

## Marauder Rear Tire Clearance Envelope

- Program objectives relative to tire size
  - Fill wheelwells with max tire sizes
  - Provide hot rod/muscle car rake/image (lower front end & raise rear)
  - Reduce wheelhouse eyebrow to tire gap
  - Maximize exhaust tip size and exhaust pipes as viewed from rear
  
- Where we started (approved by management and shown at car shows)
  - 245/50R17 front (258 mm section width) on 8" rims (later changed to 235/50R18 w/ 248 mm section)
  - 255/50R18 rear (270 mm section width) on 8.5" rims
  - Front bumper height lowered from 393 mm to 363 mm
  - Rear bumper height raised from 395 mm to 420 mm
  - Informed management, indicated in PDL and informed RVT that deviations would be req'd for this niche vehicle
  
- What changed our direction
  - Base EN/FN programs moved shock location to the wheelhouse
  - Resulting in inadequate tire clearance envelope
  - Requires Marauder to change tire section width
  
- Where we are now
  - Reduced rear rim width to 8"
  - Changed to 245/55R18
  - Proposing to reduce section width 4 mm
  - Add 2 mm to rear rotor hat section to move tire centerline outboard
  - All combined, rear section width reduced from programmed 270 mm to 253 mm
  - Provides 19.5 mm clearance (shock bracket to manufacturers grown tire )
  
- Consequences of changing section width 4 mm
  - Impacts development timing
  - New section width tire submission timed out at June 4
  - Engineering S/O scheduled for July 9
  - Development would have to be performed on current section width tire and verified when new section width tire is submitted
  
- Next steps
  - Continue with 245/55R18 with 4 mm reduced section width (253 mm)
  - Add 2 mm to rear rotor hat section and determine effects on timing, complexity and costs
  - In-depth analysis with Michelin on effects of 4 mm reduction on tire functional images, timing, <S/O>, and durability testing