



OIL REPORT

LAB NUMBER: M81850 UNIT ID: N217JK
 REPORT DATE: 11/10/2020 CLIENT ID: 69529
 CODE: 20/68 PAYMENT: CC: Visa

| | | |
|-------------|---|--|
| UNIT | MAKE/MODEL: Continental TSIO-550-K | OIL TYPE & GRADE: Phillips XC (A/C) 20W/50 |
| | FUEL TYPE: Gasoline (Leaded) | OIL USE INTERVAL: 41 Hours |
| | ADDITIONAL INFO: Cirrus SR22T, S/N: 0932, E/N: 1037258, 1037259 | |

| | | |
|---------------|------------------------------------|--|
| CLIENT | RYAN YENGER | PHONE: (888) 566-3686 |
| | LONE MOUNTAIN AIRCRAFT MAINTENANCE | FAX: |
| | 2460 GREEN TREE RD | ALT PHONE: |
| | LEBANON, OH 45036 | EMAIL: ryan@lonemtn.com, ryenger@lonemtn.com |
| | | |

COMMENTS
 RYAN: There's nothing the least bit unusual or concerning about these results. Metals are still holding relatively steady, with just some minor variation that's to be expected from normal differences in how the engine is operated from one oil change to the next. From our side of things, internal wear still looks to be in fine shape. The viscosity is on target for a 20W/50, and insolubles (solids) are within limits at 0.5%. Nice report, N217JK.

| | MI/HR on Oil | 41 | UNIT / LOCATION AVERAGES | 40 | 28 | 48 | 45 | 41 | UNIVERSAL AVERAGES |
|--------------------------------------|-------------------|------------|--------------------------|----------|-----------|-----------|-----------|------------|--------------------|
| | MI/HR on Unit | 466 | | 426 | 386 | 358 | 310 | 265 | |
| | Sample Date | 10/23/2020 | | 9/8/2020 | 7/28/2020 | 6/22/2020 | 2/12/2020 | 12/11/2019 | |
| | Make Up Oil Added | | | | | | | | |
| ELEMENTS IN PARTS PER MILLION | ALUMINUM | 5 | 6 | 5 | 4 | 5 | 4 | 3 | 7 |
| | CHROMIUM | 22 | 25 | 20 | 16 | 22 | 20 | 17 | 22 |
| | IRON | 64 | 70 | 54 | 47 | 62 | 52 | 46 | 73 |
| | COPPER | 10 | 13 | 10 | 8 | 10 | 9 | 9 | 14 |
| | LEAD | 8741 | 7615 | 8521 | 7251 | 9753 | 8483 | 7160 | 7736 |
| | TIN | 1 | 2 | 2 | 1 | 1 | 2 | 1 | 2 |
| | MOLYBDENUM | 8 | 8 | 7 | 5 | 8 | 7 | 6 | 7 |
| | NICKEL | 23 | 22 | 20 | 14 | 19 | 25 | 16 | 25 |
| | MANGANESE | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| | SILVER | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | TITANIUM | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 |
| | POTASSIUM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| | BORON | 0 | 1 | 2 | 0 | 0 | 1 | 0 | 1 |
| | SILICON | 4 | 7 | 4 | 4 | 5 | 4 | 4 | 8 |
| | SODIUM | 2 | 1 | 2 | 1 | 1 | 1 | 0 | 1 |
| | CALCIUM | 1 | 13 | 1 | 1 | 2 | 1 | 1 | 25 |
| | MAGNESIUM | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| | PHOSPHORUS | 0 | 10 | 2 | 1 | 1 | 2 | 1 | 222 |
| | ZINC | 3 | 7 | 4 | 3 | 5 | 4 | 4 | 7 |
| | BARIUM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

Values Should Be*

| PROPERTIES | SUS Viscosity @ 210°F | 91.1 | 86-105 | 89.9 | 93.5 | 90.3 | 90.7 | 91.1 |
|-------------------|-----------------------|-------|-----------|-------|-------|-------|-------|-------|
| | cSt Viscosity @ 100°C | 18.25 | 17.0-21.8 | 17.95 | 18.81 | 18.06 | 18.14 | 18.24 |
| | Flashpoint in °F | 485 | >430 | 460 | 445 | 475 | 495 | 435 |
| | Fuel % | <0.5 | <1.0 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| | Antifreeze % | - | | - | - | - | - | - |
| | Water % | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| | Insolubles % | 0.5 | <0.6 | 0.5 | 0.3 | 0.3 | 0.4 | 0.4 |
| | TBN | | | | | | | |
| | TAN | | | | | | | |
| | ISO Code | | | | | | | |

