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The Hidden Cost of Mud Flaps

# Why do we have mud flaps?

- ▶ Currently, there are no federal regulations governing mud flaps or splash/spray suppression devices.
- ▶ Each state does maintain their own requirements
  - ▶ Some just have general requirements (you must have one)
  - ▶ Some states don't require them at all
  - ▶ Some get very specific
- ▶ To avoid fines
- ▶ To avoid throwing rocks and debris

# How have phones changed over time?

1960's



1970's



1980's



1990's



2000's



2010's



# How have mud flaps changed over time?

1960's



1970's



1980's



1990's



2000's



2010's

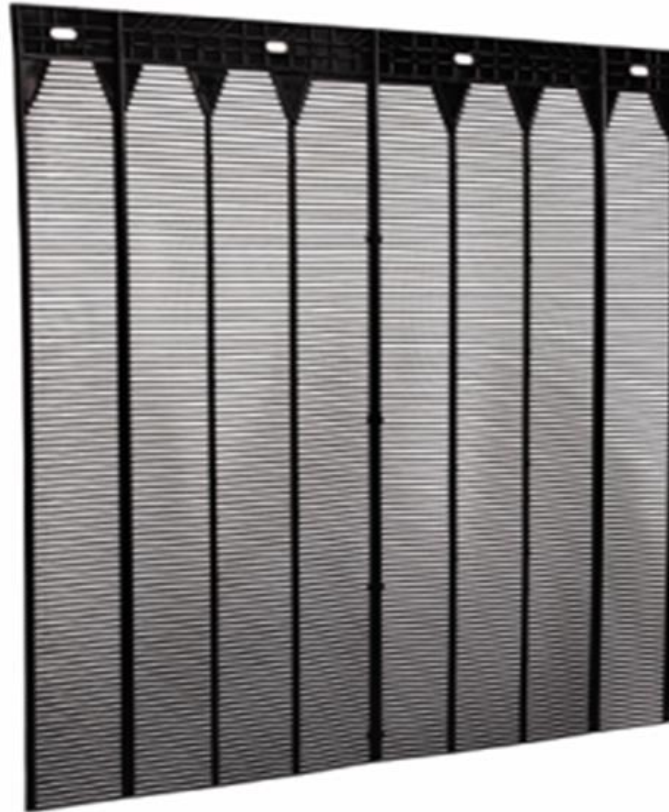


# What does a traditional mud flap cost?

- ▶ \$8 -10 dollars for a traditional mudflap
  - ▶ \$50 if replaced while on the road
- ▶ On average, fleets replace 15% of their mud flaps per year
  - ▶ 2,000 tractors & 6,000 trailers
  - ▶ 8,000 pieces of equipment = 16,000 mud flaps
  - ▶  $16,000 \times 15\% = 2,400$  mud flaps replaced
  - ▶  $2,400 \text{ flaps} \times \$30 \text{ average price} = \$72,000$  per year
- ▶ Other costs
  - ▶ Fines (\$75 for missing mud flap; \$65 for sailing in AZ)
  - ▶ Mechanics opportunity cost
  - ▶ CSA score?

# Other options for mud flaps?

Aerodynamic Splash  
Guard



# Why do you want aerodynamic splash guards?

- ▶ Traditional mud flaps create drag
- ▶ Drag makes up 50% of the determination of fuel economy
- ▶ Drag factors in mud flaps:
  - ▶ Number of flaps
  - ▶ Flap size and weight
  - ▶ Brackets
  - ▶ Flap location
  - ▶ Gap between tires and flaps
  - ▶ Speed
  - ▶ Winds





**WABASH**  
NATIONAL



# Benefits of an aerodynamic splash guard

- ▶ Fuel Savings
  - ▶ 1.2% with trailer skirts at 15,000 gallons per year at \$2.75 = 180 gallons and \$495
  - ▶ 2.5% without trailer skirts at 15,000 gallons per year at \$2.75 = 375 gallons and \$1,030
  - ▶ A 2,000 truck fleet with skirts would save approx. \$1 million annually
- ▶ Lower maintenance cost (if you buy the right material)
- ▶ Better safety
- ▶ Fewer fill ups saves driver hours

## Safety Performance of Conventional mud flaps vs. Aerodynamic Mud Flap



The solid flap blocks air flow coming around the tires and creates turbulence that picks up standing water and jettisons it in big clouds of vapor

# How do I choose the right aerodynamic splash guard?

- ▶ Know the materials of the splash guard
  - ▶ Is it polypropylene (plastic)
  - ▶ Is it Nylon 6 or Nylon 66
- ▶ Has the product been tested?
  - ▶ Computer models?
  - ▶ Independent testing
- ▶ Is it Smartway approved or GHG2 compliant?
- ▶ Does it have a warranty?