Report of Meeting
L-37-1 Surveillance Panel Conference Call
Feb 12th , 2025

Attendees:

SwRI -	**Wright,** Charron, Lange
Lubrizol -	**Schaup,** Westmoreland, Janca, Grewe, Arnold
Afton -	**Sangpeal,** Bell, Campbell, Horvath
Intertek -	**Murray,** Portell
TMC -	**Beck,** Venhoff, Transue
BASF -	Goyal**, Caridi**, Mosher
Dana -	**Gibson**
Cummins-Meritor -	**Carowick,**Catania
Army -	**Comfort,** Thrash
Dauch -	**Muransky,** Zarins
Fuchs -	Bender,Maxim
Oronite-	**Warden**
Shell-	Uy
Exxon-	**Jetter**
Daimler Truck NA-	**Vander Wal**
Richful Lube Additives-	**McCollum**
International Motors-	Jeanelle
VBase-	Hunt

Voting Members in **BOLD**

1.0 Membership Review
Approved motion for Voting members: Reagan and Caridi
1st Muransky/2nd Nick Motion passed unanimously, 14-0-1 (Yes-No-Abstain).

2.0 Meeting minutes Approval
— Nov 12th, 2025, ASTM Meeting #219

Motion #1 → Schaup 1st /2nd Lange approve the meeting minutes from the Nov 12th, 2025, ASTM Meeting. Motion passed unanimously, 14-0-1 (Yes-No-Abstain).

3.0 Action Item Review
- Previous Action Items
  - Gleason Hardware approval Matrix (needs review by TMC + stats group)
  - Strange axle build manual distributed at meeting 219 for review (Waiting on feedback from labs)
  - Inventory of 2021 gears that were coated and shipped as 2024 coated gears (closed)

5.0 Call for replacement of 152-2
- If anyone has a 75-90 candidate reference oil that is a borderline pass in the L-37 please reach out to the TMC.

6.0 Data generation for coated 2024 hardware
- Data has been generated, TMC is to review the data for an off cadence meeting and will result in an email vote to approve the hardware.

7.0 2021 Coated hardware that was shipped with 2024

- The proposed path forward is captured below and in the slide deck attached in the appendix.
  - The panel will review 2024 coated hardware data, if this data falls within limits and can be combined with 2021 coated hardware it is permissible to use 2021 coated hardware that came in the 2024 coated batch.
  - Assuming above is true, the labs are to use a 2021 coated ring with a 2024 pinion on their next coated reference run to double check this practice.
- ACTION ITEM #1: As part of this discussion it was decided to create a data package to distribute to other suppliers for quotes. Assigned to Nick Schaup

8.0 Color Coded rater workshop trial review

- The data that was reviewed is attached as part of the slideshow appendix
- The panel disagreed with the approach to use an average from the current workshop as the target for the calibration. It was decided that each part should have a historical value attached to it that does not change from workshop to workshop.
- Those assigned values will be generated by looking at multiple workshop data sets (put together by the TMC) and be subject to some trial period at the workshop following the value assignment. If the raters approve of the target it will be solidified and remain unchanged moving forward.

9.0 Adjournment

Motion #2 → Sangpeal 1st /2nd Muransky to adjourn. Motion passed unanimously, 14-0-1 (Yes-No-Abstain).

10.0 Action Item Summary

- Nick Schaup to get the stats group to review the approval of the new hardware and give a recommendation if they feel something should change
- Nick Schaup to create a data package to get quotes for L-37 gear suppliers
- Labs to review strange axle build manual

Respectfully submitted,

Nick Schaup
L-37-1 Surveillance Panel Chairman

D02.B0.03

L-37-1 Surveillance Panel Meeting

02/11/2026

Nick Schaup

- Call to Order/Agenda review
- Meeting Minute Approvals
  - Nov 12th, 2025, Panel Meeting Minutes
- Membership review
- Action Item Review
- New reference oil request
- Coated hardware updates (2024 and 2021)
- Rating workshop update (color coding)
- Old Business
- New business
- Adjournment

Meeting Minutes Approval

- Nov 12th, 2025 Panel Meeting Minutes

Membership Review

Steve Jetter	ExxonMobil
Allen Comfort	US Army
Troy Muransky	Dauch
Matt Sangpeal	Afton
Margret Cardi	BASF
Trevor Gibson	Dana
Dylan Beck	TMC
Jessica Carowick	Cummins
Reagan Murray	Intertek
Nick Schaup	Lubrizol
Payton Wright	Southwest Research
Rebecca Warden	Oronite
Clarance McCollum	Richful
Camden Vander Wal	Daimler
Addison Schweitzer	Shell

Total Voting Members = 15

Action Item Review

- Strange build manual review

  - Draft was distributed to labs, still waiting on feedback.

- Approval matrix from meeting 217 for 2024 coated hardware.

- Lubrizol and Afton to report out quantity of 2021 gears in 2024 coated batch.

  - LZ had 3 rings of stamped 2021
  - Afton had 5 rings and 1 pinion stamped 2021

Call for replacement oil of 152-2

- The TMC is down to 17 gallons of 152-2.

- If anyone has a candidate replacement oil please reach out to the TMC directly.

Approval Matrix for Coated 2024 update

- Have all the labs completed their runs on for this motion passed during meeting #217?

Oil	Coated	Non Coated
134-1	1	1
152-2	1	1

2021 orphan hardware concerns

- What would the industry like to do with the gears that were manufactured in 2021 but shipped with the 2024 coated batch?

  - Contact Gleason for a refund for those parts?

  - Use them if matched (Afton has 1 pinion and 5 rings)

  - Other options?

2021 & 2024 Coated hardware motion

- The panel will review 2024 coated hardware data, if this data falls within limits and can be combined with 2021 coated hardware it is permissible to use 2021 coated hardware that came in the 2024 coated batch.

- Assuming above is true, the labs are to use a 2021 coated ring with a 2024 pinion on their next coated reference run to double check this practice.

Gear Rating Workshop Update

Feb 2026

Pinion #5, RIDG

Pinion #5, RIDG, Pre-Discussion Data
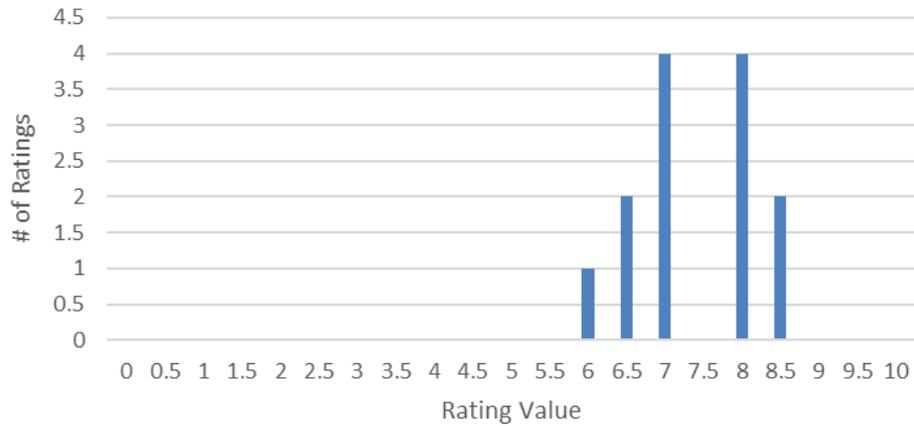
Pinion 5, RIDG, Post-Discussion Data

