

PETRO-LUBRICANT TESTING LABORATORIES, INC.

Member A.S.T.M.

170 N. Main Street - Bldg. 2
PO Box 751 Wharton, N.J. 07885
fax 201-366-9623
phone 201-366-3797

January 13, 1993

Page 1

Aerospace Lubricants, Inc.
1505 Delashmut Ave.
Columbus, Ohio 43212

Attn: Stephen Gates

RE: P.O.120892

Dear Sir;

Analysis of your samples of **Alisyn Pro Gear** and **Quick Silver 90W High Performance Gear Lube** per ASTM D-2625, Falex Pin and V Block, gave the following results:

Quicksilver High Performance Gear Lube

<u>Load, Lbs.</u>	<u>Starting Torque</u>	<u>Final Torque</u>
300 lbs/3 min.	12 lbs-in	11 lbs-in
500 lbs/1 min.	15	15
750	21	20
1000	24	23
1250	27	26
1500	30	29
1750	32	31
2000	34	33
2250	47	50
2500	55	42
2750	47	40
3000	44	43
3250	43	41
3500	43	47
3750	45	44
4000	46	67
4250	4505 lbs torque went to 80 lbs-in, squeeling, loss of load.	

Scar width = 1.375 mm

Quick Silver High Performance Gear Lube w/ 25% H₂O

<u>Load, Lbs</u>	<u>Starting Torque</u>	<u>Final Torque</u>
300 lbs/3 min.	11 lbs-in	11 lbs-in
500 lbs/1 min.	15	15
750	21	20
1000	23	22
1250	27	26
1500	30	29
1750	32	32
2000	38	@ 45 secs, 85 lbs-in loss of load, pin snapped

Scar width unreadable

Alisyn Pro Gear 21 Race Series Gear Oil - Type 1

<u>Load, Lbs</u>	<u>Starting Torque</u>	<u>Final Torque</u>
300 lbs/3 min.	13 lb-in	11 lb-in
500 lbs/1 min.	16	17
750	22	19
1000	25	23
1250	29	26
1500	32	31
1750	35	32
2000	35	33
2250	35	34
2500	37	36
2750	40	38
3000	41	43
3250	45	46
3500	48	45
3750	48	47
4000	50	52
4250	55	54
4500	57	60
4750	63	65

Scar Width = 0.875 mm

Contact Pressure @ 4750 lbs = 196,886 psi

Alisyn Pro Gear 21 Race Series Gear Oil - Type 1 w/ 25% H ₂ O		
<u>Load, Lbs</u>	<u>Starting Torque</u>	<u>Final Torque</u>
300 lbs/3 min.	12 lb-in	14 lb-in
500 lbs/1 min.	16	17
750	21	22
1000	28	28
1250	33	34
1500	39	36
1750	39	37
2000	38	37
2250	38	36
2500	38	37
2750	40	39
3000	41	*slight loss of load 40
3250	42	slight loss of load 43
3500	47	slight loss of load 49
3750	51	100 lb loss of load 55
4000	60	150 lb loss of load 63
4250	68	250 lb loss of load 70
4500		would not hold load, pin broke.

Scar width unreadable.

Alisyn Pro Gear 21 Race Series 80W Gear Oil - Type 2

<u>Load, Lbs</u>	<u>Starting Torque</u>	<u>Final Torque</u>
300 lbs/3 min.	12 lb-in	11 lb-in
500 lbs/1 min.	15	15
750	21	20
1000	24	23
1250	27	26
1500	30	29
1750	33	32
2000	33	32
2250	34	33
2500	35	35
2750	38	37
3000	39	38
3250	39	38
3500	42	40
3750	42	40
4000	41	40
4250	41	41
4500	42	42
4750	43	44

Scar width = 0.65 mm

Contact Pressure @ 4750 lbs = 265,040 psi

Aerospace Lubricants, Inc.

