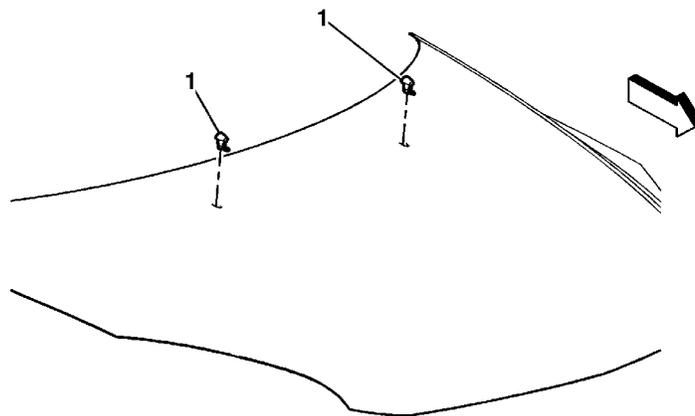


Fastener Tightening Specifications

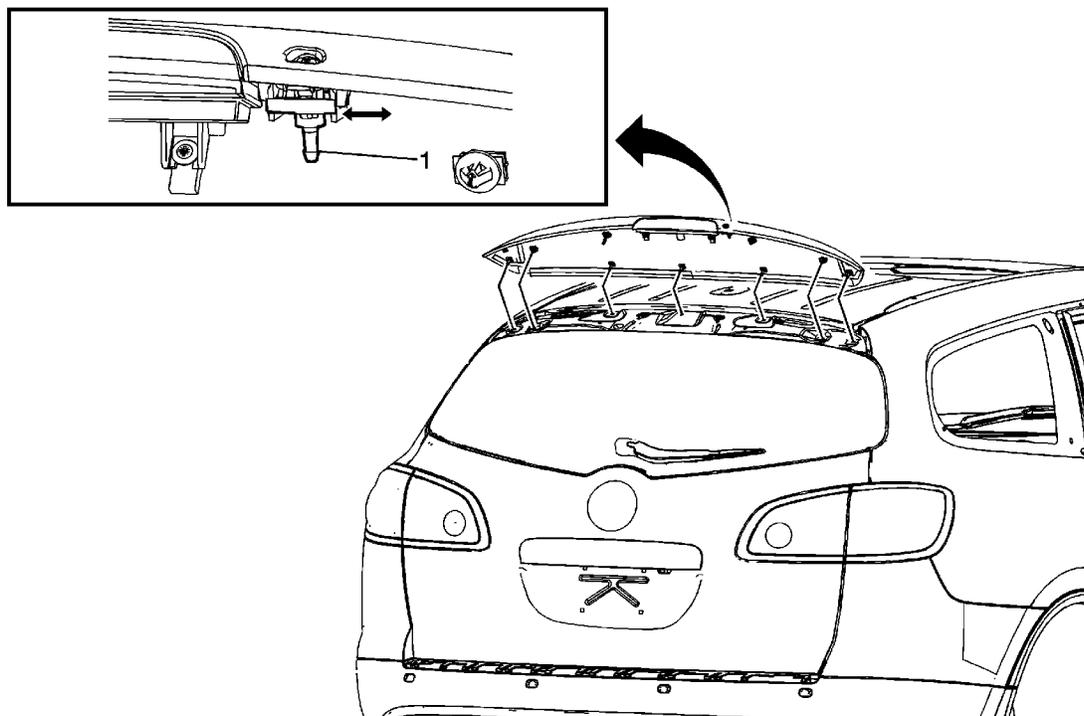
Application	Specification	
	Metric	English
Windshield Washer Solvent Container Nuts	9 N·m	80 lb in
Windshield Washer Solvent Heater Assembly Nut	9 N·m	80 lb in
Windshield Wiper Arm Pivot Shaft Nut	25 N·m	18 lb ft
Wiper Arm Pivot Shaft Nut to Liftgate Window - Rear Acadia	19 N·m	14 lb ft
Wiper Arm Pivot Shaft Nut - Rear	5 N·m	44 lb in
Rear Wiper Module Bolts	22 N·m	16 lb ft
Rear Wiper Motor Bolts - Acadia	4.5 N·m	40 lb in
Rear Wiper Motor Bolts - Enclave, Traverse	9 N·m	80 lb in
Wiper Motor Support Bracket Screws	5.5 N·m	49 lb in

Windshield Washer Nozzle Replacement (Acadia, Enclave)