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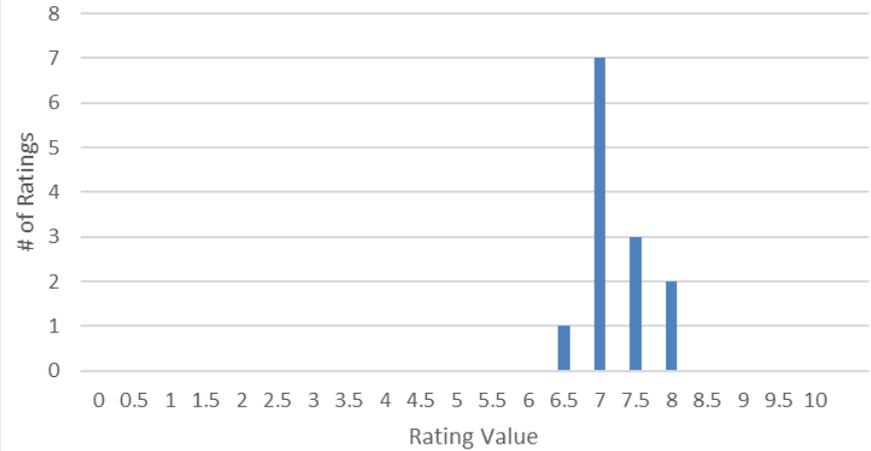
Pinion #5, RIPP

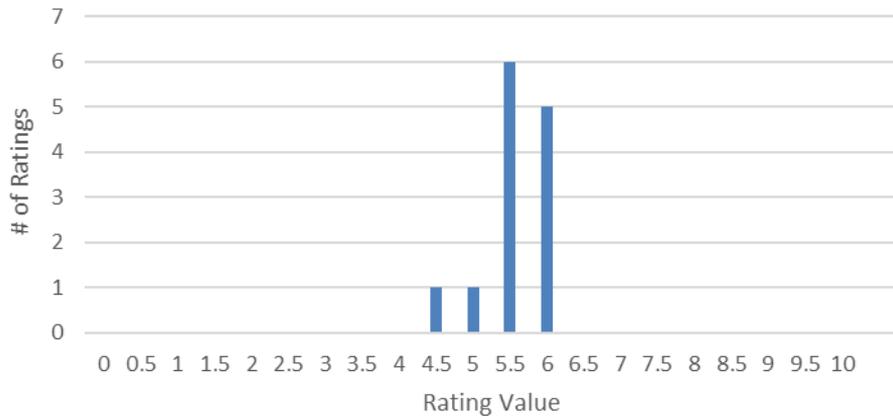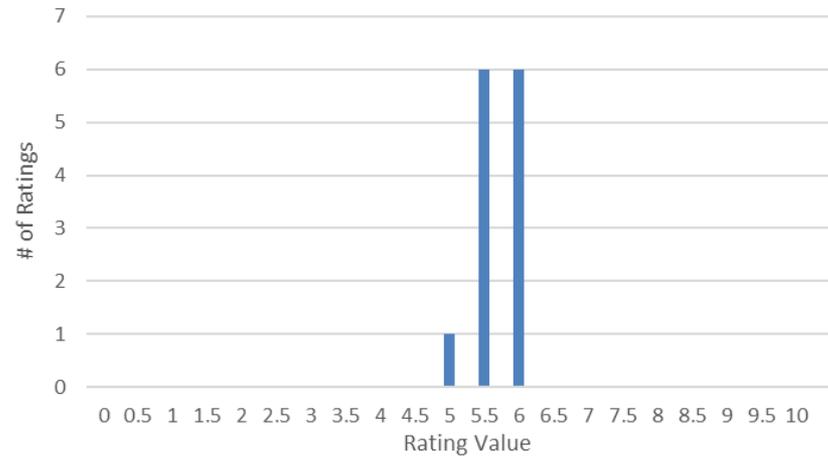Pinion #5, RIPP, Pre-Discussion Data
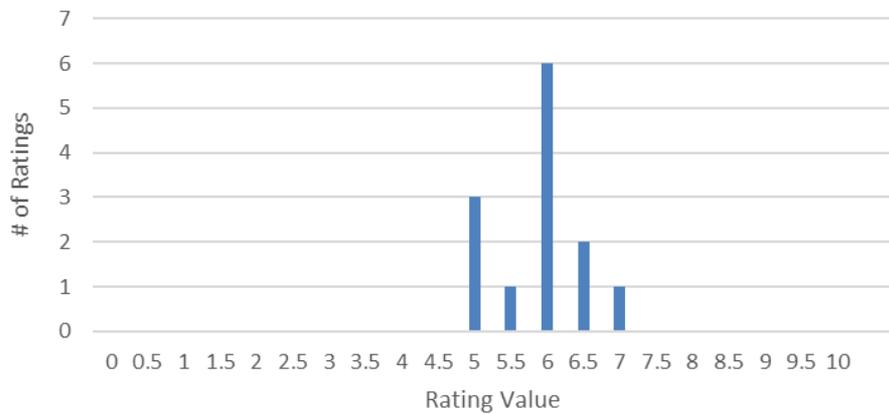
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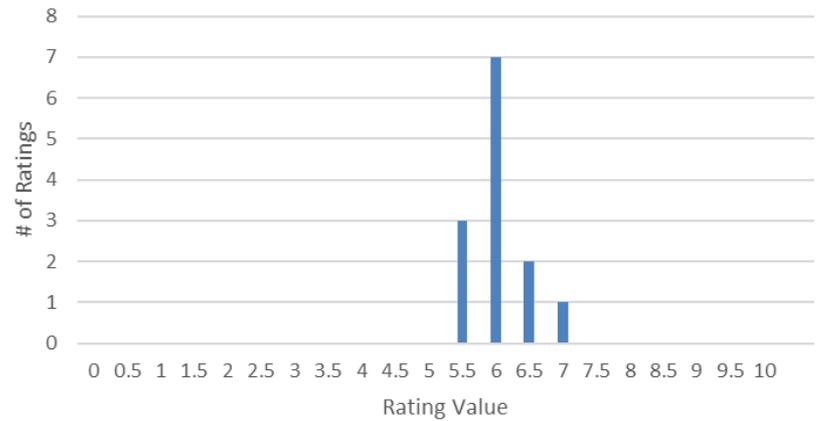
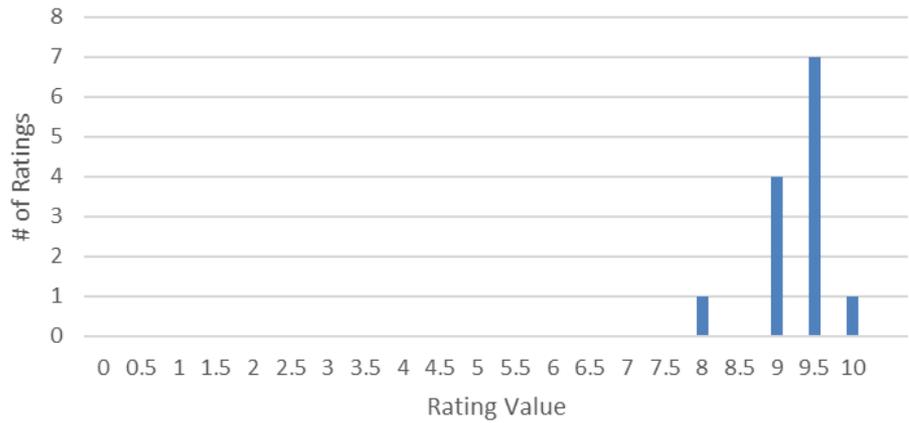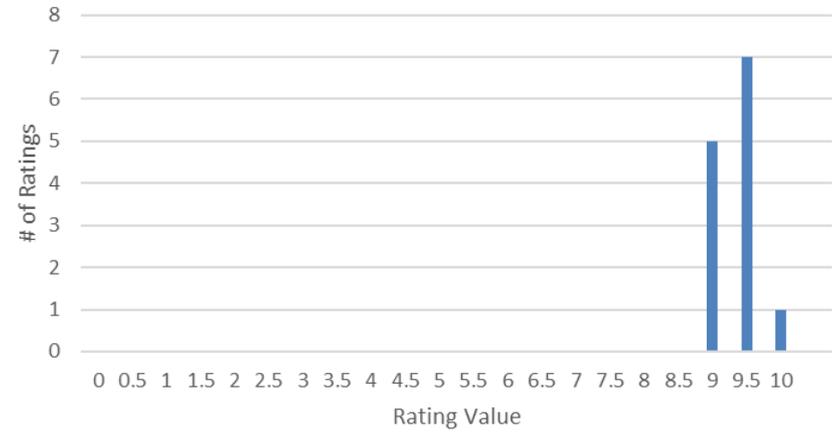# Pinion #6, RIDG

