

Report of the Month

This GO-300 has a problem. What's going on?
To learn where the elements are coming
from, [click here](#).

| | | | | |
|------|------------------|---------------------------------|-------------------|--------------------------|
| UNIT | MAKE/MODEL: | Continental GO-300 | OIL TYPE & GRADE: | Phillips XC (A/C) 20W/50 |
| | FUEL TYPE: | Gasoline (Leaded) | OIL USE INTERVAL: | 26 Hours |
| | ADDITIONAL INFO: | Cessna C175, Mixed Chrome/Steel | | |

| | | | | | |
|----------|--|--|--|--|--|
| COMMENTS | Unfortunately, this is not a good report for your GO-300. This engine was making pretty steady trends a few years back, but aluminum, chrome, and iron have all skyrocketed in this sample. You mentioned a cylinder that has lower compression, so that will be a good place to start in looking for the problem. There could be other bad cylinders too -- this is a drastic change and a lot of metal. Silicon is up too -- it may show some sort of dirt in the system. Let us know what you find out--we're curious. This is a cautionary report. | | | | |
| | | | | | |

| | MI/HR on Oil | 26 | UNIT / LOCATION AVERAGES | 34 | 23 | 32 | 28 | 32 | UNIVERSAL AVERAGES |
|-------------------------------|-------------------|------------|--------------------------------|-----------|-----------|----------|-----------|-----------|-----------------------|
| | MI/HR on Unit | 1,139 | | 1,119 | 1,090 | 1,076 | 1,052 | 1,031 | |
| | Sample Date | 10/12/2013 | | 4/27/2013 | 9/28/2012 | 3/9/2012 | 8/27/2011 | 4/14/2011 | |
| | Make Up Oil Added | 2 qts | | 2 qts | 2 qts | 3 qts | 3 qts | 4 qts | |
| ELEMENTS IN PARTS PER MILLION | ALUMINUM | 128 | 15 | 35 | 13 | 16 | 11 | 14 | 15 |
| | CHROMIUM | 70 | 9 | 17 | 7 | 12 | 11 | 16 | 4 |
| | IRON | 115 | 48 | 69 | 45 | 63 | 59 | 65 | 49 |
| | COPPER | 12 | 7 | 9 | 6 | 7 | 7 | 7 | 12 |
| | LEAD | 3526 | 2707 | 3834 | 2650 | 3643 | 2987 | 3249 | 1738 |
| | TIN | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| | MOLYBDENUM | 2 | 2 | 2 | 1 | 2 | 2 | 3 | 3 |
| | NICKEL | 5 | 3 | 3 | 2 | 3 | 3 | 4 | 2 |
| | MANGANESE | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| | SILVER | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | TITANIUM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | POTASSIUM | 2 | 1 | 0 | 2 | 0 | 0 | 3 | 1 |
| | BORON | 0 | 1 | 1 | 1 | 0 | 0 | 1 | 1 |
| | SILICON | 25 | 10 | 13 | 10 | 15 | 11 | 10 | 10 |
| | SODIUM | 1 | 2 | 5 | 2 | 1 | 0 | 1 | 2 |
| | CALCIUM | 7 | 31 | 7 | 6 | 6 | 6 | 5 | 25 |
| | MAGNESIUM | 4 | 2 | 3 | 1 | 1 | 2 | 1 | 11 |
| | PHOSPHORUS | 0 | 215 | 0 | 0 | | | | 168 |
| | ZINC | 1 | 2 | 2 | 2 | | | | 6 |
| | BARIUM | 0 | 0 | 0 | 0 | | | | 0 |

| PROPERTIES | Values Should Be* | | | |
|------------|-----------------------|-------|-----------|-------|
| | SUS Viscosity @ 210°F | 96.6 | 86-105 | 100.6 |
| | cSt Viscosity @ 100°C | 19.55 | 17.0-21.8 | 20.51 |
| | Flashpoint in °F | 480 | >430 | 480 |
| | Fuel % | <0.5 | <1.0 | <0.5 |
| | Antifreeze % | - | - | - |
| | Water % | 0.0 | 0.0 | 0.0 |
| | Insolubles % | 0.4 | <0.6 | 0.3 |
| | TBN | | | |
| | TAN | | | |
| | ISO Code | | | |



* THIS COLUMN APPLIES ONLY TO THE CURRENT SAMPLE

The owner writes: Your report was right on the money. The number 5 piston broke the top ring and was beginning to come apart. That was the cylinder with the low compression during my annual. I changed out that whole cylinder, piston and all, with a new one from Continental. Thanks for the heads up!