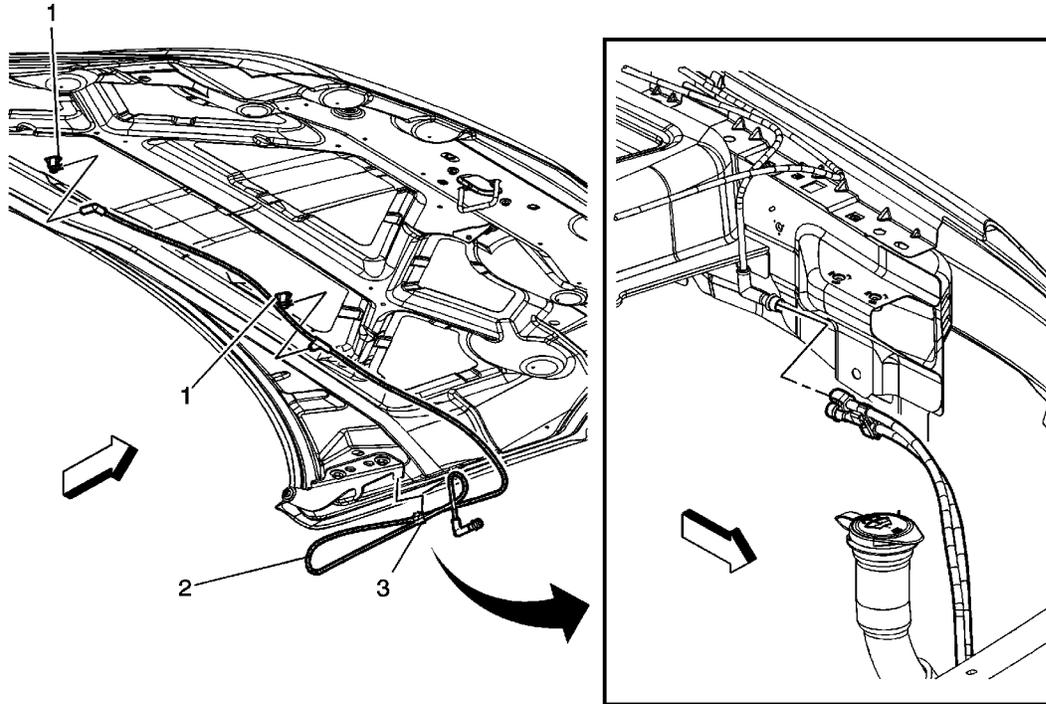
Callout	Component Name
<p>Preliminary Procedures</p> <ol style="list-style-type: none"> 1. Remove the hood insulator. Refer to Hood Insulator Replacement. 2. Disconnect the windshield washer hose from the nozzles. 	
<p>1</p>	<p>Windshield Washer Nozzle (Qty: 2)</p> <p>Procedure</p> <ol style="list-style-type: none"> 1. If equipped with heated washer nozzles, disconnect the electrical connectors. 2. Pinch the retainers on the washer nozzles. 3. Push the nozzles outward from the hood in order to remove.

Rear Window Washer Nozzle Replacement (Enclave)



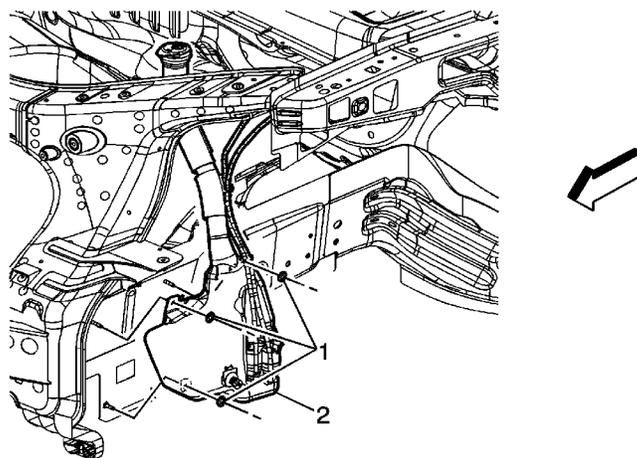
Callout	Component Name
<p>Preliminary Procedure</p> <p>Remove the rear spoiler. Refer to Rear Spoiler Replacement.</p>	
<p>1</p>	<p>Rear Window Washer Nozzle</p> <p>Procedure</p> <ol style="list-style-type: none"> 1. Squeeze the outer tabs on the nozzle in order to remove the nozzle from the rear spoiler. 2. Disconnect the rear window washer nozzle hose from the nozzle. 3. Remove the rear window washer nozzle.

