

Canadian Association of Rocketry



Rocket Motor Certification: October 26th, 2012 Session

Submitted to the CAR Executive November 16th, 2012

L'Association Canadienne De Fuséologie

Introduction

A motor testing session was held at the Cesaroni Technology Incorporated facility in Gormley, Ontario on October 26th, 2012. Thanks to Angelo Castellano for supervising the testing!

Three motors were tested and certified:

- Pro38-5G 567-I125-WH/LB-10
- Pro98-4G 8634-M6400-VM-P
- Pro98-6GXL 21062-O3400-IM-P

In addition, an extended retaining ring (called an adapter ring, Cesaroni Technology part # P98-AR) and matching boat-tail (Cesaroni Technology part # P98-BT) were test fired. The adapter ring can be used in place of the standard Pro98 retaining ring where desired (functionally equivalent for the motor). This new boat-tail was designed for the larger XL-style nozzles only.

Note: From a motor testing / safety perspective, the boat-tail can be used with smaller nozzles, however users should consider it 'single-use' for that purpose. Use of the boat-tail with smaller nozzles is expected to cause damage to the boat-tail (exposure of the aluminum boat-tail to the rocket exhaust).

This session included eight motor firings, consumed 31.55 Kg (69.41 lbs) of propellant, and imparted 61,659.8 N-Sec of impulse.

While these motors were certified in Canada, a reciprocal agreement between the Canadian Association of Rocketry, the Tripoli Rocketry Association and the National Association of Rocketry means they may be flown in many jurisdictions.

I am very pleased to announce the certification of these new reloads from Cesaroni Technology, Inc. A simulation file will be prepared, and the official certification letter and the accompanying thrust curve will be available on the official CAR-ACF website soon.

Respectfully submitted,

Thomas Raithby
Chair of CAR Motor Certification

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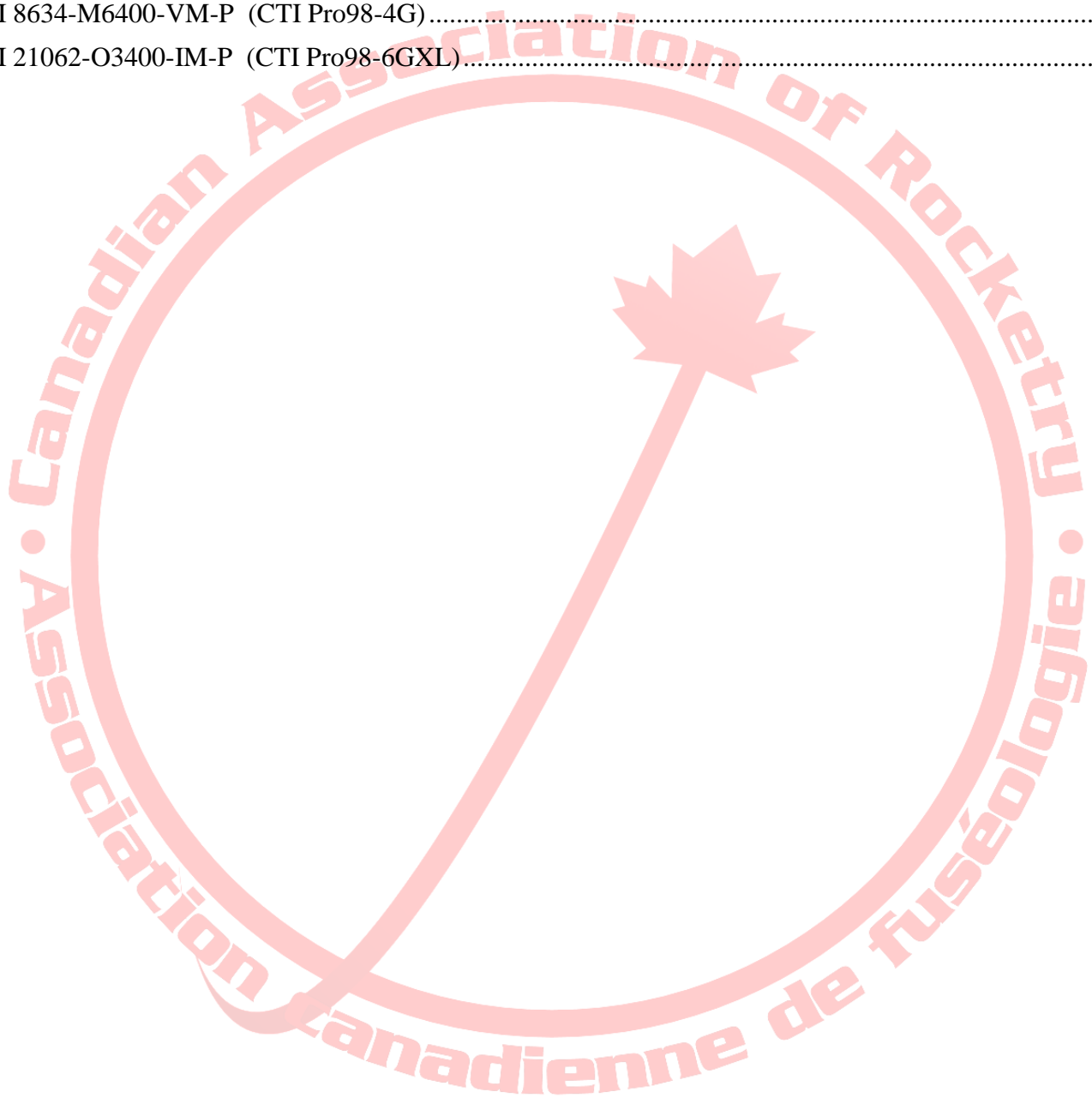
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Certified Motors

