepted. This method avoids storing false TPM I.D.s and will prevent customers from returning with dashes and/or a flashing tire pressure monitor (TPM) light. Checking the four TPM I.D.s with the Tech 2® prior to and following relearn to verify they earns.

Steering Angle Sensors

- Introduced in early 2000s
- Largest % are Import (Asian/Euro)
- Reset required after alignment performed
- Scan tool required
- Vehicle will have steering/braking issued if not performed correctly.

Steering Angle Sensors

- Service Challenges
  - No aftermarket scan tools cover all necessary OEMs
  - Alignment techs generally not up-to-date on what brands/models requires SAS.



Low Profile Tires

- Percentage of vehicles with low profile tires (65 series or lower) increased dramatically in last 5 model years.
- OEM options now include 18″ to 22″ rims.
- Old style tire changers either cannot perform service or require multiple techs to change tire due to sidewall issues.

Utilizing ETI as a Resource

- What is the common goal of both OEMs and A/M?
  - Become a customer & then be a repeat customer
- Reality: All vehicles break eventually & need repair
  - How do we make the repair process as positive as possible for the customer?

Utilizing ETI as a Resource

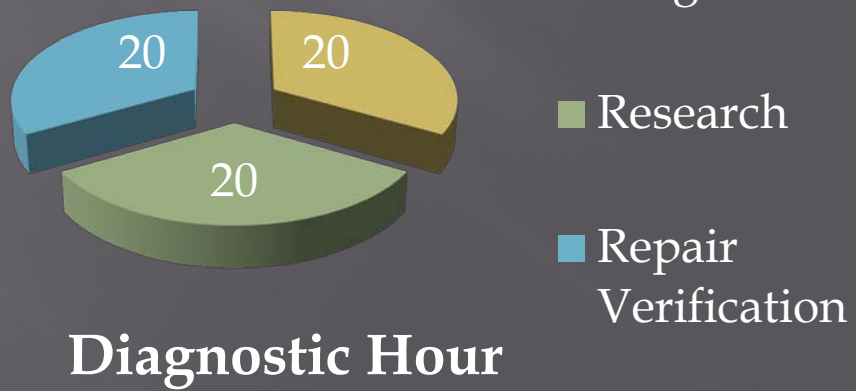
To the OEMs:

- You will get blessings or a black eye from the AM based on how serviceable your vehicles are.
  - Accessibility of tools/equipment
  - Accessibility/accuracy of service information (J2534)
  - Quality/availability of correct training materials (Theory/Operation)
- New vehicle purchases are driven by three main factors:
  - Previous experience with a brand
  - S.M.K. (not S.M.E.)
  - "Independent" sources (JD Power, CR, KBB, etc)

Utilizing ETI as a Resource

To the Tool & Equipment Mfgs:

- Incomplete tools are of little value
  - What is required to finish the repair?
- Field-level training, hands-on
- Pick something, be *really* good at it.
- PC-based when applicable
- "Diagnostic Hour"



ETI Member Questions

- How are you addressing technical training with respect to new tire and wheel requirements such as tire pressure monitoring systems?
- How do you see the alignment and suspension service activities with the increasing use of electronic stability control systems (ESC) and similar systems in your business?
- Are companies like yours looking to specific types of organization for the purpose of recruiting new talent, and so what types or organizations?
- Do you experience a lot of "push-back" from customers when told (assuming you do) that a tire rotation is more expensive due to their vehicle being equipped with TPMS?
- Do you think most consumers are aware of what TPMS is and appreciate it our find it a nuisance?
- What does the future hold relative to the DIY versus DIFM installation of aftermarket parts for under car?
- Are hybrid vehicles with energy regenerative braking systems requiring any special service or maintenance concerns?