Windshield Washer Hose Replacement (Enclave)



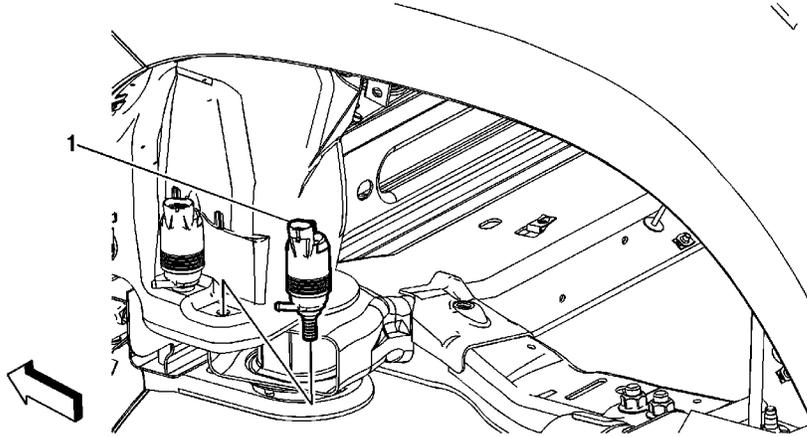
Callout	Component Name
Preliminary Procedure	
Remove the hood insulator. Refer to Hood Insulator Replacement .	
1	Windshield Washer Nozzle Procedure Disconnect the washer hose from the washer nozzles.
2	Windshield Washer Hose Assembly
3	Windshield Washer Hose Hood Hinge Clip Procedure 1. Disconnect the integral clip from the driver side hood hinge in order to release the hose from the hinge. 2. Disconnect the washer hose from the washer pump hose connection.

Windshield Washer Solvent Container Replacement (Acadia and Enclave)



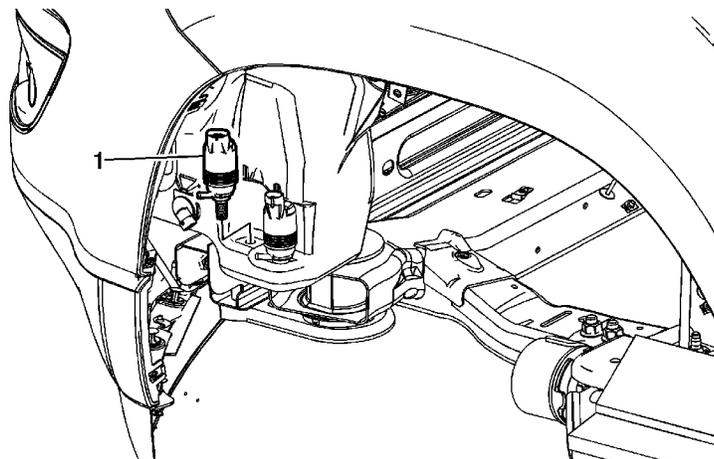
Callout	Component Name
<p>Preliminary Procedures</p> <ol style="list-style-type: none"> 1. Remove the left front wheelhouse liner. Refer to Front Wheelhouse Front Liner Replacement. 2. Remove the air cleaner assembly. Refer to Air Cleaner Assembly Replacement. 3. Disconnect the washer pump hoses. 4. Drain the washer solvent into a suitable clean container. 5. Disconnect the washer pump electrical connectors. 6. Disconnect the windshield washer level indicator electrical connector. 7. Disconnect the upper neck from the lower portion of the washer solvent container. 	
<p>1</p>	<p>Windshield Washer Solvent Container Nut (Qty: 3)</p> <p>Caution: Refer to Fastener Caution in the Preface section.</p> <p>Tighten 10 N·m (89 lb in)</p>
<p>2</p>	<p>Windshield Washer Solvent Container</p> <p>Procedure</p> <ol style="list-style-type: none"> 1. Remove the container from the front side rail studs. 2. Transfer the washer pumps as needed. 3. Transfer the level indicator as needed.

Washer Pump Replacement



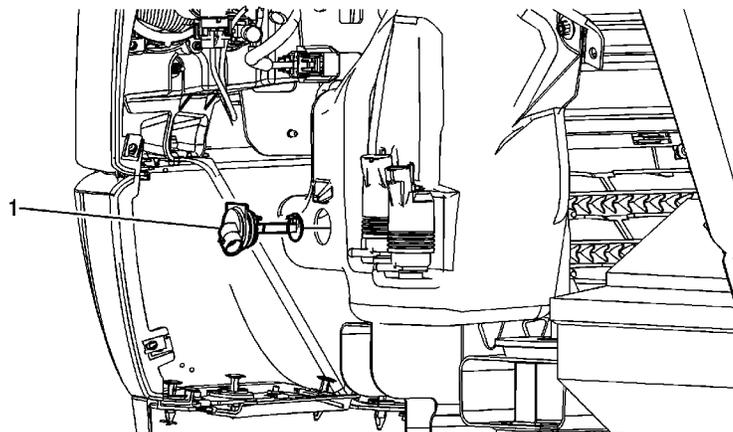
Callout	Component Name
<p>Preliminary Procedures</p> <ol style="list-style-type: none"> 1. Remove the LF wheelhouse liner in order to access the washer pumps. Refer to Front Wheelhouse Front Liner Replacement. 2. Drain the washer solvent into a clean suitable container. 3. Disconnect the electrical connector. 4. Disconnect the washer pump hose. 	
<p>1</p>	<p>Windshield Washer Pump Assembly</p> <p>Procedure</p> <ol style="list-style-type: none"> 1. Using two flat-bladed tools, at the pump gasket, pry upwards until the washer pump is dislodged from the washer container. 2. Discard the windshield washer pump grommet.

