

Vandal Bucks

Team minutes

1/16/14

- Look into manual presses
 - Force read out?
 - Upper limit around 10000 lbs
- Look into load cell
 - Need to be small
 - Max range over 2000 lbs
 - Power source
 - How is data stored and read
- Received material s form Buck Knives
 - 110 &112 nickel knives x10
 - Rubber grommets
 - Oil
 - Knife drawings
- More Satec testing on new and old knives with addition of complaint material
 - Re-machine test block to accept rubber grommets
- Update Kenny on current work
- Trip to Buck Knives 1st or 2nd week of February for design review
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Vandal Bucks

Meeting minutes

9/12/13

- First client meeting
 - Shoot for 9/17
 - Contact Gary to schedule
 - Luke is talking to CNR about a vehicle
- Brainstormed a list of questions
 - Amount of pressure used to press knife
 - Current hydraulic system stats
 - How long does it take to press a rivet
 - What new things they would like to see in a press
 - Any additional info they can provide
- Look at item 7 on mindworks page
 - Planning team meetings
 - Staying organized
- Future dates
 - OCT 15 first snap shot day

- Gary wasn't present at tour
 - Not all questions got answered
- What we learned
 - They want a press that is easy to use
 - Insert knife and be able to walk away
 - Current press takes around 7-8 seconds per knife
 - Would like to be faster
 - Larger work area around anvil
 - Machine must be around same overall dimensions
 - Workers aim for certain pressure read off a gauge when pressing
 - Knife has to be closed to press top rivet
 - Each rivet is pressed individually
- Research materials that could be used to construct a press
 - Load cells for force read out
 - Hydraulic systems
 - Safety features

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Meeting minutes

10/3/13

- Recap on research
 - Have a good start but need to continue looking into options
 - Same people will continue in same area
- Need to write problem definition/specs/project learning
- Need to compile and email a list of questions to gary
- David and Luke will make a trip to buck on the 10th
- Mitch and Ryan will talk to Odom about Satec

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Meeting minutes

10/10/13

- Recap on Satec learning
 - Don't exceed 5000lbs
 - Keep test speeds really low
 - Gives force and position readings, also gives peak values
- Buck trip recap
 - Gary was present
 - Provided more info about project
 - Supplied knives to test
 - Supplied rivets and bushings to test
 - Will send solidworks drawings of knives
 - No answer about optimal force
- Current tasks
 - Find a way to hold pins while we test them

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Meeting minutes

10/17/13

- We have CAD files of the 112 but not the 110
 - Would like to use drawing to create a fixture to hold knives
- Had Odom present for the first test on the Satec
 - Warned about not exceeding max limit
 - Gave us the go ahead to test without his presence
- May purchase a large manual press with force readout to preform testing
 - See if the manual press in the machine shop is adequate and compare to how the satec works

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Meeting minutes

10/24/13

- Discussed data collection options
 - Record by hand
 - Satec plots
 - Need computer or device to record
- FE on the 26th
- Start wiki page on the 27th

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Meeting minutes

10/31/13

- Tested block in Satec
 - Acquired data by hand, looks promising
 - Anvil is crooked and needs to be fixed
 - Target force appears to be 1500-1600 lbs
- Gary is no longer with Buck Knives
 - Unsure of project standing
- Continue Satec testing until project status is known

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Meeting minutes

11/7/13

- Steve is calling Kenny Friday morning
 - Finding out project status
 - Possible trip back to buck to meet with new client
- Reviewed Satec testing
 - Preform with compliant material
- Model 110 in solidworks
- Generate bill of materials for required parts
 - Hydraulics
 - Materials(steel, bolts, etc.)
 - Control system
 - Safety measures
- Set up design review
- Review wiki page
 - Combine parts and rename a few sections
- Log books due 11/13/13

- Future plans
 - Focus on rivet testing analysis and satec testing
 - Focus on what we are most interested in
 - Machining
 - Data acquisition
 - Required force
 - Tools and techniques
 - Longer cycles
 - Knife function
 - Rivet removal
 - Does it change data
- Presentation with buck knives by dead week
 - Discussion about direction of project
 - Here is what we have and are capable of
 - Proposals of future project
- Study of
 - rivet placement
 - Force placement
 - Materials
- Create custom satec fixturing

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Meeting minutes

11/21/13

- Made corrections to anvil in test block
- Need to contact Kenny about design review
 - Plan on during dead week
- Create power point for design review
 - Recap on what has been done
 - Present current data
 - Propose new ideas for project