Pinion #6, RIDG, Pre-Discussion Data

Pinion #6, RIDG, Post-Discussion Data

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Pinion #6, RIPP

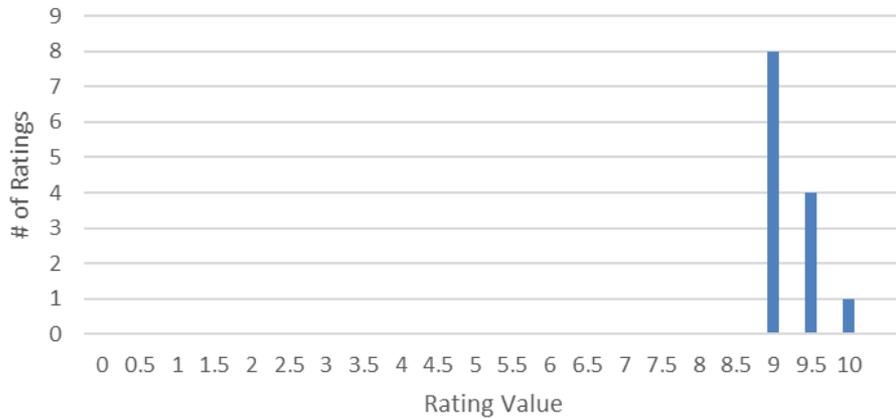Pinion #6, RIPP, Pre-Discussion Data
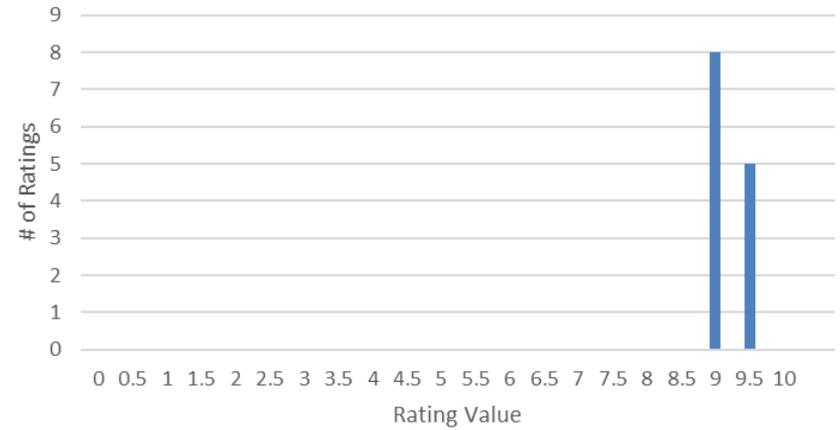

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Pinion #7, RIDG

Pinion #7, RIDG, Pre-Discussion Data

Pinion #7, RIDG, Post-Discussion Data

Pinion #7, RIPP

Pinion #7, RIPP, Pre-Discussion Data

Pinion #7, RIPP, Post-Discussion Data

Pinion #8, RIDG

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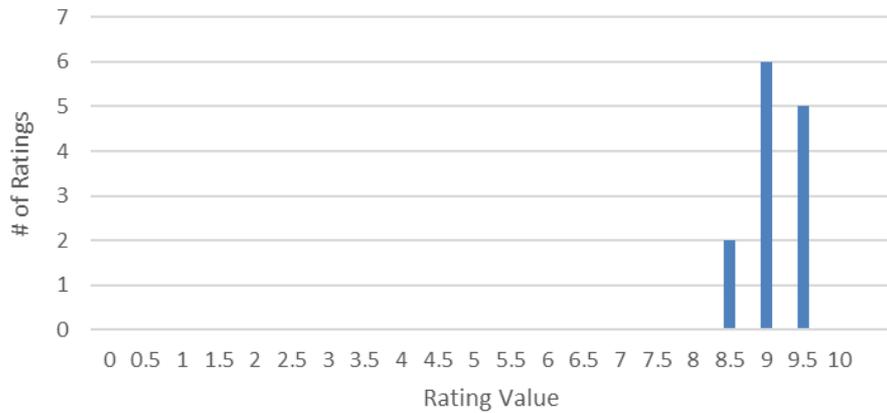

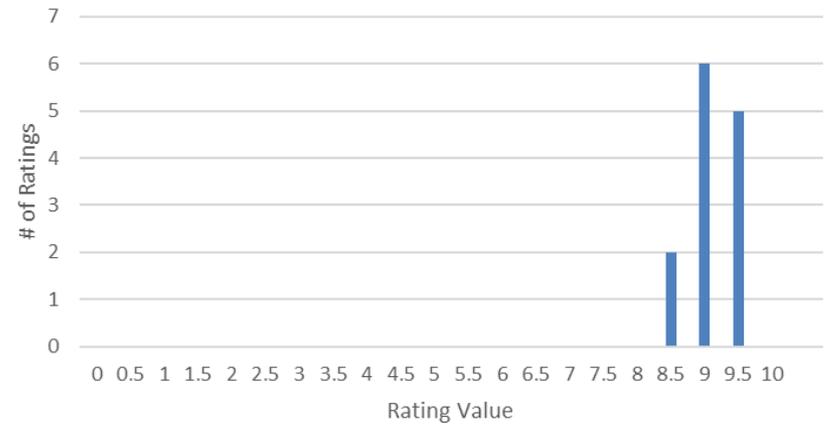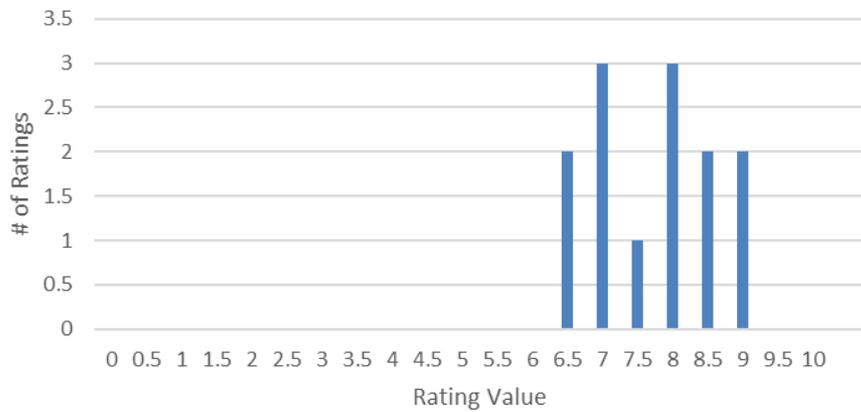Pinion #8, RIDG, Post-Discussion Data