Rear Window Washer Pump Replacement (Acadia and Enclave)



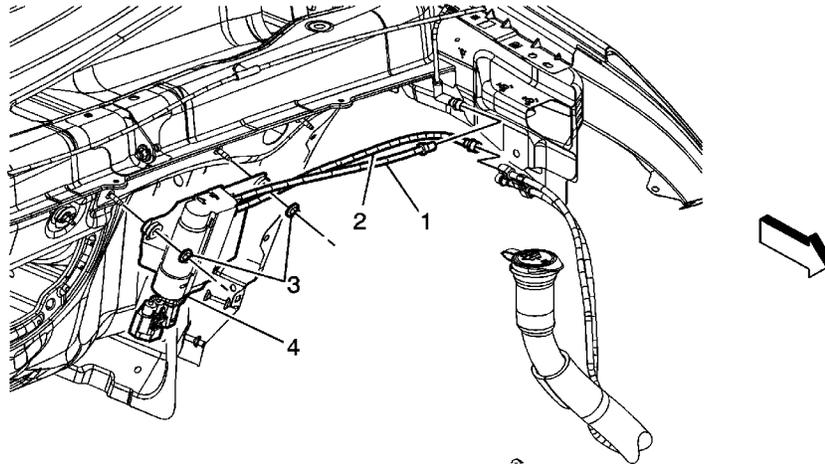
Callout	Component Name
<p>Preliminary Procedures</p> <ol style="list-style-type: none"> 1. Remove the LF wheelhouse liner in order to access the washer pumps. Refer to Front Wheelhouse Front Liner Replacement. 2. Drain the washer solvent into a clean suitable container. 3. Disconnect the electrical connector. 4. Disconnect the washer pump hose. 	
<p>1</p>	<p>Rear Window Washer Pump Assembly</p> <p>Procedure</p> <ol style="list-style-type: none"> 1. Using two flat-bladed tools, at the pump gasket, pry upwards until the washer pump is disengaged from the windshield washer container. 2. Discard the washer pump grommet.

Windshield Washer Solvent Level Switch Replacement



Callout	Component Name
<p>Preliminary Procedure</p> <p>Remove the wheelhouse liner in order to access the level indicator. Refer to Front Wheelhouse Front Liner Replacement.</p>	
<p>1</p>	<p>Windshield Washer Solvent Level Indicator</p> <p>Procedure</p> <ol style="list-style-type: none"> 1. Disconnect the electrical connector. 2. Using two flat-bladed tools under the lip of the level indicator, pry outward using a suitable clean container in order to recover the windshield washer solvent. 3. Discard the level indicator and grommet.

Windshield Washer Solvent Heater Replacement (Acadia, Enclave, OUTLOOK)



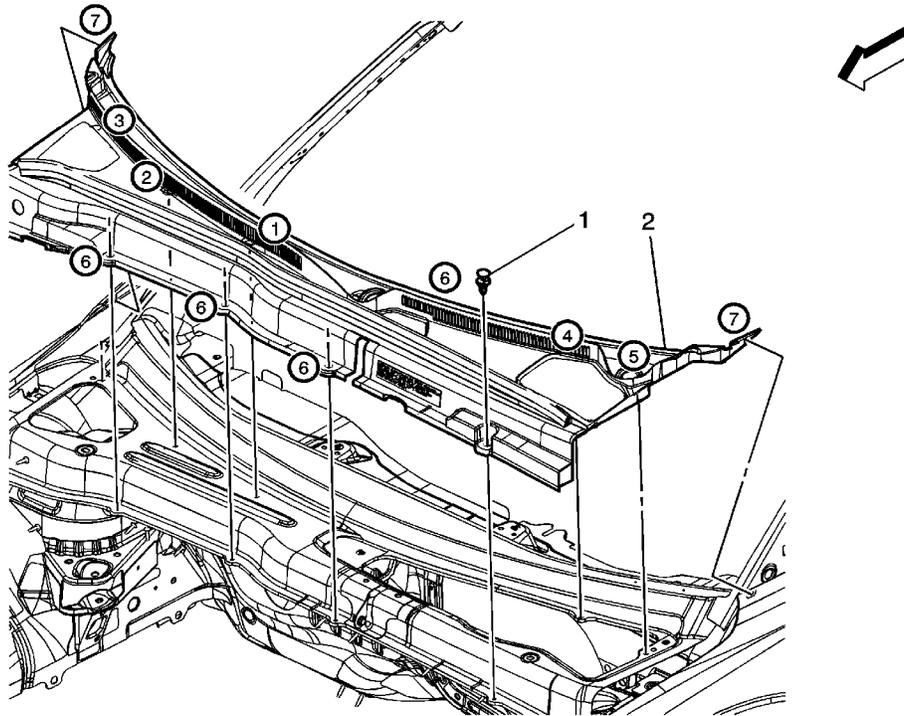
Callout	Component Name
Preliminary Procedure	
Remove the air cleaner outlet duct. Refer to Air Cleaner Outlet Duct Replacement .	
1	Windshield Washer Hose (Outlet) Tip Disconnect the air inlet panel jumper hose from the outlet side of the heater assembly.
2	Windshield Washer Pump Hose (Inlet)
3	Windshield Washer Solvent Heater Nut (Qty: 2) Caution: Refer to Fastener Caution in the Preface section. Tighten 10 N·m (89 lb in)
4	Windshield Washer Solvent Heater Assembly Procedure <ol style="list-style-type: none"> 1. Disconnect the electrical connectors after removing the heater from the lower plenum panel studs. 2. Prime the heated washer fluid unit after installation. 3. Cycle the normal wash function until washer fluid sprays from the windshield washer nozzles. 4. The normal wash function fills the heated washer unit with washer solvent