CTI 567-I125-WH/LB-10 (CTI Pro38-5G)

Canadian Association of Rocketry
 CAR Motor Certification
 c/o 1518-3rd Ave. S.
 Lethbridge, AB
 T1J 0K8

November 16th, 2012

Cesaroni Technology Incorporated
 2561 Stouffville Road
 Gormley, Ontario
 L0H 1G0

Dear Dr. Jeroen Louwers,

The **CTI 567-I125-WH/LB-10** rocket motor was tested October 26th, 2012 and is in compliance with the certification requirements and standards of the Canadian Association of Rocketry (CAR-ACF). The motor is hereby certified for hobby rocketry use by the members of CAR-ACF and any other rocketry associations with current reciprocal motor certification agreements in place with CAR-ACF.

CAR Designation	567-I125-WH/LB-10	Test Date	October 26 th , 2012
Manufacturer Designation	567-I125 -10	Manufacturer	Cesaroni Technology Inc.
Propellant	<i>White / Longburn</i>	Hardware	Pro38-5G
Single-Use/Reload/Hybrid	Reloadable	Motor Dimensions	38mm x 367mm
Loaded Weight	647.0 g	Total Impulse	566.6 N-s (127.4 lb.s)
Burnout Weight	291.4 g	Maximum Thrust	294.3 N (66.2 lb)
Propellant Weight	335 g	Average Thrust	128.5 N (28.9 lb)
Delays Tested	10 – 3, adjustable	Specific Impulse (Isp)	172.5 s
Samples per second	1000	Burn time	4.41 s
Notes	77.1% I		

Respectfully submitted,

Thomas Raithby
 Chairman, CAR Motor Certification

CTI 8634-M6400-VM-P (CTI Pro98-4G)

Canadian Association of Rocketry
 CAR Motor Certification
 c/o 1518-3rd Ave. S.
 Lethbridge, AB
 T1J 0K8

November 16th, 2012

Cesaroni Technology Incorporated
 2561 Stouffville Road
 Gormley, Ontario
 L0H 1G0

Dear Dr. Jeroen Louwers,

The **CTI 8634-M6400-VM-P** rocket motor was tested October 26th, 2012 and is in compliance with the certification requirements and standards of the Canadian Association of Rocketry (CAR-ACF). The motor is hereby certified for hobby rocketry use by the members of CAR-ACF and any other rocketry associations with current reciprocal motor certification agreements in place with CAR-ACF.

CAR Designation	8634-M6400-VM-P	Test Date	October 26 th , 2012
Manufacturer Designation	8634-M6400-P	Manufacturer	Cesaroni Technology Inc.
Propellant	<i>Vmax</i>	Hardware	Pro98-4G
Single-Use/Reload/Hybrid	Reloadable	Motor Dimensions	98mm x 702mm
Loaded Weight	7919 g	Total Impulse	8634.4 N-s (1941.1 lb.s)
Burnout Weight	3611 g	Maximum Thrust	7237.8 N (1627.1 lb)
Propellant Weight	4175 g	Average Thrust	6365.2 N (1431.0 lb)
Delays Tested	plugged	Specific Impulse (Isp)	210.9 s
Samples per second	1000	Burn time	1.36 s
Notes	68.6% M		

Respectfully submitted,

Thomas Raithby
 Chairman, CAR Motor Certification

CTI 21062-O3400-IM-P (CTI Pro98-6GXL)

Canadian Association of Rocketry
 CAR Motor Certification
 c/o 1518-3rd Ave. S.
 Lethbridge, AB
 T1J 0K8

November 16th, 2012

Cesaroni Technology Incorporated
 2561 Stouffville Road
 Gormley, Ontario
 L0H 1G0

Dear Dr. Jeroen Louwers,

The **CTI 21062-O3400-IM-P** rocket motor was tested October 26th, 2012 and is in compliance with the certification requirements and standards of the Canadian Association of Rocketry (CAR-ACF). The motor is hereby certified for hobby rocketry use by the members of CAR-ACF and any other rocketry associations with current reciprocal motor certification agreements in place with CAR-ACF.

CAR Designation	21062-O3400-IM-P	Test Date	October 26 th , 2012
Manufacturer Designation	21062-O3400-P	Manufacturer	Cesaroni Technology Inc.
Propellant	<i>Imax</i>	Hardware	Pro98-6GXL
Single-Use/Reload/Hybrid	Reloadable	Motor Dimensions	98mm x 1239mm
Loaded Weight	16842 g	Total Impulse	21062.2 N-s (4735.0 lb.s)
Burnout Weight	5570 g	Maximum Thrust	4750.3 (1067.9 lb)
Propellant Weight	10930 g	Average Thrust	3416.7 N (768.1 lb)
Delays Tested	plugged	Specific Impulse (Isp)	196.5 s
Samples per second	1000	Burn time	6.16 s
Notes	2.8% O		

Respectfully submitted,

Thomas Raithby
 Chairman, CAR Motor Certification