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<p>16. Abstract</p> <p>An investigation was undertaken to determine the costs for replacing windshields on three top-selling vehicles that are sold in the United States having at least one option for an Advanced Driver Assist System (ADAS) feature that required a camera behind the windshield. It was furthermore desired to determine pricing differences between static calibration of the camera and dynamic calibration. Thirdly, NHTSA wanted to know what difference it made in pricing to have a windshield replaced at a dealership facility versus an independent repair outlet; to simplify the modeling for this study, it was assumed that an independent outlet was operated from a mobile service vehicle.</p> <p>Three vehicles were selected to be analyzed for these purposes: The Ford F-150, the Honda CR-V, and the Subaru Outback. All three models had both “ADAS” windshields and “non-ADAS” windshields available in both original equipment manufacturer (OEM) branded glass and non-OEM or aftermarket branded glass. Ford specified a dynamic on-road calibration for the F-150 camera after windshield replacement, as did Subaru for the Outback with the dual camera EyeSight® system; Honda specified static in-shop calibration of its CR-V ADAS camera system. Static calibration was assumed to always be done in a building whether the repair was being made by an independent outlet or a dealer.</p> <p>For the 3 sample vehicles indicated above, the total consumer pricing for windshield replacement at a dealership and at an independent outlet was estimated and the averages presented in Table 1.</p> <p>Table 1 Total consumer pricing for windshield replacement with an ADAS and non-ADAS windshields and the incremental cost for ADAS windshield replacements performed at a dealership and at an</p>		

independent outlet.

ADAS Windshield		non-ADAS Windshield		<i>Incremental ADAS windshield replacement</i>	
<i>OEM glass</i>	<i>non-OEM glass</i>	<i>OEM glass</i>	<i>non-OEM glass</i>	<i>OEM glass</i>	<i>non-OEM glass</i>

Total dealer price	\$ 1,082.52	\$ 1,241.73	\$ 1,020.84	\$ 1,171.91	\$ 61.68	\$ 69.81
Total independent price	\$ 1,075.02	\$ 1,234.22	\$ 1,009.92	\$ 1,160.99	\$ 65.10	\$ 73.23
Dealer - Independent	\$ 7.51	\$ 7.51	\$ 10.92	\$ 10.92	\$ (3.42)	\$ (3.42)

Sample average

The average total price, which included overhead and profit on direct costs, for replacing an ADAS windshield was \$1,082.52, which was \$61.68 more than for a non-ADAS windshield at a total dealer price of \$1,020.84 when using OEM glass. With aftermarket glass the dealership price was \$1,241.73, or \$69.81 more than an aftermarket non-ADAS windshield replacement price of \$1,171.91. The total average independent shop consumer pricing was \$7.51 less than dealer pricing for an ADAS windshield and \$10.92 less for a non-ADAS windshield, irrespective of whether OEM or non-OEM glass is used.

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