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after replacement.

5. Activate the heated washer spray function and inspect for proper operation.

Air Inlet Grille Panel Replacement

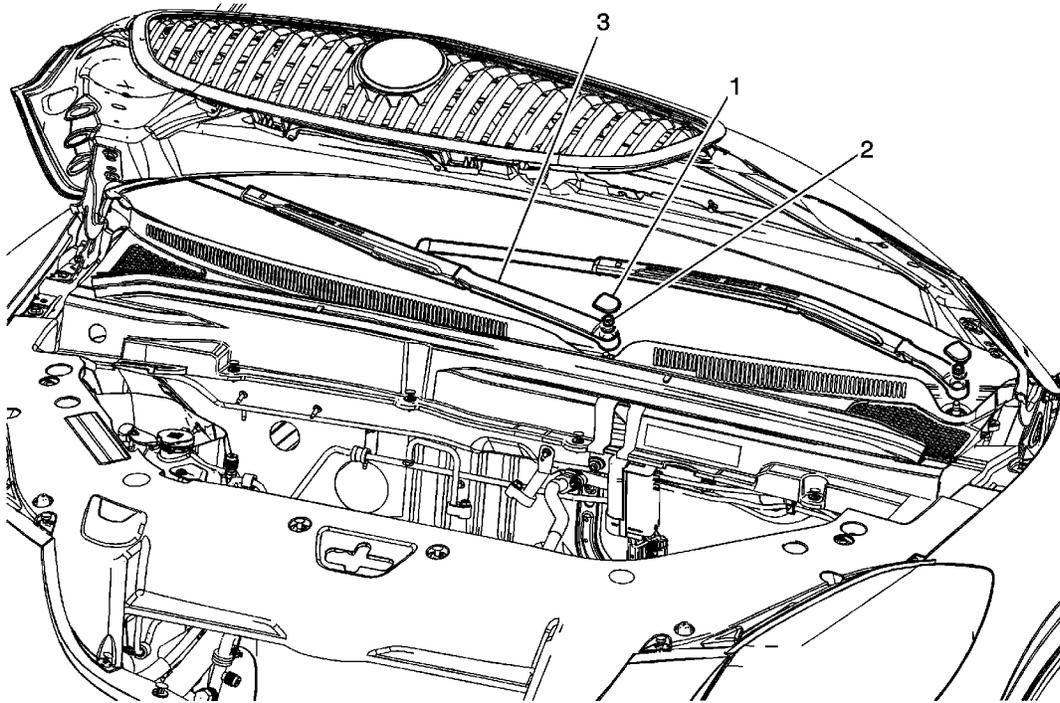


Callout	Component Name
Preliminary Procedures	
<ol style="list-style-type: none"> 1. Remove both front wiper arm assemblies. Refer to Windshield Wiper Arm Replacement. 2. Remove the remote battery ground stud from the passenger side air inlet grille panel. 3. Begin the air inlet panel installation with sequence number 1 to install the air inlet panel tab to the upper plenum first. 4. Sequence numbers 2 and 3 are the rear tabs positioned to the bottom edge of the windshield. 5. Sequence numbers 4 and 5 are used for positioning the outer grille panel edge to the upper outer plenum. 6. Sequence 6, are the retainers that secure the front of the air inlet panel to the plenum. 7. Sequence 7, are the attachments to both the right and left side fenders and need to be secured last to the vehicle. <ul style="list-style-type: none"> • GMC Acadia, uses two integral tabs and a retainer at the front fender upper bracket (body side outer) • Buick Enclave, uses two integral tabs that directly fastens to the fender flange • SATURN OUTLOOK, uses two integral tabs and a retainer at the front fender upper bracket (body side outer) • Chevrolet Traverse, uses five integral tabs that directly fastens to the fender 	

