

Report of the Month

Something is amiss in this GO-300-D. Can you tell what it is?

To learn more about where the elements are coming from, [click here](#).

ELEMENTS IN PARTS PER MILLION	MI/HR on Oil	26	UNIT/ LOCATION AVERAGES	34	32	28	39	UNIVERSAL AVERAGES
	MI/HR on Unit	1,139		1,119	1,090	1,076	1,052	
	Sample Date	10/12/13		04/27/13	09/28/12	03/09/12	08/27/11	
ALUMINUM	128	16	35	13	16	11	16	
CHROME	70	13	17	7	12	11	11	
IRON	115	64	69	45	63	59	61	
COPPER	12	8	9	6	7	7	13	
LEAD	3526	3385	3834	2650	3643	2987	2855	
TIN	0	0	0	0	0	0	1	
MOLYBDENUM	2	2	2	1	2	2	2	
NICKEL	5	3	3	2	3	3	3	
POTASSIUM	2	1	0	2	0	0	1	
BORON	0	1	1	1	0	0	1	
SILICON	25	12	13	10	15	11	10	
SODIUM	1	2	5	2	1	0	1	
CALCIUM	7	6	7	6	6	6	5	
MAGNESIUM	4	2	3	1	1	2	3	
PHOSPHORUS	0	0	0	0	0	0	143	
ZINC	1	1	2	2	2	1	3	
BARIUM	0	0	0	0	0	0	0	

Values
Should Be*

PROPERTIES	SUS Viscosity @210°F	96.6	86-105	100.6	94.6	98.5	101.8
	cSt Viscosity @ 100°C	19.55	17.0 - 21.8	20.51	19.07	20.00	20.79
	Flashpoint in °F	480	>430	480	470	460	500
	Fuel %	<0.5	<1.0	<0.5	<0.5	<0.5	<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

This engine was making steady wear trends through most of 2012, but as 2013 rolled in, it started to change. Aluminum is the most noticeable, and that's typically a piston metal. But chrome and iron were going up as well. The April report left us wondering if there might be a problem, but the subsequent report in October left no doubt. Aluminum, chrome, and iron are not only much higher than average, they're much higher than they'd been in the past. The owner followed up in December with what happened: "The only symptom I had seen prior to the oil report was a low compression reading during the annual. It was 74 the year prior and dropped to 65 this year. That is not a failing reading so I didn't consider not flying because of a serious problem. The report itself alerted me to look deeper, and I'm sure glad I did. 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. It's not known why the ring broke; probably just age."