* THIS COLUMN APPLIES ONLY TO THE CURRENT SAMPLE

416 E. PETTIT AVE. FORT WAYNE, IN 46806 (260) 744-2380 www.blackstone-labs.com



OIL REPORT

LAB NUMBER: M93446 UNIT ID: N217JK
 REPORT DATE: 12/15/2020 CLIENT ID: 69529
 CODE: 20/68 PAYMENT: CC: Visa

| | | |
|-------------|--|--|
| UNIT | MAKE/MODEL: Continental TSIO-550-K | OIL TYPE & GRADE: Phillips XC (A/C) 20W/50 |
| | FUEL TYPE: Gasoline (Leaded) | OIL USE INTERVAL: 40 Hours |
| | ADDITIONAL INFO: Cirrus SR22T, S/N: 0932, E/N: 1037259 | |

| | | |
|---------------|------------------------------------|--|
| CLIENT | RYAN YENGER | PHONE: (888) 566-3686 |
| | LONE MOUNTAIN AIRCRAFT MAINTENANCE | FAX: |
| | 2460 GREEN TREE RD | ALT PHONE: |
| | LEBANON, OH 45036 | EMAIL: ryan@lonemtn.com, ryenger@lonemtn.com |

COMMENTS
 RYAN: All is well with this TSIO-550. The wear trends could hardly be better, with only small changes in metal levels from sample to sample. Iron (steel wear) and nickel (exhaust valve guide wear) have been creeping up lately, but these slight upward trends aren't cautionary. This still looks like normal variation at this point, though we'll continue to monitor it for you. No contaminants were found in this 20W/50-grade oil, and the air and oil filters worked well. Very nice!

| | | | UNIT / LOCATION AVERAGES | | | | | UNIVERSAL AVERAGES | |
|--------------------------------------|-------------------|-----------|--------------------------|----------|-----------|-----------|-----------|--------------------|------|
| | MI/HR on Oil | | 41 | 40 | 28 | 48 | 45 | | |
| | MI/HR on Unit | 507 | 466 | 426 | 386 | 358 | 310 | | |
| | Sample Date | 12/9/2020 | 10/23/2020 | 9/8/2020 | 7/28/2020 | 6/22/2020 | 2/12/2020 | | |
| | Make Up Oil Added | | | | | | | | |
| ELEMENTS IN PARTS PER MILLION | ALUMINUM | 4 | 6 | 5 | 5 | 4 | 5 | 4 | 7 |
| | CHROMIUM | 21 | 25 | 22 | 20 | 16 | 22 | 20 | 22 |
| | IRON | 66 | 71 | 64 | 54 | 47 | 62 | 52 | 73 |
| | COPPER | 8 | 15 | 10 | 10 | 8 | 10 | 9 | 14 |
| | LEAD | 9547 | 7712 | 8741 | 8521 | 7251 | 9753 | 8483 | 7728 |
| | TIN | 1 | 2 | 1 | 2 | 1 | 1 | 2 | 2 |
| | MOLYBDENUM | 8 | 9 | 8 | 7 | 5 | 8 | 7 | 7 |
| | NICKEL | 24 | 22 | 23 | 20 | 14 | 19 | 25 | 24 |
| | MANGANESE | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| | SILVER | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | TITANIUM | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 |
| | POTASSIUM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| | BORON | 1 | 1 | 0 | 2 | 0 | 0 | 1 | 1 |
| | SILICON | 4 | 8 | 4 | 4 | 4 | 5 | 4 | 8 |
| | SODIUM | 2 | 1 | 2 | 2 | 1 | 1 | 1 | 1 |
| | CALCIUM | 1 | 12 | 1 | 1 | 1 | 2 | 1 | 25 |
| | MAGNESIUM | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| | PHOSPHORUS | 1 | 25 | 0 | 2 | 1 | 1 | 2 | 219 |
| | ZINC | 3 | 8 | 3 | 4 | 3 | 5 | 4 | 7 |
| BARIUM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |

Values Should Be*

| PROPERTIES | SUS Viscosity @ 210°F | 90.9 | 86-105 | 91.1 | 89.9 | 93.5 | 90.3 | 90.7 |
|-------------------|-----------------------|-------|-----------|-------|-------|-------|-------|-------|
| | cSt Viscosity @ 100°C | 18.19 | 17.0-21.8 | 18.25 | 17.95 | 18.81 | 18.06 | 18.14 |
| | Flashpoint in °F | 490 | >430 | 485 | 460 | 445 | 475 | 495 |
| | Fuel % | <0.5 | <1.0 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| | Antifreeze % | - | | - | - | - | - | - |
| | Water % | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| | Insolubles % | 0.3 | <0.6 | 0.5 | 0.5 | 0.3 | 0.3 | 0.4 |
| | TBN | | | | | | | |
| | TAN | | | | | | | |
| | ISO Code | | | | | | | |

* THIS COLUMN APPLIES ONLY TO THE CURRENT SAMPLE

416 E. PETTIT AVE. FORT WAYNE, IN 46806 (260) 744-2380 www.blackstone-labs.com



OIL REPORT

LAB NUMBER: N10629
 REPORT DATE: 2/10/2021
 CODE: 20/68

UNIT ID: N217JK
 CLIENT ID: 69529
 PAYMENT: CC: Visa

| | | |
|-------------|--|--|
| UNIT | MAKE/MODEL: Continental TSIO-550-K | OIL TYPE & GRADE: Phillips XC (A/C) 20W/50 |
| | FUEL TYPE: Gasoline (Leaded) | OIL USE INTERVAL: 41 Hours |
| | ADDITIONAL INFO: Cirrus SR22T, S/N: 0932, E/N: 1037259 | |

| | | |
|---------------|------------------------------------|--|
| CLIENT | RYAN YENGER | PHONE: (888) 566-3686 |
| | LONE MOUNTAIN AIRCRAFT MAINTENANCE | FAX: |
| | 2460 GREEN TREE RD | ALT PHONE: |
| | LEBANON, OH 45036 | EMAIL: ryan@lonemtn.com, ryenger@lonemtn.com |
| | | |

COMMENTS
 RYAN: There's absolutely nothing about this report that gives rise to any concerns about how this engine is doing. The wear metals all look fine, and there isn't any contamination in the sample to worry about. With that in mind, the best compliment we can give is a short comment, so consider this one very short. Nice!

| ELEMENTS IN PARTS PER MILLION | MI/HR on Oil | 41 | UNIT / LOCATION AVERAGES | 40 | 41 | 40 | 28 | 48 | UNIVERSAL AVERAGES |
|--------------------------------------|-------------------|----------|---------------------------------|-----------|------------|----------|-----------|-----------|---------------------------|
| | MI/HR on Unit | 548 | | 507 | 466 | 426 | 386 | 358 | |
| | Sample Date | 2/4/2021 | | 12/9/2020 | 10/23/2020 | 9/8/2020 | 7/28/2020 | 6/22/2020 | |
| | Make Up Oil Added | | | | | | | | |
| ALUMINUM | 4 | 6 | 4 | 5 | 5 | 4 | 5 | 7 | |
| CHROMIUM | 17 | 25 | 21 | 22 | 20 | 16 | 22 | 22 | |
| IRON | 53 | 71 | 66 | 64 | 54 | 47 | 62 | 73 | |
| COPPER | 7 | 15 | 8 | 10 | 10 | 8 | 10 | 14 | |
| LEAD | 8332 | 7732 | 9547 | 8741 | 8521 | 7251 | 9753 | 7674 | |
| TIN | 1 | 2 | 1 | 1 | 2 | 1 | 1 | 2 | |
| MOLYBDENUM | 6 | 9 | 8 | 8 | 7 | 5 | 8 | 8 | |
| NICKEL | 19 | 21 | 24 | 23 | 20 | 14 | 19 | 24 | |
| MANGANESE | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | |
| SILVER | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| TITANIUM | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | |
| POTASSIUM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | |
| BORON | 1 | 1 | 1 | 0 | 2 | 0 | 0 | 1 | |
| SILICON | 4 | 8 | 4 | 4 | 4 | 4 | 5 | 8 | |
| SODIUM | 2 | 1 | 2 | 2 | 2 | 1 | 1 | 1 | |
| CALCIUM | 1 | 12 | 1 | 1 | 1 | 1 | 2 | 24 | |
| MAGNESIUM | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | |
| PHOSPHORUS | 0 | 25 | 1 | 0 | 2 | 1 | 1 | 214 | |
| ZINC | 3 | 8 | 3 | 3 | 4 | 3 | 5 | 7 | |
| BARIUM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |

