

CASE STUDY **1509A**

# INCREASING HORSEPOWER & TORQUE

EVALUATION OF HOT SHOT'S SECRET **SHIFT RESTORE**  
IN A SERIES OF DYNAMOMETER TESTS

THIRD PARTY		PRECISION MACHINE
TEST SUBJECT A		2006 SAAB 9-3 t CONVERTIBLE
PRODUCT TESTED		<b>SHIFT RESTORE</b> (AUTOMATIC TRANSMISSION PROTECTANT + CLEANER)



LUBRICATION  
SPECIALTIES INC

*Where Innovation Lives*

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HOT SHOT'S SECRET SHIFT RESTORE HAD A SIGNIFICANT EFFECT [INCREASE IN HORSEPOWER AND IMPROVEMENT IN TORQUE] ON THE PERFORMANCE OF THE 2006 SAAB 9-3 t.



## OVERVIEW

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The following test was performed by Lubrication Specialties Inc. at Precision Machine in Edison, Ohio on September 30, 2015. The subject vehicle was a 2006 Saab 9-3 t convertible with the O.E.M. 2.0L turbo engine and factory equipped automatic transmission. No performance or aesthetic modifications were made to the vehicle from its original state. The vehicle's odometer displayed 124,974 miles at the start of the test.

The effectiveness of Hot Shot's Secret **SHIFT RESTORE** was determined in a series of dynamometer tests to find horsepower and torque changes. The dynamometer used in this evaluation was a Mustang MD-500 system. Two tests were performed with three passes for each test to prove repeatability. An initial set of baseline tests with no additive were completed, as well as a second set of tests with the Hot Shot's Secret **SHIFT RESTORE** added to the test vehicle's transmissions. The first test was a passing acceleration test, which is a timed test to determine the length of time it would take for the vehicle to accelerate from 50 mph to 90 mph. The second test was an automatic acceleration test, in which the test vehicle started at 20 mph and accelerated to 90 mph. Acceleration and power output were determined with the described tests.

## TEST CONDITIONS

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The dynamometer tests were completed on the same day, September 30, 2015; in a temperature controlled environment. Outside ambient temperature was an average of 62 degrees Fahrenheit, with the building interior temperature maintained to approximately 66 degrees Fahrenheit for the duration of the test. An industrial fan was placed in front of the vehicle, on the same setting for the length of the evaluation, with the vehicle's hood open in the same position for each run. The Mustang MD-500 dynamometer utilized in this evaluation used the standard file (Factory Calibration) for every test. The same driver was used for every test, a Master Technician certified by the National Institute for Automotive Service Excellence (ASE).



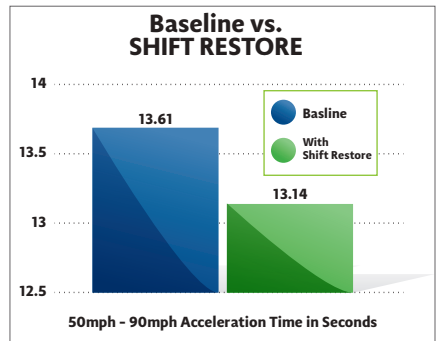
The test vehicle used Blue Diamond 0w40 full synthetic engine oil in accordance with the manufacturer’s approved viscosity specifications. The recommended regular unleaded gasoline with a posted octane of 87 was used during this test. The vehicle’s transmission has used ATF Synthetic Type 3309 since originally purchased (Saab part number: 93 160 393). The vehicle has been maintained as outlined in the owner’s manual, with no indication of malfunction. The test vehicle was previously subject to a manufacturer recall. Recall Bulletin Number: 260-2634 ed. 2 stated the automatic transmission cooler couplings may have coolant enter the transmission through a faulty O-ring and contaminate the automatic transmission fluid. Service was completed in September 2006 by an authorized Saab dealer, promptly after the bulletin was announced. Tire pressure was set to and maintained at exactly 35 psi (244 kPa) as recommended in the owner’s manual. The tires used in the trial were Falken Ziex ZE329, which have a treadwear rating of 440. The tire size used in the test were the factory recommended 215/55 R16 size mounted on the originally equipped 6.5 x 16-inch wheel.

**TEST #1**

**PASSING ACCELERATION TEST:** 50 mph then accelerate to 90 mph

**BASELINE TIME:** No additive in the transmission. Average acceleration time of the three baseline tests: 13.61 seconds.

Hot Shot’s Secret **SHIFT RESTORE** was installed into the transmission at dosage recommendation stated on product label. 11 oz of Automatic Transmission Fluid was replaced with 11 oz of **SHIFT RESTORE**. Average acceleration time of the three trial tests: 13.14 seconds.