1600 Georgesville Road, Columbus, Ohio 43228
(614) 878-3600 ♦ (800) 441-9160 ♦ Fax (614) 878-1600
www.aerospacelubricants.com

TYPICAL CHARACTERISTICS ALISYN PROPOWER 21

<u>Test Method</u>	<u>Description</u>	<u>Results</u>
ASTM D-2983	Brookfield Viscosity, cP @-25C	7,200
ASTM D-2596	Load Wear Index Weld Load, Kg	69.64 400
ASTM D-665	Rust Protection, Procedure A/B	pass/pass
ASTM D-2893	Oxidation, 312 hr.@203F viscosity change, %, D-91 precipitation No.	1.53 nil
ASTM D-892	Foam Test, Sequence I Sequence II Sequence III	Trace/0@300 sec Trace/0@10 sec. Trace/0@200 sec
ASTM D-524	Ramsbottom Carbon Residue, %	0.77

The Brookfield Viscosity of 7200 cP at -25C meets the TC-W3 requirement of 7500 cP maximum. The Load Wear Index and Weld Load indicate the capability of the lubricant to carry heavy loads before the oil film breaks down and allows metal to metal contact and extreme wear to begin. ALISYN PROPOWER 21 carries almost twice the load of other leading two cycle oils. ALISYN PROPOWER 21 not only passes the 24 hr. at 140F Rust Protection procedure A with fresh water, and Procedure B with salt water, it will protect steel samples for over 480 hr. without rusting in the salt water test. ALISYN PROPOWER 21 exhibits much better antifoam characteristics than some other leading two cycle oils which were tested at the same time. The Falex EP wear test is used to determine the ability of gear oils to resist sliding wear and prevent metal to metal contact. Very few gear oils can match the load carrying ability of PROPOWER 21. The Ramsbottom carbon residue of 0.77% is in the same range of other two cycle oils.

Manufacturer of these high performance synthetic lubricants:

www.tribolube.net
TRIBOLUBE™

www.alisyn.com
ALISYN™

ISO 9001:2000 Certified

Aerospace Lubricants, Inc.

1600 Georgesville Road, Columbus, Ohio 43228
(614) 878-3600 ♦ (800) 441-9160 ♦ Fax (614) 878-1600
www.aerospacelubricants.com

TYPICAL CHARACTERISTICS ALISYN PROPOWER 21

<u>Test Method</u>	<u>Description</u>	<u>Results</u>
ASTM D-2983	Brookfield Viscosity, cP @-25C	7,200
ASTM D-2596	Load Wear Index Weld Load, Kg	69.64 400
ASTM D-665	Rust Protection, Procedure A/B	pass/pass
ASTM D-2893	Oxidation, 312 hr.@203F viscosity change, %, D-91 precipitation No.	1.53 nil
ASTM D-892	Foam Test, Sequence I Sequence II Sequence III	Trace/0@300 sec Trace/0@10 sec. Trace/0@200 sec
ASTM D-524	Ramsbottom Carbon Residue, %	0.77

The Brookfield Viscosity of 7200 cP at -25C meets the TC-W3 requirement of 7500 cP maximum. The Load Wear Index and Weld Load indicate the capability of the lubricant to carry heavy loads before the oil film breaks down and allows metal to metal contact and extreme wear to begin. ALISYN PROPOWER 21 carries almost twice the load of other leading two cycle oils. ALISYN PROPOWER 21 not only passes the 24 hr. at 140F Rust Protection procedure A with fresh water, and Procedure B with salt water, it will protect steel samples for over 480 hr. without rusting in the salt water test. ALISYN PROPOWER 21 exhibits much better antifoam characteristics than some other leading two cycle oils which were tested at the same time. The Falex EP wear test is used to determine the ability of gear oils to resist sliding wear and prevent metal to metal contact. Very few gear oils can match the load carrying ability of PROPOWER 21. The Ramsbottom carbon residue of 0.77% is in the same range of other two cycle oils.

Manufacturer of these high performance synthetic lubricants:

www.tribolube.net

TRIBOLUBE™

www.alisyn.com

ALISYN™

ISO 9001:2000 Certified