

ASTM D-7038 (L-33-1) MOISTURE CORROSION TEST
SURVEILLANCE PANEL MEETING

For LRI #171

November 6, 2013

Automation Alley

Troy, MI

Minutes

I. Call to Order

II. Approval of Minutes

February 7, 2013 Automation Alley

Motion: Bruce McGlone

Second: Brian Koehler

Vote: Unanimous

February 26, 2013 Conference call

Motion: Bruce McGlone

Second: Brian Koehler

Vote: Unanimous

III. Business

a. New K2xx Hardware

Part #40099185 rev C third member Tag PN: P40128429

b. Discuss mounting and install differences

1. This is a lab issue and external of the test and will be handled in each lab.

c. Discuss differences (Size!) and Needs

1. Cover gasket
2. Pinion Flange
3. Pinion shims / crush collar
4. Pinion bearing races
5. Differential Case or Carrier shims
6. Axle tube diameter / tube plugs
7. Side gear trunion area
8. Axle vent
9. Mark bearing caps

d. Review disassembly as performed in each lab

e. Review vent and TC location

1. Matt Umerley of LZ offered a location template to the labs for thermocouple location.
2. The team agreed to use the existing vent to use as the pressure control and water install location

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- f. Review rating changes and needs
1. The group agreed to use the existing definitions for rating and requests that all ratings be documented in percent of area square millimeters on the rating sheet to assure we can review any severity shift that may result from the larger axle. This will allow the team to see where and amount of shift without of rerating axles run in the matrix.
 2. The axle cover gasket will be copied into a drawing at the current gasket maker and the Chairman will have 10 SS templates from AP Services from drawing P/N 1000146085.
- g. Discuss assembly:
1. Pinion preload and torque requirements procedure: The group agreed to install the pinion and tighten the pinion nut until a turning torque of 3 to 10 lbf-in is reached to establish the pinion preload.
 2. Axle tube plug installation: After installing the pinion install the axle tube plugs so they may be properly set between the inner machine locating holes and the axle tube welding holes. The seals must not be placed deeper than the locating holes as this will obstruct the opening for the vent used for the pressure control and water adding.
 3. Carrier shim and preload discussion: The group agreed to remove 0.006 inch of shim from the ring gear side of the axle to reduce carrier/case preload during assembly.
 4. Cover gasket Factory? Teflon? The axle cover gasket will be copied into a drawing at the current gasket maker P/N1000146085 and the Chairman will have 40 Teflon 1/16 inch axle cover gaskets made for the test matrix axles.

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- h. Fill volume and water amount.
 - 1. The fill volume continues to be open because only one lab has run the next gen axle as received from AAM.

All three labs are to find the fill volume of their axles in their labs and they confer to determine the standard volume and amount of water to add to the axle. All 3 labs are to use the same fill volume and water amount.

- 2. The labs to measure the amount of oil required to fill the axle to the fill plug in a level pinion assembly and add 2.5% of test water to the axle Review D-7038 document and changes needed
- i. Review D-7038 document and changes needed
 - 1. Document separate with consult needed for proper verbiage.
- j. Test Matrix Oils 3 labs

STATUS OF REFERENCE OIL SUPPLY

Oil	Cans @ Labs	@ TMC	
		Cans	Gallons
123-2	9	162	162.8
155	0	23	23.4
155-1	9	395	395.8
Total	18	580	581.9

C quantity remaining presumes usage only for L-33-1 testing. Oil 155 used in other test areas (L-37, L-37-1, and HTCT).

1. TMC 123-2

LZ: Run Each One Then Confer
SWRI: Run Each One Then Confer
AR: Run Each One Then Confer

2. TMC155-1

LZ: Run Each One Then Confer
SWRI: Run Each One Then Confer
AR: Run Each One Then Confer

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IV. Additional Discussion / Business?

- a. All Labs Agree to run one each reference oil TMC 123-2 and TMC 155-1 on the same calibrated test stand to be completed before the January 20 Rating Workshop. The parts are to be reviewed at the workshop for comment and rating review.