Values Should Be*

| PROPERTIES | SUS Viscosity @ 210°F | 91.0 | 86-105 | 90.9 | 91.1 | 89.9 | 93.5 | 90.3 |
|-------------------|-----------------------|-------|-----------|-------|-------|-------|-------|-------|
| | cSt Viscosity @ 100°C | 18.23 | 17.0-21.8 | 18.19 | 18.25 | 17.95 | 18.81 | 18.06 |
| | Flashpoint in °F | 455 | >430 | 490 | 485 | 460 | 445 | 475 |
| | Fuel % | <0.5 | <1.0 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| | Antifreeze % | - | | - | - | - | - | - |
| | Water % | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| | Insolubles % | 0.5 | <0.6 | 0.3 | 0.5 | 0.5 | 0.3 | 0.3 |
| | TBN | | | | | | | |
| | TAN | | | | | | | |
| | ISO Code | | | | | | | |

* THIS COLUMN APPLIES ONLY TO THE CURRENT SAMPLE

416 E. PETTIT AVE. FORT WAYNE, IN 46806 (260) 744-2380 www.blackstone-labs.com



OIL REPORT

LAB NUMBER: N25334

UNIT ID: N217JK

REPORT DATE: 3/30/2021

CLIENT ID: 69529

CODE: 20/68

PAYMENT: CC: Visa

| | | |
|-------------|--|--|
| UNIT | MAKE/MODEL: Continental TSIO-550-K | OIL TYPE & GRADE: Phillips XC (A/C) 20W/50 |
| | FUEL TYPE: Gasoline (Leaded) | OIL USE INTERVAL: 41 Hours |
| | ADDITIONAL INFO: Cirrus SR22T, S/N: 0932, E/N: 1037259 | |

| | | |
|---------------|------------------------------------|--|
| CLIENT | RYAN YENGER | PHONE: (888) 566-3686 |
| | LONE MOUNTAIN AIRCRAFT MAINTENANCE | FAX: |
| | 2460 GREEN TREE RD | ALT PHONE: |
| | LEBANON, OH 45036 | EMAIL: ryan@lonemtn.com, ryenger@lonemtn.com |
| | | |

COMMENTS
 RYAN: Nice report. The wear metals are all still coming in at good levels, and there's no contamination to make note of in this sample. The viscosity is fine and insolubles are within limits to show good oil filtration and combustion. This engine looks to be going strong.