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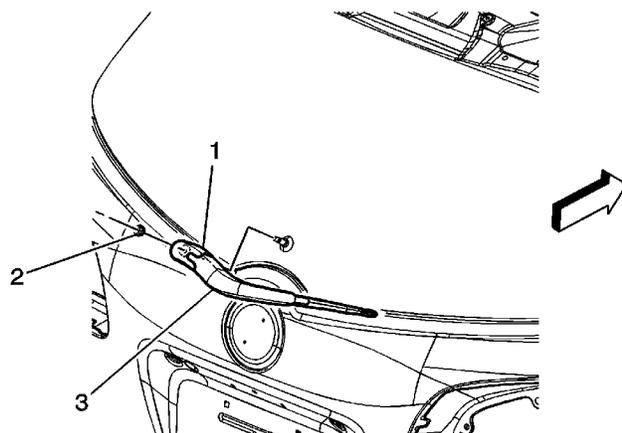
1	Air Inlet Grille Panel
2	Air Inlet Grille Panel Retainer (Qty: 4)

Windshield Wiper Arm Replacement (Enclave)



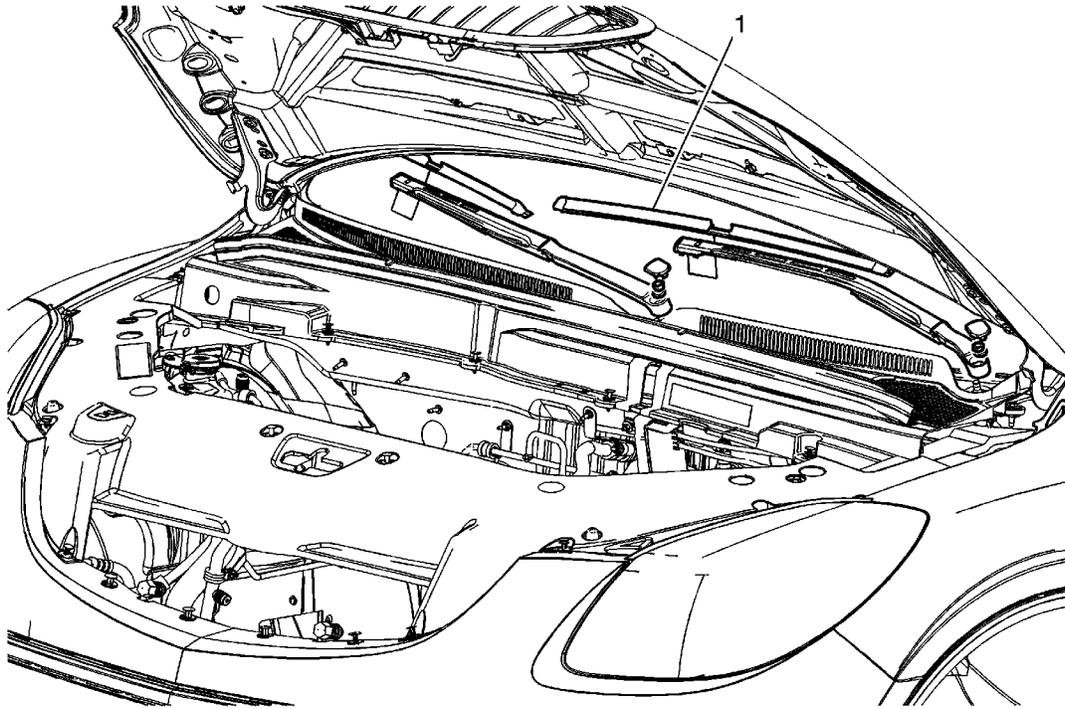
Callout	Component Name
1	Windshield Wiper Arm Finish Cap (Qty: 2) Tip Use a small flat-bladed tool to release the cap from the arm assembly.
2	Windshield Wiper Arm Nut (Qty: 2) Caution: Refer to Fastener Caution in the Preface section. Tighten 25 N·m(18 lb ft)
3	Windshield Wiper Arm Assembly Procedure <ol style="list-style-type: none"> 1. Clean the knurls on the wiper motor pivot shaft after the wiper arm has been removed. 2. Hold and align the tips of the front wiper blades to the paint dots on the windshield while securing the nut. 3. Perform a wet wipe and re-check the alignment, adjust if needed.