Pinion #8, RIPP

Pinion #8, RIPP, Pre-Discussion Data

Pinion #8, RIPP, Post-Discussion Data

Pinion #9, RIDG

Pinion #9, RIDG, Pre-Discussion Data

Pinion #9, RIDG, Post-Discussion Data

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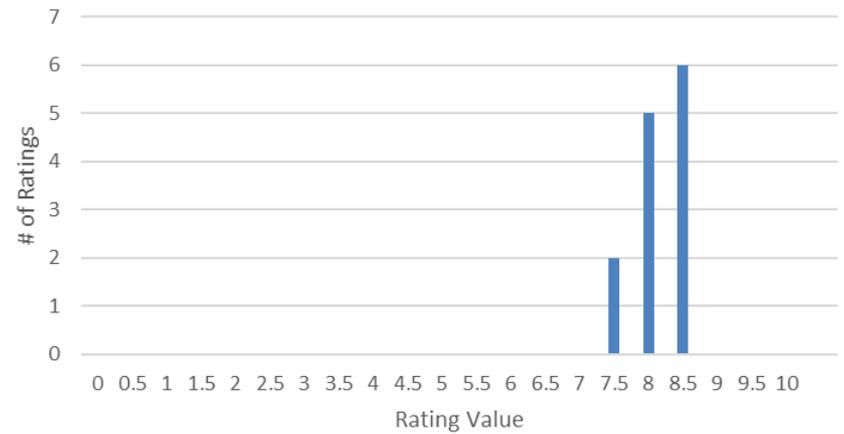
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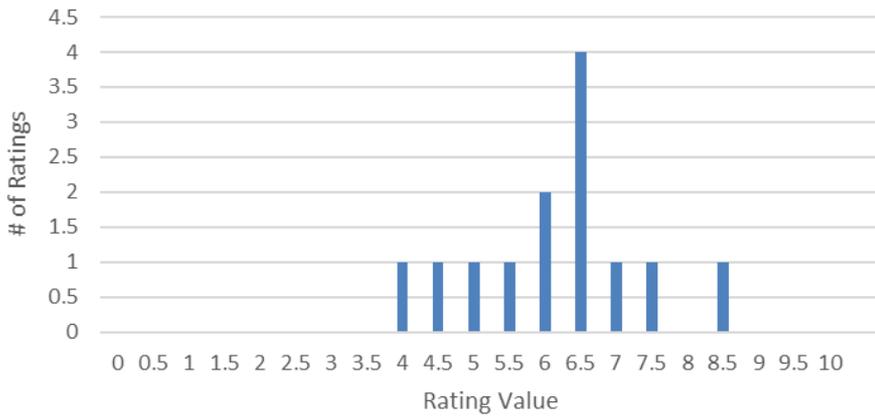
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Pinion #10, RIDG