## TEST #2

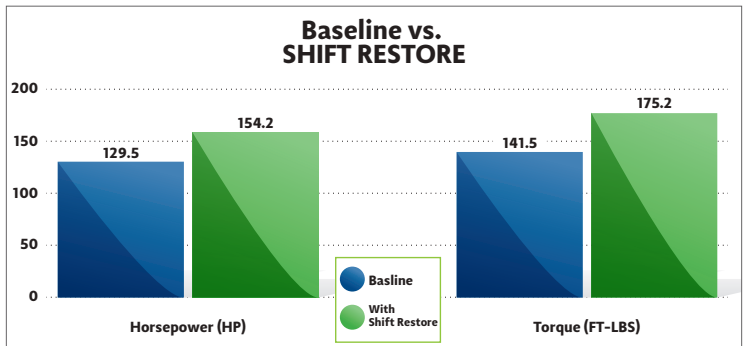
**AUTOMATIC ACCELERATION TEST:** 20 mph then accelerate to 90 mph

**BASELINE DATA:** No additive in the transmission.

Hot Shot's Secret **SHIFT RESTORE** was installed into the transmission at dosage recommendation stated on product label. 11 oz of Automatic Transmission Fluid was replaced with 11 oz of **SHIFT RESTORE**.

BASELINE		
	Horsepower	Torque
Baseline Run #1	121.4	136.8 ft/lbs
Baseline Run #2	132.0	142.6 ft/lbs
Baseline Run #3	135.1	145.2 ft/lbs
<b>Average</b>	<b>129.5</b>	<b>141.5 ft/lbs</b>

SHIFT RESTORE ADDED		
	Horsepower	Torque
SHIFT RESTORE Run #1	159.5	179.2 ft/lbs
SHIFT RESTORE Run #2	151.8	173.8 ft/lbs
SHIFT RESTORE Run #3	151.4	172.5 ft/lbs
<b>Average</b>	<b>154.2</b>	<b>175.2 ft/lbs</b>



## WHY IT WORKS

Hot Shot's Secret **SHIFT RESTORE** is a high performance ester formula that uses a unique lubricity and cleaning agent. **SHIFT RESTORE** tenaciously attaches itself to all metal parts that it comes in contact

with inside the transmission. The metal in a transmission is nearly always positively charged while **SHIFT RESTORE** is negatively charged. The strong polarity pulls deposits off the metal surfaces and puts them back into solution. Over time, varnish and sticky residues and deposits (stiction) form, inhibiting the performance of the ATF and transmission components. **SHIFT RESTORE** provides better fuel economy, smoother gear changes, increased power, and reduced noise and temperatures by reducing the coefficient of friction inside the transmission. **SHIFT RESTORE** is recommended for all automatic transmissions.

The dramatic results of adding **SHIFT RESTORE** could be attributed to the fact that the transmission fluid was slightly oxidized and the tested product made up for the lost lubricity. Additionally, the ester in the **SHIFT RESTORE** may have cleaned the oxidized deposits (also known as stiction) off of the moving transmission components. Stiction is the gummy, sticky buildup of burnt oil in engines, transmissions and differentials. Stiction can coat shift valves, solenoids, accumulators and torque converters in transmissions, causing harsh, delayed, or clunky shifting, as well as loss of power and fuel mileage.



## CONCLUSION

Hot Shot's Secret **SHIFT RESTORE** had a significant effect on the performance of the 2006 Saab 9-3 t. The passing acceleration test yielded a 0.47 second improvement on the 50 mph to 90 mph passing acceleration test.

The automatic acceleration test showed an increase of 16% in horsepower and a 19% improvement in torque from Hot Shot's Secret **SHIFT RESTORE** being added to the transmission.

## WHAT WE DON'T KNOW ABOUT THESE RESULTS

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There are multiple elements and findings in this evaluation that could be investigated further. Below is a list of unconcluded findings Lubrication Specialties Inc. will be continuing to research in additional tests:

- Will Hot Shot's Secret **SHIFT RESTORE** improve the performance of lower mileage transmissions (or a transmission where the ATF is not oxidized or the vehicle has a lesser degree of stiction)?
- Duration of time that the effects of Hot Shot's Secret **SHIFT RESTORE** will benefit the vehicle.
- Duration of time before the improved results return to baseline levels.
- Whether Hot Shot's Secret **SHIFT RESTORE** will show these results in other vehicles, dynamometers, or test conditions.
- The test vehicle incorporates a front wheel drive layout; will other drivetrain layouts benefit as considerably as the layout tested (i.e.: rear wheel drive, all-wheel drive, four-wheel drive)?
- Do the results remain once the transmission is drained and refilled with ATF?
- Does the ambient temperature of the environment or temperature in which the vehicle's transmission operates impact the effectiveness of the **SHIFT RESTORE**?

***Note:** The data and results shown in this evaluation are not meant to be a product effectiveness guarantee. Hot Shot's Secret products offer a satisfaction guarantee which reimburses the consumer for the cost of the product if product expectations are not met. Other users or consumers may find results greater or lesser than the results published in this document. Results may vary from case to case.*



Lubrication Specialties, Inc. began in 1997 and since the development of Hot Shot's Secret Stiction Eliminator in 2004 has continued to solve issues for the largest companies across the country. Dedicated to producing the most concentrated and effective solutions on the market, third party testers and our own in-house chemists constantly reevaluate our products. Lubrication Specialties, Inc. is a proud member of the Better Business Bureau.

[LubricationSpecialties.com](http://LubricationSpecialties.com)