| | | | UNIT / LOCATION AVERAGES | | | | | UNIVERSAL AVERAGES |
|--------------------------------------|--------------|------|--------------------------|-----------|------------|----------|-----------|--------------------|
| | MI/HR on Oil | | 41 | 40 | 41 | 40 | 28 | |
| MI/HR on Unit | 589 | | 548 | 507 | 466 | 426 | 386 | |
| Sample Date | 3/25/2021 | | 2/4/2021 | 12/9/2020 | 10/23/2020 | 9/8/2020 | 7/28/2020 | |
| Make Up Oil Added | | | | | | | | |
| ELEMENTS IN PARTS PER MILLION | | | | | | | | |
| ALUMINUM | 3 | 6 | 4 | 4 | 5 | 5 | 4 | 7 |
| CHROMIUM | 17 | 24 | 17 | 21 | 22 | 20 | 16 | 22 |
| IRON | 54 | 70 | 53 | 66 | 64 | 54 | 47 | 73 |
| COPPER | 7 | 14 | 7 | 8 | 10 | 10 | 8 | 14 |
| LEAD | 8586 | 7750 | 8332 | 9547 | 8741 | 8521 | 7251 | 7638 |
| TIN | 1 | 2 | 1 | 1 | 1 | 2 | 1 | 2 |
| MOLYBDENUM | 6 | 9 | 6 | 8 | 8 | 7 | 5 | 8 |
| NICKEL | 20 | 22 | 19 | 24 | 23 | 20 | 14 | 24 |
| MANGANESE | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| SILVER | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| TITANIUM | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 |
| POTASSIUM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| BORON | 0 | 1 | 1 | 1 | 0 | 2 | 0 | 1 |
| SILICON | 4 | 8 | 4 | 4 | 4 | 4 | 4 | 8 |
| SODIUM | 2 | 1 | 2 | 2 | 2 | 2 | 1 | 1 |
| CALCIUM | 1 | 11 | 1 | 1 | 1 | 1 | 1 | 24 |
| MAGNESIUM | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| PHOSPHORUS | 1 | 24 | 0 | 1 | 0 | 2 | 1 | 211 |
| ZINC | 3 | 7 | 3 | 3 | 3 | 4 | 3 | 7 |
| BARIUM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

Values Should Be*

| | | | | | | | | |
|-------------------|-----------------------|-------|-----------|-------|-------|-------|-------|-------|
| PROPERTIES | SUS Viscosity @ 210°F | 88.7 | 86-105 | 91.0 | 90.9 | 91.1 | 89.9 | 93.5 |
| | cSt Viscosity @ 100°C | 17.67 | 17.0-21.8 | 18.23 | 18.19 | 18.25 | 17.95 | 18.81 |
| | Flashpoint in °F | 485 | >430 | 455 | 490 | 485 | 460 | 445 |
| | Fuel % | <0.5 | <1.0 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| | Antifreeze % | - | | - | - | - | - | - |
| | Water % | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| | Insolubles % | 0.3 | <0.6 | 0.5 | 0.3 | 0.5 | 0.5 | 0.3 |
| | TBN | | | | | | | |
| | TAN | | | | | | | |
| | ISO Code | | | | | | | |

* THIS COLUMN APPLIES ONLY TO THE CURRENT SAMPLE

416 E. PETTIT AVE. FORT WAYNE, IN 46806 (260) 744-2380 www.blackstone-labs.com



OIL REPORT

LAB NUMBER: N68337

UNIT ID: N217JK

REPORT DATE: 7/29/2021

CLIENT ID: 69529

CODE: 20/68

PAYMENT: CC: Visa

| | | |
|-------------|--|--|
| UNIT | MAKE/MODEL: Continental TSIO-550-K | OIL TYPE & GRADE: Phillips XC (A/C) 20W/50 |
| | FUEL TYPE: Gasoline (Leaded) | OIL USE INTERVAL: 43 Hours |
| | ADDITIONAL INFO: Cirrus SR22T, S/N: 0932, E/N: 1037259 | |

| | | |
|---------------|------------------------------------|--|
| CLIENT | RYAN YENGER | PHONE: (888) 566-3686 |
| | LONE MOUNTAIN AIRCRAFT MAINTENANCE | FAX: |
| | 2460 GREEN TREE RD | ALT PHONE: |
| | LEBANON, OH 45036 | EMAIL: ryan@lonemtn.com, ryenger@lonemtn.com |

COMMENTS
 RYAN: N217JK continues to impress! Wear metals are low and consistent as ever and nickel managed to fall even further below average. Clearly the exhaust valve guides (and all the other wearing components) are getting along great. The amount of lead blow-by and insolubles were both appropriate too, indicating both good combustion and proper oil filtration. Fantastic trends!

