Air Resources Board (ARB)
Tire Pressure Regulation to
Reduce Climate Change Emissions

Public Workgroup Meeting
March 18, 2008

Agenda

• Introductions
• Background
• Tire Pressure Program
  • Regulation Concepts
  • Outreach
• Issues
• Timeline
• Action Items and Future Meetings
Background

• Global Warming Solutions Act (AB32)
• Reduce GHG to 1990 levels by 2020
• 44 Strategies
  • Discrete Early Action
  • Early Action
• 42MMT CO2 Reduced by 2020

Background (cont’d)

• California Inspection and Maintenance Review Committee (IMRC)

• National Highway Traffic Safety Administration (NHTSA)
Background (cont’d)

- TREAD Act
- Tire Pressure Monitoring Systems
  - Indirect Systems
  - Direct Systems
- Meetings with Industry

Tire Pressure Program Strategy

- Regulation
  - Tire Check and Inflation
  - Inflation Pressure Retention
- Outreach
  - Education
  - Technology
Tire Pressure Program
Regulatory Proposal
(Inform – Check – Inflate)

• Inform
• Check
• Inflate

Tire Pressure Program
Emissions Savings & Calculation Variables

• Tires lose ~ 1 psi per month
• A 1 psi decrease in tire pressure = ~ 0.34% decrease in fuel efficiency
• 74% of vehicles have at least one underinflated tire
  • 27% have a tire that is on average 6.8 psi low
• Smog Check-ID Vehicles
  • 9.3 Million (45%)
• Gallons of Gas Used
  • 2010 - 13.8 billion
  • 2020 - 15.7 billion
Tire Pressure Program
Calculation Methodology

• 45% of cars will be serviced at smog check facilities each year

• Of these vehicles, 74% are not properly inflated
  • 47% are ~1 psi underinflated
  • 27% are ~ 6.8 psi severely underinflated

• Californians would save an ~ 47.9 million gallons of fuel if tires were properly inflated

Tire Pressure Program
Emissions Savings

• Potentially Savings:
  • 2010 – 0.42 MMT CO2
    47.9 million gallons of fuel

  • 2020 - 0.15 MMT CO2
    17.5 million gallons of fuel
Inflation Pressure Retention (IPR)

- Tire IPR Loss
  - IPR rates estimate the amount of pressure lost over time

- Tire IPR
  - 41% of tires have an IPR loss rate greater than 2.5%
  - California does not currently have a IPR standard in place

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**ExxonMobil Chemical Presentation: INFLATION PRESSURE RETENTION EFFECTS ON TIRE ROLLING RESISTANCE AND VEHICLE FUEL ECONOMY/February 2008**

<table>
<thead>
<tr>
<th>Tire IPR Loss/Month</th>
<th>Tires Affected</th>
<th>Rolling Resistance Increase</th>
<th>Potential Gasoline Savings</th>
<th>Potential CO2 Emission Reductions</th>
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</thead>
<tbody>
<tr>
<td>1.5%</td>
<td>94%</td>
<td>1.9%</td>
<td>70 Mgal</td>
<td>0.59 MMT CO₂</td>
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<tr>
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<td>3.3%</td>
<td>61 Mgal</td>
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<td>38 Mgal</td>
<td>0.32 MMT CO₂</td>
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<td>4.7%</td>
<td>16 Mgal</td>
<td>0.13 MMT CO₂</td>
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<td>4%</td>
<td>5.4%</td>
<td>5 Mgal</td>
<td>0.04 MMT CO₂</td>
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</tbody>
</table>
Outreach

- Education
- Monthly email
- Tire Safety Week
- Gas Station Placards
- Fliers and Brochures
  - BAR Newsletter
  - Flex Your Power
- Association Newsletters

Outreach

Technology

- Valve Stems CAPS
- Aftermarket TPMS
- Nitrogen Filled Tires
- Fuel Efficient Tires Program
Issues

• Vehicle Placard

• Liability

• High Performance Tires

Regulatory Timeline

• Research – Ongoing
• Outreach with Stakeholders – Ongoing
• Public Meetings – Workshop
• Regulation Development Workgroups – Ongoing
• Staff Report Including Draft Regulation –
• Board Consideration – 2009
Action Items

Future Meetings/Contact Info

• Action Items

• Future Public Workgroup Meeting:
  
  • Contact Information:
    Michael Miguel, Manager
    Phone: (916) 445-4236
    email: mmiguel@arb.ca.gov

  • Website: http://www.arb.ca.gov/cc/tire-pressure/tire-pressure.htm