Pinion #10, RIDG, Pre-Discussion Data

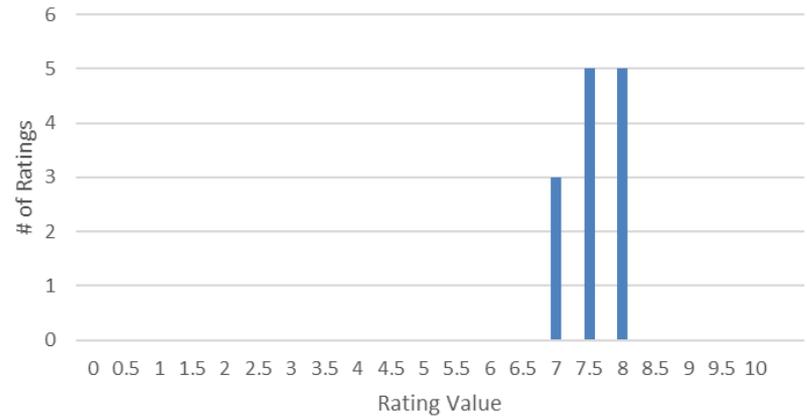Pinion #10, RIDG, Post-Discussion Data

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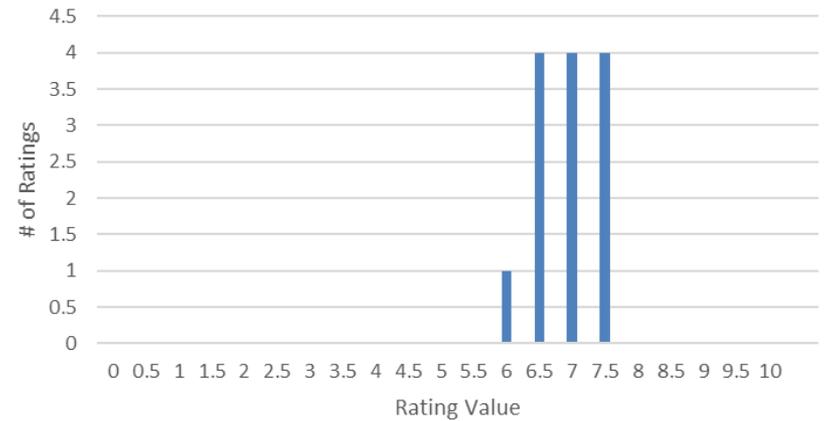
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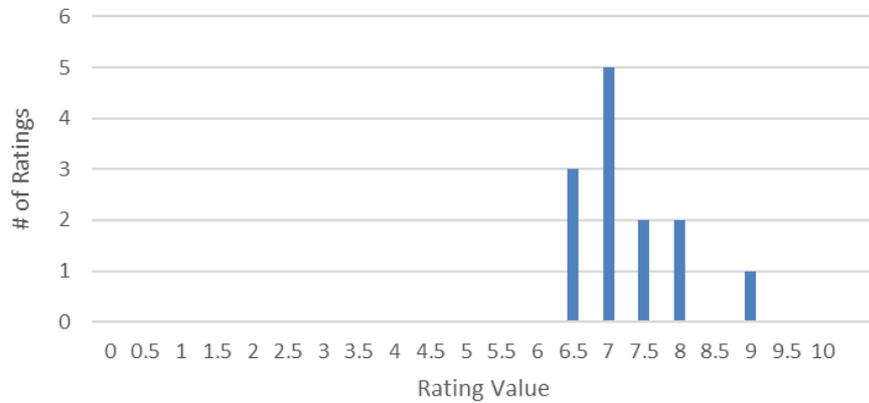Pinion #11, RIDG, Pre-Discussion Data
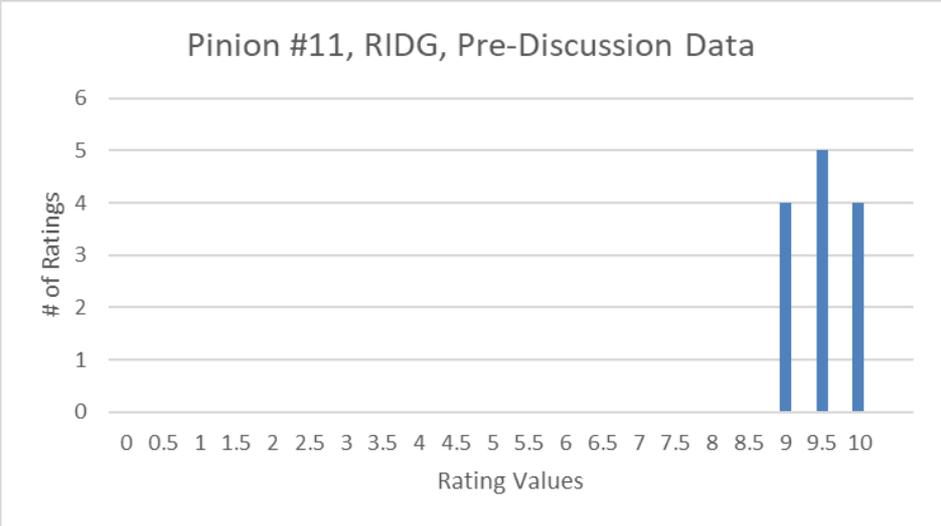
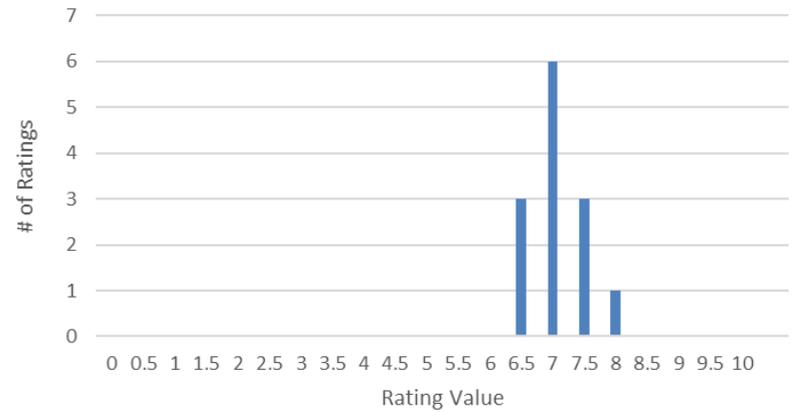Pinion #11, RIDG, Post-Discussion Data
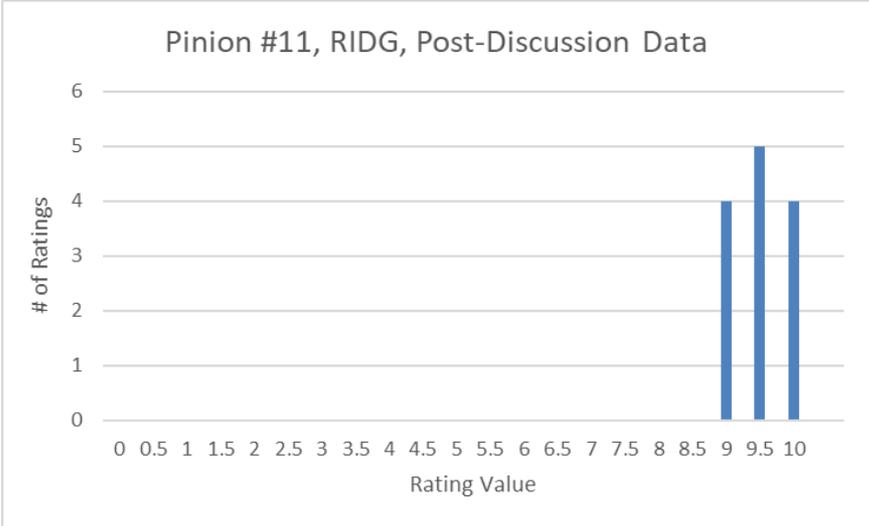
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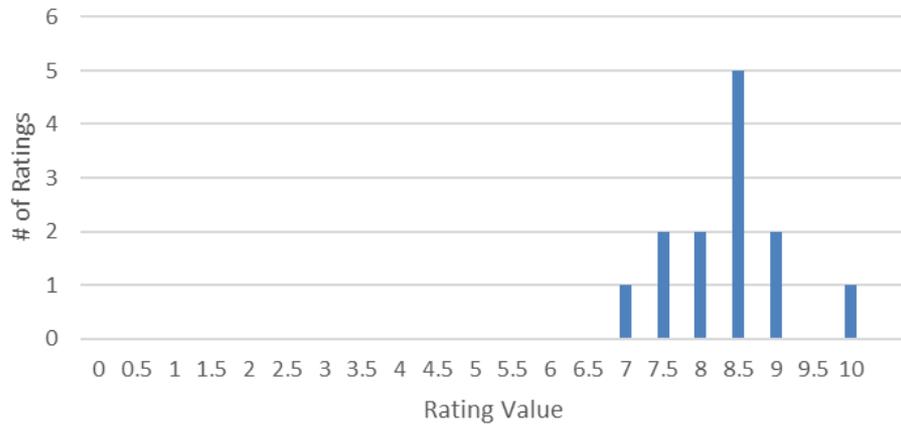Pinion #11, RIPP, Pre-Discussion Data
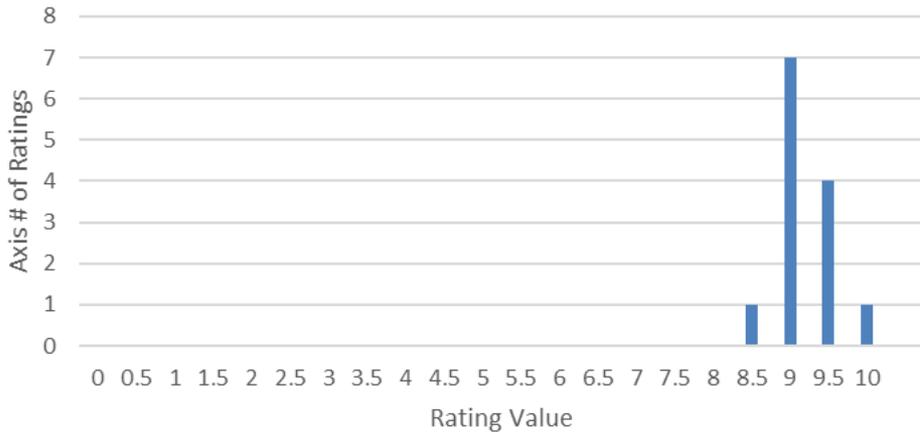
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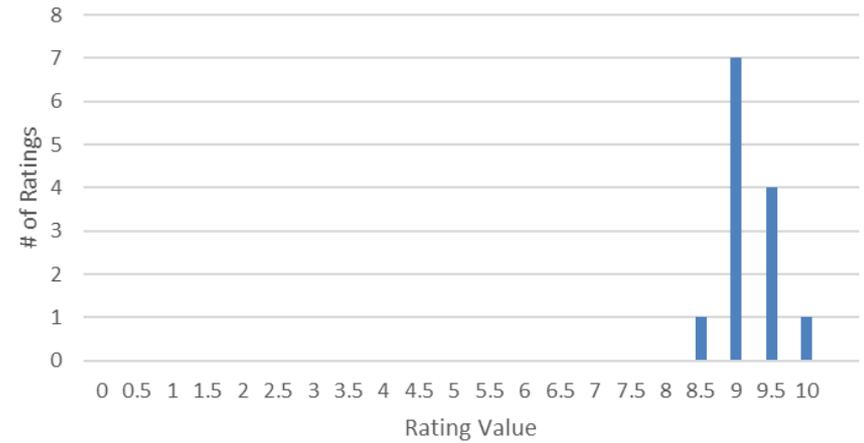
Pinion #12, RIDG