| ELEMENTS IN PARTS PER MILLION | MI/HR on Oil | 43 | UNIT / LOCATION AVERAGES | 40 | 41 | 41 | 40 | 41 | UNIVERSAL AVERAGES |
|-------------------------------|-------------------|-----------|--------------------------|----------|-----------|----------|-----------|------------|--------------------|
| | MI/HR on Unit | 671 | | 629 | 589 | 548 | 507 | 466 | |
| | Sample Date | 7/20/2021 | | 6/2/2021 | 3/25/2021 | 2/4/2021 | 12/9/2020 | 10/23/2020 | |
| | Make Up Oil Added | | | | | | | | |
| | ALUMINUM | 3 | 6 | 4 | 3 | 4 | 4 | 5 | 7 |
| | CHROMIUM | 16 | 24 | 16 | 17 | 17 | 21 | 22 | 22 |
| | IRON | 52 | 69 | 55 | 54 | 53 | 66 | 64 | 72 |
| | COPPER | 6 | 16 | 7 | 7 | 7 | 8 | 10 | 14 |
| | LEAD | 7829 | 7647 | 8648 | 8586 | 8332 | 9547 | 8741 | 7534 |
| | TIN | 1 | 2 | 0 | 1 | 1 | 1 | 1 | 2 |
| | MOLYBDENUM | 5 | 9 | 6 | 6 | 6 | 8 | 8 | 8 |
| | NICKEL | 14 | 22 | 20 | 20 | 19 | 24 | 23 | 24 |
| | MANGANESE | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| | SILVER | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | TITANIUM | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| | POTASSIUM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | BORON | 3 | 1 | 1 | 0 | 1 | 1 | 0 | 1 |
| | SILICON | 4 | 8 | 3 | 4 | 4 | 4 | 4 | 8 |
| | SODIUM | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 1 |
| | CALCIUM | 1 | 14 | 1 | 1 | 1 | 1 | 1 | 23 |
| | MAGNESIUM | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| | PHOSPHORUS | 4 | 78 | 2 | 1 | 0 | 1 | 0 | 197 |
| | ZINC | 3 | 9 | 4 | 3 | 3 | 3 | 3 | 8 |
| | BARIUM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

Values Should Be*

| PROPERTIES | 93.0 | 86-105 | 91.7 | 88.7 | 91.0 | 90.9 | 91.1 |
|-----------------------|-------|-----------|-------|-------|-------|-------|-------|
| SUS Viscosity @ 210°F | 93.0 | 86-105 | 91.7 | 88.7 | 91.0 | 90.9 | 91.1 |
| cSt Viscosity @ 100°C | 18.71 | 17.0-21.8 | 18.39 | 17.67 | 18.23 | 18.19 | 18.25 |
| Flashpoint in °F | 450 | >430 | 470 | 485 | 455 | 490 | 485 |
| Fuel % | <0.5 | <1.0 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Antifreeze % | - | - | - | - | - | - | - |
| Water % | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Insolubles % | 0.3 | <0.6 | 0.4 | 0.3 | 0.5 | 0.3 | 0.5 |
| TBN | | | | | | | |
| TAN | | | | | | | |
| ISO Code | | | | | | | |

* THIS COLUMN APPLIES ONLY TO THE CURRENT SAMPLE

416 E. PETTIT AVE. FORT WAYNE, IN 46806 (260) 744-2380 www.blackstone-labs.com



OIL REPORT

LAB NUMBER: P41095
 REPORT DATE: 2/16/2022
 CODE: 20/68

UNIT ID: N217JK
 CLIENT ID: 69529
 PAYMENT: CC: Visa

| | | |
|-------------|--|--|
| UNIT | MAKE/MODEL: Continental TSIO-550-K | OIL TYPE & GRADE: Phillips XC (A/C) 20W/50 |
| | FUEL TYPE: Gasoline (Leaded) | OIL USE INTERVAL: 50 Hours |
| | ADDITIONAL INFO: Cirrus SR22T, S/N: 0932, E/N: 1037259 | |

| | | |
|---------------|------------------------------------|--|
| CLIENT | RYAN YENGER | PHONE: (888) 566-3686 |
| | LONE MOUNTAIN AIRCRAFT MAINTENANCE | FAX: |
| | 2460 GREEN TREE RD | ALT PHONE: |
| | LEBANON, OH 45036 | EMAIL: ryan@lonemtn.com, ryenger@lonemtn.com |
| | | |