Rear Window Wiper Arm Replacement (Enclave, Outlook)



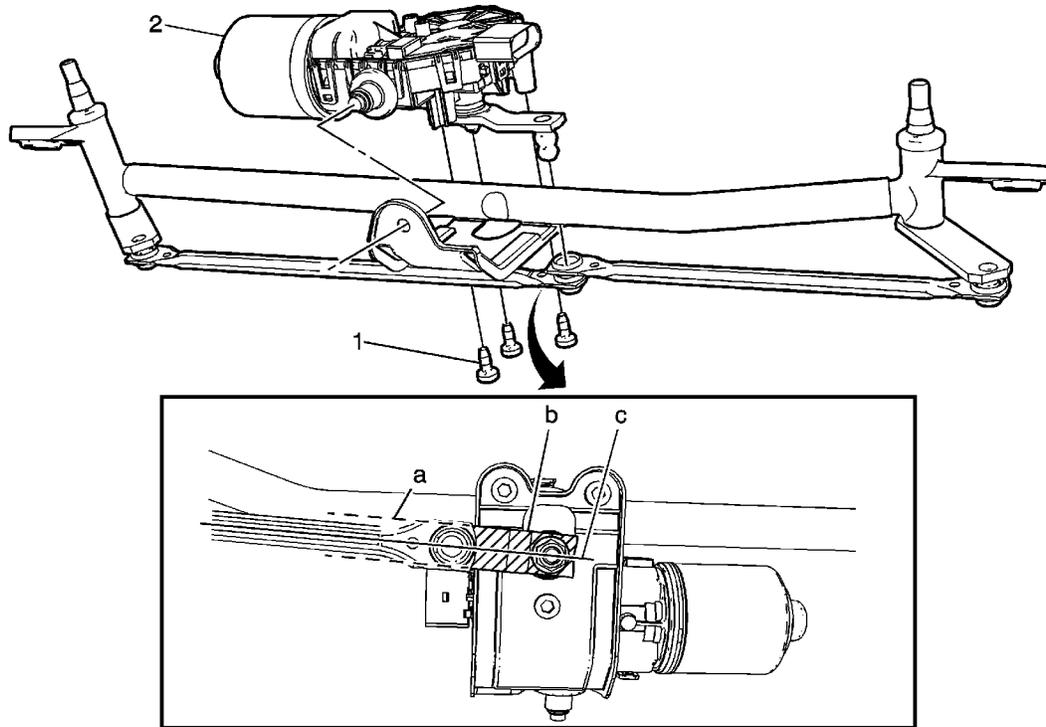
Callout	Component Name
1	Rear Wiper Arm Finish Cap Tip Lift up on rearward end of cap to disengage from rear wiper arm.
2	Rear Window Wiper Arm Nut Caution: Refer to Fastener Caution in the Preface section. Tighten 9 N·m(80 lb in) Procedure <ol style="list-style-type: none"> 1. Remove the wiper arm pivot shaft nut. 2. Pivot the wiper arm in order to remove. 3. Clean the knurls on the pivot shaft prior to installing the arm to the pivot shaft. 4. Position the arm on the pivot shaft and the wiper blade to the first defroster grid line. 5. Hold the wiper arm in position while securing the wiper arm nut.
3	Rear Window Wiper Arm Blade Assembly

Windshield Wiper Blade Replacement (Enclave)



Callout	Component Name
<p>Preliminary Procedure</p> <p>Raise the wiper arm to the full up position in order to release the wiper blade from the wiper arm.</p>	
<p>1</p>	<p>Windshield Wiper Blade Assembly (Qty: 2)</p> <p>Procedure</p> <ol style="list-style-type: none"> 1. Press the square tab inward at the tip of the wiper arm to release the blade. 2. Slide the blade assembly from the wiper arm. 3. Discard the blade if the rubber element appears worn, or does not wipe the windshield clean.

Windshield Wiper Motor Replacement



Callout	Component Name
<p>Preliminary Procedure</p>	
<p>Remove the windshield wiper transmission assembly. Refer to Windshield Wiper Transmission Replacement.</p>	
<p>1</p>	<p>Windshield Wiper Motor Bolt (Qty: 3)</p> <p>Caution: Refer to Fastener Caution in the Preface section.</p> <p>Tighten 8.5 N·m (75 lb in)</p>
	<p>Wiper Motor Kit</p> <p>Procedure</p> <ol style="list-style-type: none"> 1. Install the motor to the transmission. 2. Loosely attach the crank arm to the motor. 3. Using the J 39529 Wiper Linkage Installer or equivalent, attach the first transmission arm to the crank arm. 4. Align both the crank arm (b) and the first transmission arm (a) so that the

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arms are in a straight line (c).