Pinion #12, RIDG, Pre-Discussion Data
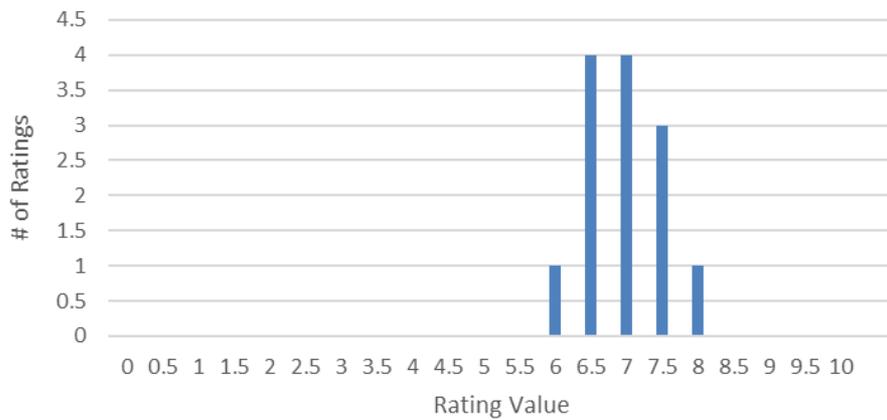
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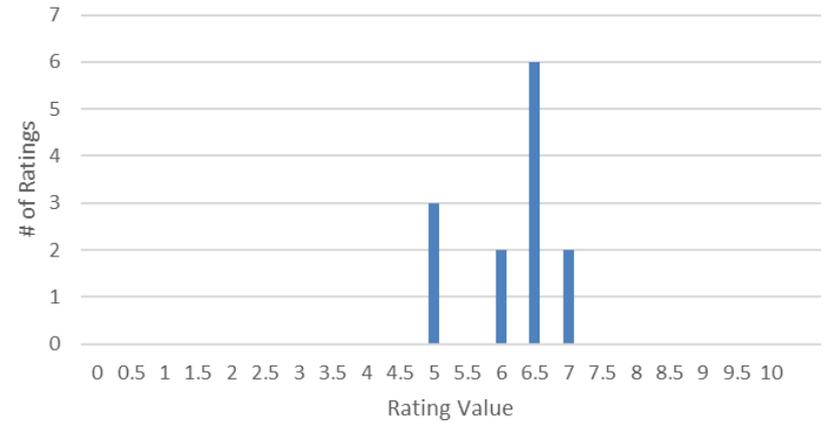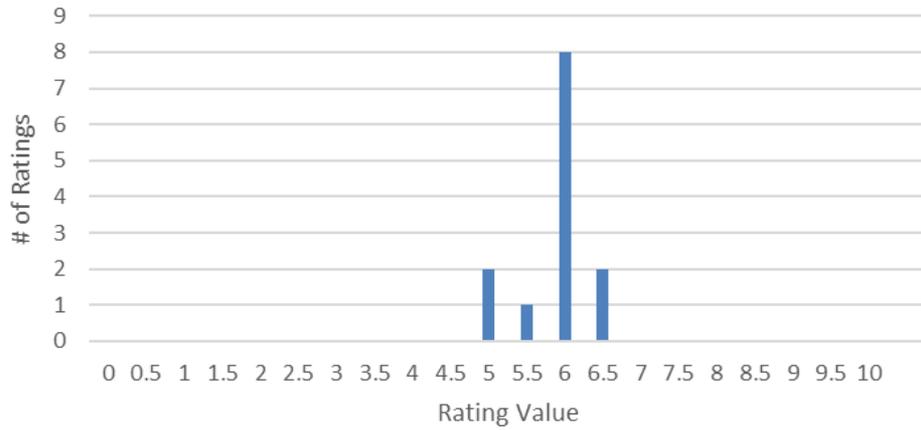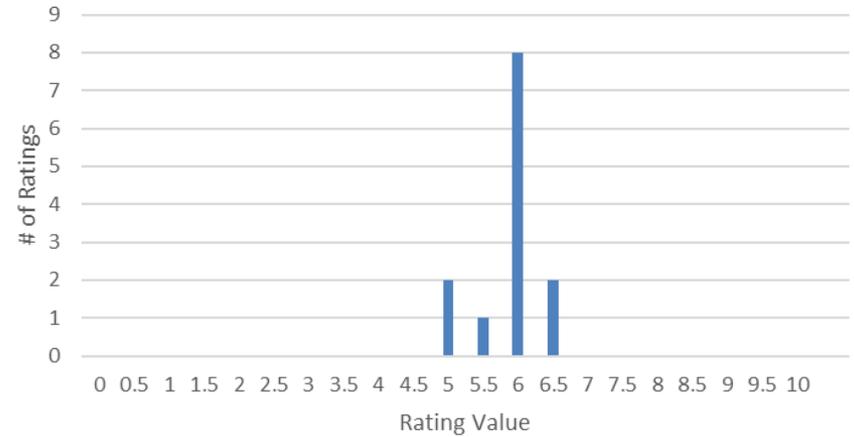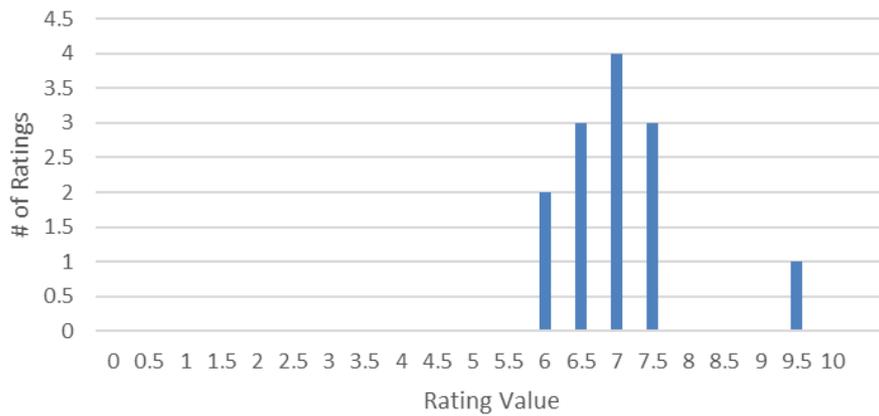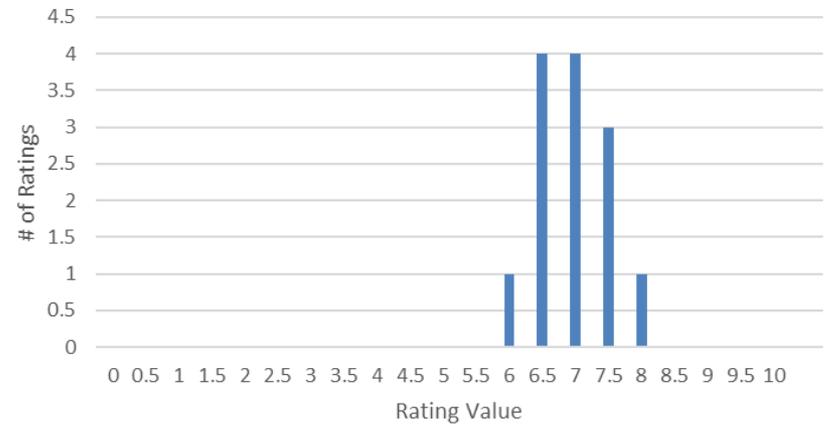# Pinion #12, RIPP
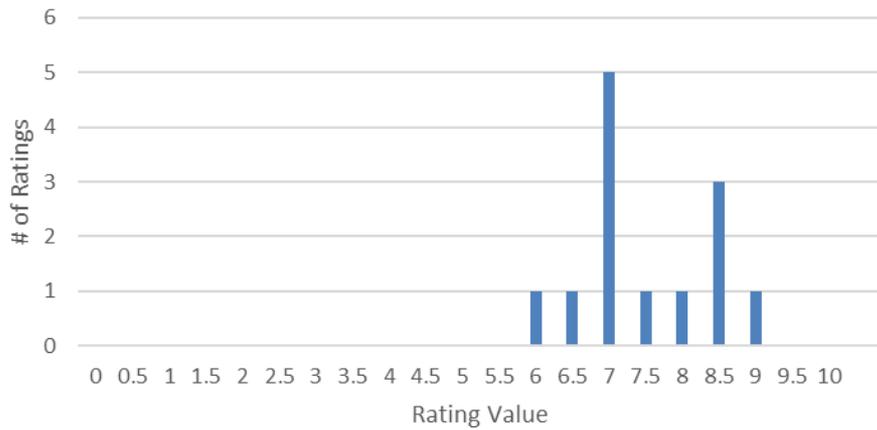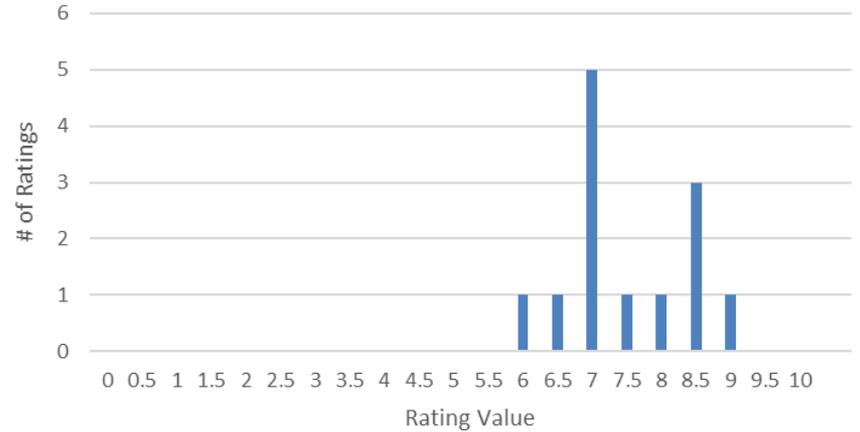
Color Code Summary

