

COAST SIDE PINION SCORING

Unit of Measure: % Scoring

Gear Batch P2AD01

Reference Oil	Mean	Standard Deviation
117	23.0	5.49

COAST SIDE PINION SCORING

Unit of Measure: % Scoring

Gear Batch P2AD8

Reference Oil	Mean	Standard Deviation
117	23.0	5.49

B. Acceptance Criteria

1. New Test Stand

- A minimum of four (4) operationally valid calibration tests, with no stand Shewhart severity alarms, must be conducted. Three (3) tests must be conducted on reference oil 114, 115, 116, 117 or subsequent approved reblends. All three tests must be completed on the same reference oil. The remaining one (1) calibration test must be conducted on discrimination reference oil 112, 113, 119 or subsequent approved reblends. The end of test coast side pinion scoring value of the discrimination oil must be a minimum of twice the average value of the preceding three (3) acceptable reference oil tests. If a second discrimination oil test is needed, the test, if acceptable, will count as one (1) of the 15 non-reference oil tests. In the event that neither discrimination oil test meets the above requirement, a complete new calibration sequence must be performed. The results from tests conducted on discrimination oils are not charted.
- All operationally valid calibration test results must be charted to determine if the test stand is currently “in control” as defined by the control charts from the Lubricant Test Monitoring System.

2. Existing Test Stand

- The test stand must have been an ASTM TMC calibrated test stand prior to LTMS introduction or previously accepted into the system by meeting LTMS calibration requirements.
- A test stand must complete three (3) operationally valid calibration tests, with no stand Shewhart severity alarms, on reference oil 114, 115, 116, 117, or subsequent approved reblends. All three tests must be completed on the same reference oil. Every six months or fourth calibration sequence, an additional test must be conducted on discrimination reference oil 112, 113, 119 or subsequent approved reblends. The end of test coast side pinion scoring value of the discrimination oil must be a minimum of twice the average value of the preceding three (3) acceptable reference oil tests. If a second discrimination oil test is needed, the test, if acceptable, will count as one (1) of the 15 non-reference oil tests. In the event that neither discrimination oil test meets the above requirement, a

complete new calibration sequence must be performed. The results from tests conducted on discrimination oils are not charted.

3. Reference Oil Assignment

Once test stands have been accepted into the system, the TMC will assign reference oils for continuing calibration according to the following reference oil mix:

Gear Batch	Oil Assignments
P8L123	Assign either three 116, three 115, or three 114 oils (or subsequent reblend). Every 6 months or fourth calibration sequence, also assign one discrimination oil 112.
P8L119	Assign three 116 oils (or subsequent reblend). Every 6 months or fourth calibration sequence, also assign one discrimination oil 112 or 113.
P8L205	Assign either three 116, three 115, or three 114 oils (or subsequent reblend). Every 6 months or fourth calibration sequence, also assign one discrimination oil 112.
P8L737	Assign either three 115 or three 114 oils (or subsequent reblend). Every 6 months or fourth calibration sequence, also assign one discrimination oil 112.
P8L327	Assign either three 116 or three 115 oils (or subsequent reblend). Every 6 months or fourth calibration sequence, also assign one discrimination oil 112.
P8L604	Assign either three 116 or three 115 oils (or subsequent reblend). Every 6 months or fourth calibration sequence, also assign one discrimination oil 112.
P4L806	Assign three 116 oils (or subsequent reblend). Every 6 months or fourth calibration sequence, also assign one discrimination oil 112, 113 or subsequent reblends.
P8T025A	Assign three 116 or 117 oils (or subsequent reblend) or see the test procedure for alternate single test calibration requirements. Every 6 months or fourth calibration sequence, also assign one discrimination oil 112, 113 or subsequent reblends.
P8AD078X	Assign three 116 or 117 oils (or subsequent reblend) or see the test procedure for alternate single test calibration requirements. Every 6 months or fourth calibration sequence, also assign one discrimination oil 112, 113, 119 or subsequent reblends.
P8AD132	Assign three 116 or 117 oils (or subsequent reblend) or see the test procedure for alternate single test calibration requirements. Every 6 months or fourth calibration sequence, also assign one discrimination oil 112, 113, 119 or subsequent reblends.
P2AD01	Assign three 117 oils (or subsequent reblend) or see the test procedure for alternate single test calibration requirements. Every 6 months or fourth calibration sequence, also assign one discrimination oil 119 or subsequent reblends.
P2AD8	Assign three 117 oils (or subsequent reblend) or see the test procedure for alternate single test calibration requirements. Every 6 months or fourth calibration sequence, also assign one discrimination oil 119 or subsequent reblends.

Note: See Sections 1 & 2 above for more details on oil assignments.

L-60-1 Reference Oil Targets													
Oil	n	Effective Dates		Viscosity Increase		Pentane Insolubles		Toluene Insolubles		Average Carbon/Varnish		Average Sludge	
		From ¹	To ²	\bar{X}	s^3	\bar{X}	s^3	\bar{X}	s^3	\bar{X}	s^3	\bar{X}	s^3
131-3	30	6-3-94	***	81.451	7.659	2.293	0.413	0.554	0.249	1.111	0.511	9.411	0.106
131-4	--	11-2-95	***	75.944	7.659	2.560	0.413	0.923	0.249	1.053	0.511	9.483	0.106
133	9	8-23-00	***	93.691	7.659	2.801	0.413	1.405	0.249	6.548	0.511	9.381	0.106
143	30	6-3-94	***	31.500	7.659	1.271	0.413	0.914	0.249	9.002	0.511	9.503	0.106
145	8	2-26-25	***	70.225	5.099	1.198	0.249	1.217	0.409	6.329	0.747	8.575	0.648
148	30	6-3-94	***	36.966	7.659	0.387	0.413	0.257	0.249	8.306	0.511	9.532	0.106
148-1	--	3-11-02	8-9-23	36.966	7.659	0.387	0.413	0.257	0.249	8.306	0.511	9.532	0.106
151-2	9	8-23-00	***	37.070	2.717	2.064	0.380	1.329	0.394	8.801	0.517	9.382	0.106
155-1	17	6-7-14	2-10-16	27.176	3.127	1.388	0.372	1.035	0.451	8.971	0.436	9.441	0.106
155-1	20	2-11-16	8-11-16	27.750	3.242	1.490	0.529	1.135	0.639	8.875	0.678	9.435	0.103
155-1	35	8-12-16	9-15-23	28.800	3.669	1.509	0.434	1.109	0.530	8.760	0.586	9.426	0.101
155-2	35	8-1-23	2-20-24	28.800	3.669	1.509	0.434	1.109	0.530	8.760	0.586	9.426	0.101
155-2	35	8-1-23	***	23.000	2.832	1.509	0.434	1.109	0.530	8.760	0.708	9.426	0.101

- 1 Effective for all tests completed on or after this date.
- 2 *** = currently in effect.
- 3 Standard deviations are pooled s values for all oils except 145, 151-2, 155-1, and 155-2.
- 4 155-2 Target Update on Feb 21, 2024 applied retroactively to all 155-2 runs since August 1, 2023.