Motion: Bruce McGlone

Second: Thomas Gottwald

Vote: Unanimous

V. Summary of Action Items

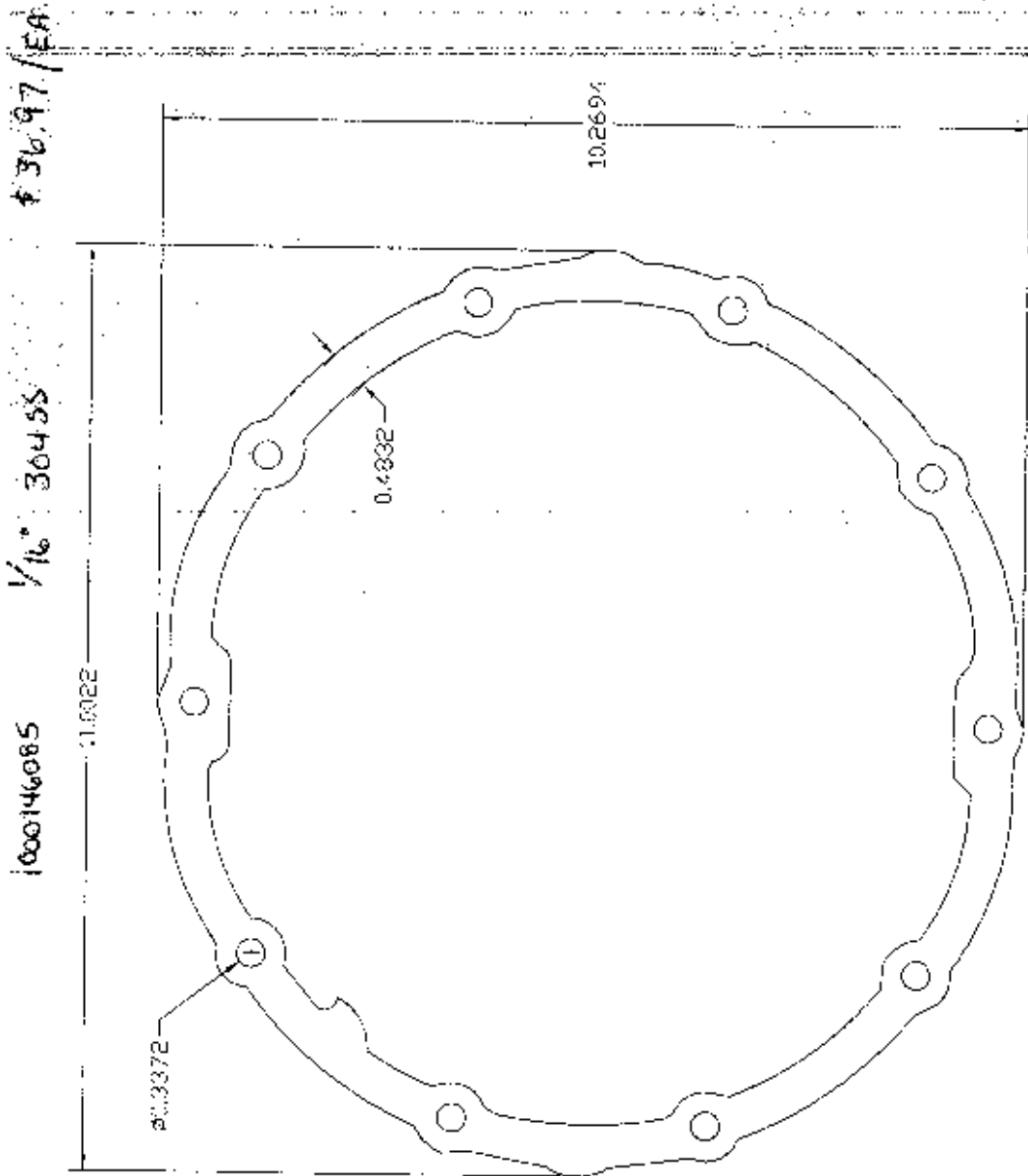
1. John Dharte AAM-Lock down the axle drawings for future use by the ASTM D7038 axle builds. This includes all bearings forging and stamping metals as well as prints for each part to remain the same in future builds.
2. Matt Umerley-LZ Provide a template for the location of the axle temp TC.
3. Dale Smith-AR Have a print made of the original axle cover plate gasket and provide rating templates 10 total two for each lab and 2 for LRI. In addition have 40 Teflon cover gaskets cut for use in the matrix.

VI. Adjourn

Thank you,
Dale B. Smith
ASTM D-7038 Chairman

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