L42 Task force conference call
March 17, 2005, 2:00pm

Attendees:
Cory Koglin
Don Lind
Dale Smith
Don Bartlett
Chris Schenkenburger
Brian Koehler
Hector De LaFuente

Section 12

Review section 12 text and plots.
Text matched plots, but plots need a few revisions. The following is a list of the revisions to be made to the plots

- Figure1-Time scale needs to be revised.
- Figure5- Time scale needs updating (steady state portion should only be 600sec, not 1200s)
- Figure 6-Steady state torque portion needs to be shown at 70lb-ft instead of 60lb-ft.
- Figure 8-Initial incoming torque needs to be shown at 70lb-ft

Action: Hector/Brian will revise plots and send to task force group. Don Lind will include in latest version of Draft 14.

Section 10

The below text can be placed into latest version of Draft 14.

10.3.2.2
…..complete 5 cycles, ending by accelerating the engine to achieve an approximate wheel RPM increase of 100RPM (See section 12.x.x.x?? or plot A2.xxx), then proceed to 10.3.2.3

10.5.1.5
…..complete 10 cycles, ending by accelerating the engine to achieve an approximate wheel RPM increase of 100RPM (See section 12.x.x.x?? or plot A2.xxx), then proceed to 10.5.1.6

Test Validity and limits (to be added to latest draft…proper Section?)

Axle oil temperature is considered a critical operating parameter during gear conditioning. Axle RPM and pinion torque are considered critical operating parameters during the steady state portion of conditioning.

Parameter	% limits
Axle oil temperature (conditioning phase 1-4)	5 %
Axle RPM conditioning phase 1	5 %
Axle RPM conditioning phase 3	5 %
Pinion torque conditioning phase 1	5%
Pinion torque conditioning phase 3	5%

Note: Calculate axle oil temperature % deviation after 220°F is reached for gear conditioning phase

Calculate axle RPM conditioning 1 % deviation after a RPM of 570 is reached
Calculate axle RPM conditioning 3 % deviation after a RPM of 810 is reached
Calculate pinion torque conditiong 1 % deviation after a pinion torque of 50lb-ft is reached
Calculate pinion torque conditiong 3 % deviation after a pinion torque of 60lb-ft is reached

Include % deviation formulas….

Stand drawings

Action: Hector reviewed current drawings and determined what drawings are in SWRI possession. SWRI will remove load cell from A1.7

Name A1.7- axle plate assembly?
Name A1.8 – axle plate
Name A1.9 – spring plate

Hector seemed to recall LZ having drawings A1.3 through A1.5.
Action: Don Bartlett/Chris Schenkenberger to check?

L42-1 Nozzle system/axle cooling(to be placed in latest draft):

Need drawing of nozzle placement.
Action: Dale Smith to provide drawing for nozzle placement. April TF meeting

Spray nozzles shall be any combination of the following part numbers depending on how the system is plumbed: Straight Male NPT (part no. 3/8GG-SS22), 90° Male NPT (Part No. 3/8GGA-SS22), Straight Female NPT (part no. 3/8G-SS22, and 90° Female NPT (Part No. 3/8GGA-SS22)

Use a single control valve to control the cooling water supply. The control shall be a 1/2in two-way, C linear trim, air to close, Research Control valve. Use a single PID loop to maintain the axle lubricant temperature.

Use only ½ or 3/8 in. line material to the spray nozzles

Test Version	Shock Series 1 Starting Temperature	Shock Series 2 Starting Temperature
Standard	200 +/-5°F (93.3°C)	See section 10.5.1.1
Canadian (low temp)	175 +/-5°F (79.4°C)	200 +/-5°F (93.3°C)

Axle batch order/Other

Lubrizol made the point that the task force might want to make lab visits (August 2005??) and watch 1 L42-1 test run on each of the labs new stand. Most of the members agreed this was a good idea.

Current axle batches in industry and approximate quantity:

	604/637	396/327	P8L205	P8L123
Parc	16	24	10	16
Afton	<300	0	0	0
Lz	<200	0	50	0
SWRI	<20	<90	0	0

Based on the above axle batch information, the 604/627 is the only choice for matrix testing on the L42-1. We can tie results back to the L42 and there are enough left in the industry to cover matrix testing.

One lab will need gears very soon. We can either redistribute hardware across labs based on the above axle numbers or the industry can place an axle batch order. If the hardware was redistributed, a yet to be determined amount of 604/637 hardware needs to be held for L42-1 matrix testing.

Possible solutions?

Lz distribute P8L205 hardware to Parc so this lab can continue normal L42 testing. When the determined amount of 604 hardware for L42-1 testing is complete, then Afton/Lubrizol would provide hardware?

Lz and Afton redistribute 604/637 hardware so normal testing can continue on L42, but X amount of gears need to be held at all the labs for L42-1 testing.

Place order for new gear batch so future needs are met, individual labs find usable hardware until new batch arrives. 604/637 still would need to be distributed for L42-1 acceptance testing.