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PERFORMANCE TECHNICAL REPORT

Subject: Skin Temperature Reductions Using HPC E-series Coatings
Date: August 1995
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Summary

Testing was conducted by Marsh Motorsports of New Zealand on a Mercruiser 900 (496 CID) engine to determine the temperature reduction that could be expected on the exhaust headers from the use of E-Series coatings. The coating reduced external skin temperature by 56% (600°F).

Test Description

The engine was configured as follows:

Engine type:	Mercruiser 900
Displacement:	496 cubic inches
Intake configuration:	Multi-port injected
Exhaust system:	Tuned tubular headers
Horsepower:	913 HP @ 6750 RPM
Torque:	715 lb/ft @ 6000 RPM

E13 coating was applied to one of the eight header pipes (cylinder 2 on the chart below) while the other pipes remained uncoated. The engine was tested on a STUSKA Engine Co. dynamometer between 6000 and 7500 RPM. The external surface temperatures of the header pipes were measured with thermocouples located one inch from the header/head-mounting flange.

Results

Header pipe skin temperature, 1" from flange (degrees F)

RPM	BHP	Cyl. 1	Cyl 2.	Cyl. 3	Cyl. 4	Cyl. 5	Cyl. 6	Cyl. 7	Cyl. 8
6000	794.2	1057	465	1050	1174	1069	1062	1045	1055
6250	823.7	1060	470	1050	1175	1070	1066	1046	1057
6500	852.3	1062	474	1052	1176	1072	1069	1048	1058
6750	867.8	1066	477	1054	1176	1075	1072	1049	1060
7000	874.8	1069	479	1056	1176	1076	1075	1054	1062
7250	859.8	1075	483	1062	1176	1080	1080	1060	1065

Mean temp. of cylinder 2 pipe: 475° F
Mean temp. of other pipes: 1078° F

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