Hall A GEM
Exhaust Flow Sensor Box

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Box Selected for GEM Exhaust Flow Monitoring

- Bud Industries model CU-1947
- Made of ABS plastic
- Large enough to fit two flow sensors with components or one multiplexer
  - Size: ~4.4” x ~7.7” x ~2.5”
- Detachable lid

Bud Industries CU-1947 project box. Photo from Bud Industries website
Exhaust Flow Sensor Box

- Box components
  - two flow sensors
  - Four ¼”-OD bulkhead connections for gas input and output
  - Two RJ11 feedthroughs for communication
- Layout still to be finalized

Isometric view of Flow Sensor Box modeled in NX 12
Exhaust Flow Sensor Box – Side & Top Views

Side view of Flow Sensor Box modeled in NX 12

Top view of Flow Sensor Box modeled in NX 12
Exhaust Output Flow Multiplexer Box

- PCB mounted on standoffs (not pictured) with cutouts for each RJ11 port on PCB

Isometric view of Multiplexer Box modeled in NX 12
Conclusion

• DSG is in the process of designing a box to house exhaust flow sensor readout components
  – Designs based on Bud Industries model CU-1947 box

• Preliminary designs completed for two-channel exhaust flow sensor box and multiplexer box
  – Design of each may be changed for optimization
Thank You