- A color coded calibration workshop was trialed at the January 2026 gear rating workshop

    - This is a model to potentially replace the current RCMS rater calibration process for L42 and L371

Color Code Summary

L33 Color Codes

Rater	Parts Rated	-1<yi<=1	-2<yi<=2	-3<yi<=3	Yi STD	LT1%	LT2%	Group
Rater1	30	25	28	30	0.6	83	93	
Rater 2	30	25	29	30	0.6	83	97	🟥
Rater 3	30	25	29	30	0.6	83	97	🟥
Rater 4	30	29	30	30	0.4	97	100	🟦
Rater 5	30	18	26	30	0.8	60	87	🟨
Rater 6	30	26	29	29	0.7	87	97	🟥
Rater 7	30	27	30	30	0.4	90	100	🟦
Rater 8	30	26	30	30	0.4	87	100	🟦
Rater 9	30	14	18	27	1.1	47	60	🟨
Rater 10	30	28	30	30	0.4	93	100	🟦
Rater 11	30	27	28	30	0.6	90	93	
Rater 12	30	25	29	30	0.5	83	97	🟥
Rater 13	30	28	30	30	0.3	93	100	🟦
Rater 14	30	28	30	30	0.3	93	100	🟦

Three values are used for the color code. LT1, LT2, and STD(Yi).

Blue: LT1 >=85%, LT2 >=98%, STD(Yi) <= 1.2

Red: LT1 >=80%, LT2 >=95%, STD(Yi) <=0.85

White: LT1 >=60%, LT2 >=90%, STD(Yi) <=0.75

Yellow: Any value outside requirements.

Color Code Summary

L37 Color Codes

PINION COLOR CODES   RING COLOR CODES

Rater	Parts Rated	-1<yi<=1	-2<yi<=2	-3<yi<=3	Yi STD	LT1%	LT2%	Group
Rater1	32	29	30	32	0.6	91	94	
Rater 2	32	27	31	32	0.6	84	97	🟥
Rater 3	32	26	32	32	0.5	81	100	🟥
Rater 4	32	24	27	31	0.9	75	84	🟨
Rater 5	32	28	32	32	0.5	88	100	🟦
Rater 6	32	26	31	32	0.6	81	97	🟥
Rater 7	32	24	32	32	0.6	75	100	
Rater 8	32	29	32	32	0.4	91	100	🟦
Rater 9	32	23	29	32	0.8	72	91	🟨
Rater 10	32	28	31	32	0.6	88	97	🟥
Rater 11	32	27	30	31	0.8	84	94	🟨
Rater 12	32	29	31	32	0.6	91	97	🟥
Rater 13	32	25	32	32	0.6	78	100	
Rater 14	32	26	31	32	0.6	81	97	🟥

Three values are used for the color code. LT1, LT2, and STD(Yi).

Blue: LT1 >=85%, LT2 >=98%, STD(Yi) <= 1.2

Red: LT1 >=80%, LT2 >=95%, STD(Yi) <=0.85

White: LT1 >=60%, LT2 >=90%, STD(Yi) <=0.75

Yellow: Any value outside requirements.