COMMENTS
 RYAN: This is N217JK's nicest report on the page! It was the longest oil run on the page too, yet wear metals tested at lower levels than usual overall. Wear rates look fantastic, so the internal parts must be getting along great - that's assuming there wasn't a big increase in make-up oil. That kind of thing can dilute the readings and make wear appear better than it is. Barring something like that, 2022 seems to be treating this SR22T really nicely. Good work!

| ELEMENTS IN PARTS PER MILLION | MI/HR on Oil | 50 | UNIT / LOCATION AVERAGES | 41 | 39 | 35 | 43 | 40 | UNIVERSAL AVERAGES |
|--------------------------------------|-------------------|----------|---------------------------------|------------|------------|-----------|-----------|----------|---------------------------|
| | MI/HR on Unit | 855 | | 814 | 774 | 735 | 671 | 629 | |
| | Sample Date | 2/2/2022 | | 12/22/2021 | 10/21/2021 | 9/24/2021 | 7/20/2021 | 6/2/2021 | |
| | Make Up Oil Added | | | 0 qts | | | | | |
| ALUMINUM | 3 | 6 | 3 | 3 | 5 | 3 | 4 | 6 | |
| CHROMIUM | 12 | 23 | 16 | 18 | 18 | 16 | 16 | 22 | |
| IRON | 38 | 69 | 47 | 50 | 49 | 52 | 55 | 71 | |
| COPPER | 5 | 15 | 7 | 8 | 9 | 6 | 7 | 14 | |
| LEAD | 7999 | 7701 | 8107 | 8723 | 6720 | 7829 | 8648 | 7412 | |
| TIN | 0 | 2 | 2 | 1 | 1 | 1 | 0 | 2 | |
| MOLYBDENUM | 4 | 9 | 5 | 6 | 6 | 5 | 6 | 8 | |
| NICKEL | 15 | 22 | 17 | 17 | 20 | 14 | 20 | 23 | |
| MANGANESE | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | |
| SILVER | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| TITANIUM | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | |
| POTASSIUM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| BORON | 0 | 1 | 1 | 0 | 1 | 3 | 1 | 1 | |
| SILICON | 4 | 7 | 6 | 6 | 10 | 4 | 3 | 8 | |
| SODIUM | 1 | 1 | 2 | 1 | 1 | 1 | 2 | 1 | |
| CALCIUM | 1 | 12 | 0 | 1 | 1 | 1 | 1 | 23 | |
| MAGNESIUM | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | |
| PHOSPHORUS | 2 | 61 | 0 | 1 | 1 | 4 | 2 | 181 | |
| ZINC | 2 | 8 | 2 | 2 | 3 | 3 | 4 | 7 | |
| BARIUM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |

Values Should Be*

| PROPERTIES | SUS Viscosity @ 210°F | 90.8 | 86-105 | 91.7 | 92.2 | 94.7 | 93.0 | 91.7 |
|-------------------|-----------------------|-------|-----------|-------|-------|------------|-------|-------|
| | cSt Viscosity @ 100°C | 18.17 | 17.0-21.8 | 18.38 | 18.51 | 19.10 | 18.71 | 18.39 |
| | Flashpoint in °F | 445 | >430 | 465 | 460 | 455 | 450 | 470 |
| | Fuel % | <0.5 | <1.0 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| | Antifreeze % | - | | - | - | - | - | - |
| | Water % | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| | Insolubles % | 0.4 | <0.6 | 0.4 | 0.5 | 0.6 | 0.3 | 0.4 |
| | TBN | | | | | | | |
| | TAN | | | | | | | |
| | ISO Code | | | | | | | |

* THIS COLUMN APPLIES ONLY TO THE CURRENT SAMPLE

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OIL REPORT

LAB NUMBER: P49400

UNIT ID: N217JK

REPORT DATE: 3/11/2022

CLIENT ID: 69529

CODE: 20/68

PAYMENT: CC: Visa

| | | |
|-------------|--|--|
| UNIT | MAKE/MODEL: Continental TSIO-550-K | OIL TYPE & GRADE: Phillips XC (A/C) 20W/50 |
| | FUEL TYPE: Gasoline (Leaded) | OIL USE INTERVAL: 39 Hours |
| | ADDITIONAL INFO: Cirrus SR22T, S/N: 0932, E/N: 1037259 | |

| | | |
|---------------|------------------------------------|--|
| CLIENT | RYAN YENGER | PHONE: (888) 566-3686 |
| | LONE MOUNTAIN AIRCRAFT MAINTENANCE | FAX: |
| | 2460 GREEN TREE RD | ALT PHONE: |
| | LEBANON, OH 45036 | EMAIL: ryan@lonemtn.com, ryenger@lonemtn.com |

