R41-04 ASEP 2.0 Detroit Demonstration

Sept 25 to 26 2019
Demonstration Test Vehicle

Harley-Davidson Street Bob FXBB model
1745 cc V-twin
PMR = 170
S = 5450 rpm
Test Plan

• Test 1 (slide 4)
  • Current ASEP: 2\textsuperscript{nd} gear ASEP reference point high, WOT
  • ASEP 2.0: 2\textsuperscript{nd} gear, reference point high (= with new exit target 80\% or 100 km/h), decreasing entry speed, WOT

• Test 2 (slide 5)
  • 1\textsuperscript{st} gear, enter at just above idle, WOT or high throttle,

• Test 3 (slide 6)
  • 5\textsuperscript{th} gear ASEP 2.0 exit target 80\% of S, or 100 km/h, decelerating entry speed, WOT
  • 5\textsuperscript{th} gear ASEP 2.0 target 70 km/h midpoint, PT, accelerating entry speed
Conclusions

• 1\textsuperscript{st} Gear Testing Procedure
  • Run 33
    • WOT to rpm Limit then release throttle – not acceptable
  • Run 38
    • Delayed throttle to rpm Limit at “BB” – not acceptable
  • Run 41
    • Partial throttle to rpm limit at “BB” - acceptable

• 1\textsuperscript{st} Gear Results
  • Engineering design will be required to reduce the levels and move away from the ASEP limit line
  • WOT to rpm Limit produces worst case
  • Partial throttle produces acceptable results
Recommendations

• 1st Gear Testing
  • Acceleration must start at “AA” as delaying the acceleration causes n.pp to be too low and the noise level exceeds the limit line - unacceptable
  • In order to avoid an exceedance of 0.8xS in 1st gear, apply partial throttle between “AA” and “BB”.
Thank You

• From IMMA and USMMA

• Questions?