Color Code Summary

L37 Color Codes

PINION COLOR CODES   **RING COLOR CODES**

Rater	Parts Rated	-1<yi<=1	-2<yi<=2	-3<yi<=3	Yi STD	LT1%	LT2%	Group
Rater1	32	18	26	31	0.9	56	81	Yellow
Rater 2	32	25	32	32	0.5	78	100	
Rater 3	32	23	30	31	0.7	72	94	
Rater 4	32	26	32	32	0.5	81	100	Red
Rater 5	32	25	29	31	0.8	78	91	Yellow
Rater 6	32	28	32	32	0.4	88	100	Blue
Rater 7	32	29	32	32	0.3	91	100	Blue
Rater 8	32	27	31	32	0.7	84	97	Red
Rater 9	32	25	30	32	0.6	78	94	
Rater 10	32	25	30	32	0.7	78	94	
Rater 11	32	26	32	32	0.6	81	100	Red
Rater 12	32	22	31	32	0.7	69	97	
Rater 13	32	30	30	32	0.5	94	94	
Rater 14	32	26	30	31	0.8	81	94	Yellow

Three values are used for the color code. LT1, LT2, and STD(Yi).

Blue: LT1 >=85%, LT2 >=98%, STD(Yi) <= 1.2

Red: LT1 >=80%, LT2 >=95%, STD(Yi) <=0.85

White: LT1 >=60%, LT2 >=90%, STD(Yi) <=0.75

Yellow: Any value outside requirements.

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Color Code Summary

L42 Color Codes

Rater	Parts Rated	$-1<yi<=1$	$-2<yi<=2$	$-3<yi<=3$	Yi STD	LT1%	LT2%	Group
Rater1	16	8	15	16	0.6	50	94	Yellow
Rater 2	16	9	16	16	0.3	56	100	Yellow
Rater 3	16	11	15	16	0.6	69	94	
Rater 4	16	8	16	16	0.4	50	100	Yellow
Rater 5	16	13	16	16	0.5	81	100	Red
Rater 6	16	11	15	16	0.6	69	94	
Rater 7	16	13	16	16	0.4	81	100	Red
Rater 8	16	9	15	16	0.7	56	94	Yellow
Rater 9	16	8	13	16	0.9	50	81	Yellow
Rater 10	16	9	15	16	0.7	56	94	Yellow
Rater 11	16	14	16	16	0.4	88	100	Blue
Rater 12	16	12	16	16	0.5	75	100	
Rater 13	16	10	15	16	0.6	62	94	
Rater 14	16	12	16	16	0.4	75	100	

Three values are used for the color code. LT1, LT2, and STD(Yi).

Blue: LT1 >=85%, LT2 >=98%, STD(Yi) <= 1.2

Red: LT1 >=80%, LT2 >=95%, STD(Yi) <=0.85

White: LT1 >=60%, LT2 >=90%, STD(Yi) <=0.75

Yellow: Any value outside requirements.

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Color Code Summary

L60 Color Codes

Rater	Parts Rated	-1<yi<=1	-2<yi<=2	-3<yi<=3	Yi STD	LT1%	LT2%	Group
Rater1	12	9	11	12	0.6	75	92	
Rater 2	12	7	12	12	0.6	58	100	🟨 Yellow
Rater 3	12	12	12	12	0.3	100	100	🟦 Blue
Rater 4	12	8	10	12	0.8	67	83	🟨 Yellow
Rater 5	12	10	12	12	0.3	83	100	🟥 Red
Rater 6	12	11	12	12	0.5	92	100	🟦 Blue
Rater 7	12	12	12	12	0.2	100	100	🟦 Blue
Rater 8	12	11	12	12	0.3	92	100	🟦 Blue
Rater 9	12	9	11	12	0.7	75	92	
Rater 10	12	10	11	11	0.9	83	92	🟨 Yellow
Rater 11	12	11	11	12	0.5	92	92	
Rater 12	12	12	12	12	0.3	100	100	🟦 Blue
Rater 13	12	9	10	11	1.0	75	83	🟨 Yellow
Rater 14	12	9	12	12	0.6	75	100	

Three values are used for the color code. LT1, LT2, and STD(Yi).

Blue: LT1 >=85%, LT2 >=98%, STD(Yi) <= 1.2

Red: LT1 >=80%, LT2 >=95%, STD(Yi) <=0.85

White: LT1 >=60%, LT2 >=90%, STD(Yi) <=0.75

Yellow: Any value outside requirements.

L-37-1 Rating Aid Update

Feb 2026

L-37-1 Rating Aid Development

- Gear rating task force has been working on developing an updated rating aid for the Gleason hardware.

- A version of the rating aid was tested out at the July 2025 gear rating workshop.
  - Photo examples of Gleason parts and distresses

- After some input from the July workshop, adjustments were made and rating aids were distributed to all labs ahead of the January 2026 rating workshop.

L-37-1 January Workshop Update

- At the January 2026 workshop the rating aid was used
  - Feedback was that the rating aid photos need to be retaken with a more zoomed in frame of reference.

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L-37-1 January Workshop Update

- In addition to RIDG photos, raters stated that a separate definition for ridging would be helpful.
  - Ridging is both a physical and visual distress.
  - The intention is to add a definition for the physical portion of the distress that cannot be captured in photos.

L-37-1 January Workshop Update

- Current RIDG Definition in Test Method (same definition for RIPP, RIDG)

A10.2 *Severity Levels*:

A10.2.1 Document the most severe level for each individual distress. Use the photographs in ASTM Distress Manual 21 as examples.

A10.2.2 *None*—Absence of distress.

A10.2.3 *Trace*—Barely discernible, may need magnification (4× maximum).

A10.2.4 *Light*—Discernible without magnification.

A10.2.5 *Medium*—Easily discernible, midway between light and heavy.

A10.2.6 *Heavy*—Intense or severe (the severity level is such that the distress is instantaneously recognizable).

TABLE A10.1 Gear Rating Guideline

Use for All Distress Except Pitting/Spalling

Numerical Value	
10.0	None
9.0	Trace
8.0	Trace-Light
7.0	Light
6.0	Light-Medium
5.0	Medium
4.0	Medium-Heavy
3.0	Heavy
2.0	Heavy to Catastrop
1.0	Heavy to Catastrop contact area)
0.0	Catastrophic (100

Proposed RIDG Definition

A10.X RIDGING *Severity Levels*:

A10.X.1 Document the most severe level for each individual distress. Use the photographs in ASTM Distress Manual 21 as examples.

A10.X.2 *None*—Absence of distress.

A10.X.3 *Trace*—Barely discernible

A10.X.4 Trace/Light - Discernible visually, not physically discernable

A10.X.5 *Light*—*Easily visually discernable and barely physically* discernible

A10.X.6 *Medium*—Easily discernible both visually and physically, midway between light and heavy.

A10.X.7 *Heavy*—Intense or severe (the severity level is such that the distress is instantaneously recognizable).

TABLE A10.1 Gear Rating Guideline

Use for All Distress Except Pitting/Spalling

Numerical Value	
10.0	None
9.0	Trace
8.0	Trace-Light
7.0	Light
6.0	Light-Medium
5.0	Medium
4.0	Medium-Heavy
3.0	Heavy
2.0	Heavy to Catastrop
1.0	Heavy to Catastrop (contact area)
0.0	Catastrophic (100

L-37-1 Next Steps:

- Vote to add Ridging definition to test method
  - L-37-1 panel can vote on this today

- Rating aid photos to be re-taken and another workshop to be held in July 2026
  - Revised rating aid can be used at that workshop.

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