COMMENTS RYAN: These results are virtually identical to what we found last time. We like to find steady wear because it often shows healthy wear, but this oil wasn't in use as long as the last sample, so one might've expected some metals to drop a little. These wear levels are still okay for a 39.3-hour run so we don't suspect any trouble. Maybe this run didn't need as much make-up oil as the last and we just have a better look at wear levels, which is perfectly fine. As long as all is well on your end, we don't have any corrective action or further inspection to suggest at 894.2 hours.

| | MI/HR on Oil | 39 | UNIT / LOCATION AVERAGES | 50 | 41 | 39 | 35 | 43 | UNIVERSAL AVERAGES |
|--------------------------------------|-------------------|----------|--------------------------|----------|------------|------------|-----------|-----------|--------------------|
| | MI/HR on Unit | 894 | | 855 | 814 | 774 | 735 | 671 | |
| | Sample Date | 3/3/2022 | | 2/2/2022 | 12/22/2021 | 10/21/2021 | 9/24/2021 | 7/20/2021 | |
| | Make Up Oil Added | | | 0 qts | | | | | |
| ELEMENTS IN PARTS PER MILLION | ALUMINUM | 2 | 6 | 3 | 3 | 3 | 5 | 3 | 6 |
| | CHROMIUM | 12 | 24 | 12 | 16 | 18 | 18 | 16 | 22 |
| | IRON | 37 | 69 | 38 | 47 | 50 | 49 | 52 | 71 |
| | COPPER | 5 | 14 | 5 | 7 | 8 | 9 | 6 | 14 |
| | LEAD | 8656 | 7772 | 7999 | 8107 | 8723 | 6720 | 7829 | 7412 |
| | TIN | 2 | 2 | 0 | 2 | 1 | 1 | 1 | 2 |
| | MOLYBDENUM | 4 | 9 | 4 | 5 | 6 | 6 | 5 | 8 |
| | NICKEL | 16 | 23 | 15 | 17 | 17 | 20 | 14 | 23 |
| | MANGANESE | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| | SILVER | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | TITANIUM | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 |
| | POTASSIUM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | BORON | 0 | 1 | 0 | 1 | 0 | 1 | 3 | 1 |
| | SILICON | 3 | 7 | 4 | 6 | 6 | 10 | 4 | 8 |
| | SODIUM | 1 | 1 | 1 | 2 | 1 | 1 | 1 | 1 |
| | CALCIUM | 0 | 11 | 1 | 0 | 1 | 1 | 1 | 22 |
| | MAGNESIUM | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| | PHOSPHORUS | 1 | 77 | 2 | 0 | 1 | 1 | 4 | 179 |
| | ZINC | 2 | 8 | 2 | 2 | 2 | 3 | 3 | 7 |
| | BARIUM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

Values Should Be*

| | | | | | | | | |
|-------------------|-----------------------|-------|-----------|-------|-------|-------|-------|-------|
| PROPERTIES | SUS Viscosity @ 210°F | 85.4 | 86-105 | 90.8 | 91.7 | 92.2 | 94.7 | 93.0 |
| | cSt Viscosity @ 100°C | 16.85 | 17.0-21.8 | 18.17 | 18.38 | 18.51 | 19.10 | 18.71 |
| | Flashpoint in °F | 450 | >430 | 445 | 465 | 460 | 455 | 450 |
| | Fuel % | <0.5 | <1.0 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| | Antifreeze % | - | | - | - | - | - | - |
| | Water % | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| | Insolubles % | 0.3 | <0.6 | 0.4 | 0.4 | 0.5 | 0.6 | 0.3 |
| | TBN | | | | | | | |
| | TAN | | | | | | | |
| | ISO Code | | | | | | | |

* THIS COLUMN APPLIES ONLY TO THE CURRENT SAMPLE

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