Mentor Meeting Minutes
Date: September 18, 2008
Location: BEL 307

3:30 PM
Meeting Began
- Members present
  - Tess Howell
  - Sohana Khanal
  - Ken Bean
  - David Drown
  - Yanko Kranov
  - Karl Rink
  - Branden Poulsen

Trip to Autoliv discussed
- October 9, 2008 – Potential date
- Fly in & out of Spokane, WA that Thursday
- 7-8 people attending
  - Tess, Sohana, Ken, Yanko, David Drown, Karl Rink, Brandon
- Possibly drive to Spokane Wednesday night and take early flight

3:45 PM
Called Mark Bunker at Autoliv
- Mark explained background and overview of project
  - Inflators built in Brigham City, Utah
    - Produce gas to fill the airbag
    - Gas stored at high pressures ~ 4000 psi until deployed
    - ~35 million produced each year
  - Wash cycle length very important
    - 60 seconds is much too long
    - 15 seconds more reasonable length
    - Very fast!
- First critical step in project defined
  - Define cleanliness of the parts
    - Mark will put together box of parts and mail tomorrow
  - What analysis can CleanWeld do to ensure the part is clean and that failure WILL NOT occur?
- Discussed failure occurrence
  - Cyclic periods occur with out any failures
    - Then cycles with consistent problems occur
  - Weld must create hermetic seal
    - Last for 15 years
  - Failures found in
    - Foil bonds
    - Barcodes with pressure sensitive adhesive falling off
- Laser welds
  - Tend to be finicky
- Crimps
- MIG welds
- Inertia welds
- Resistance welds
- Materials used in welding
  o HSLA steel mostly used for structural elements
  o Ni-alloys also used at times
- What inflators are most failures occurring?
  o Side impact and curtain inflators
  o Driver and passenger pyrotechnic inflators
  o Foil bond

**4:25**
Possible ways of detecting/characterizing impurities in materials
- Radiflow
  o Radioactive tracer
  o Detect porosity, flaws, etc.
- X-Ray ? Emission Spectroscopy
  o Yanko's Idea

*(Mark leaves conference call)*

**4:30**
Discussed occurrence of next meeting
- Hopefully box from Mark will arrive in ME office sometime next week
- Karl out of town next week
- Read articles Yanko posted and his sample questions
- Come up with more questions and ideas for progress

**Member agenda:**
Tess:
- Pick up box from ME office
- Print calendar’s for group members to plan out semester

Sohana:
- Attend MS Project meeting on Tuesday, 09/23/08

Meeting Ended