5. Install the crank arm nut and hold the crank arm with a wrench to prevent any movement while torquing the nut.

Tighten

19.5 N·m (14 lb ft)

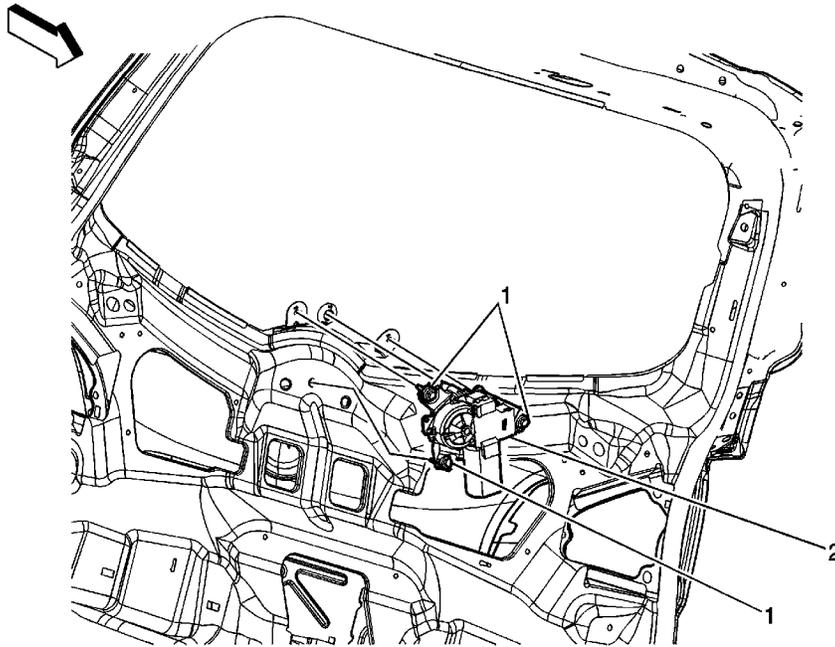
2

6. Using the [J 39529](#) Wiper Linkage Installer or equivalent, attach the second transmission arm to the crank arm.
7. Check the alignment of the transmission arms (c).
8. After the wiper transmission assembly has been installed into the plenum and secured, run the wiper system for a few cycles and electrically PARK the wiper system.
9. Install the air inlet grille. Refer to [Air Inlet Grille Panel Replacement](#).
10. Install the wiper arms. Refer to [Windshield Wiper Arm Replacement](#).

Special Tools

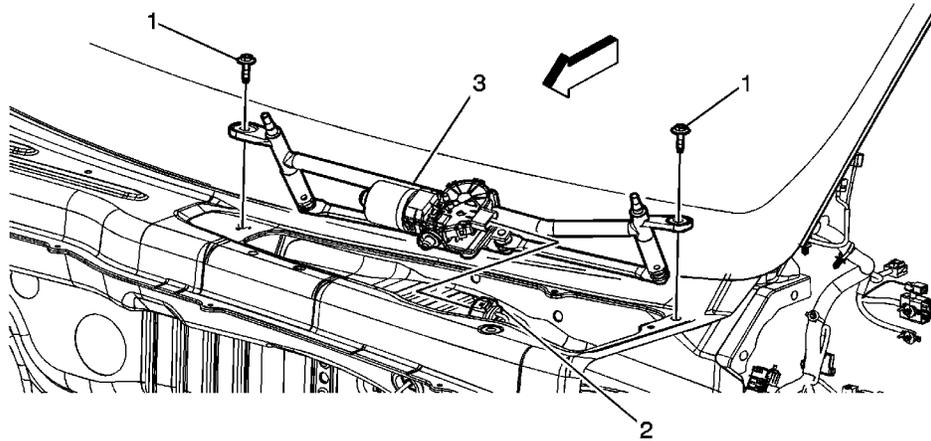
J 39529 Wiper Linkage Installer

Rear Window Wiper Motor Replacement (Enclave)



Callout	Component Name
<p>Preliminary Procedures</p> <ol style="list-style-type: none"> 1. Remove the rear liftgate interior trim panel. Refer to Liftgate Trim Panel Replacement. 2. Remove the rear wiper arm assembly. Refer to Rear Window Wiper Arm Replacement. 3. Disconnect the electrical connector to the rear window wiper motor. 	
1	<p>Rear Window Wiper Motor Bolt (Qty: 3)</p> <p>Caution: Refer to Fastener Caution in the Preface section.</p> <p>Tighten 9 N·m (80 lb in)</p>
2	<p>Rear Window Wiper Motor Assembly</p> <p>Tip</p> <ul style="list-style-type: none"> • Ensure the rear window wiper pivot shaft seal in the liftgate rear window is not damaged when the wiper motor pivot shaft is pulled from the seal. • Replace the pivot shaft seal if damaged.

Windshield Wiper Transmission Replacement



Callout	Component Name
<p>Preliminary Procedures</p> <ol style="list-style-type: none"> 1. Remove the wiper arms. Refer to Windshield Wiper Arm Replacement. 2. Remove the air inlet grille panel. Refer to Air Inlet Grille Panel Replacement. 	
1	<p>Windshield Wiper Transmission Bolt (Qty: 2)</p> <p>Caution: Refer to Fastener Caution in the Preface section.</p> <p>Tighten 22 N·m (16 lb ft)</p>
2	<p>Instrument Panel Electrical Harness Connector</p> <p>Tip Disconnect the electrical harness connector as the transmission is removed from the plenum.</p>
3	<p>Windshield Wiper Transmission Assembly</p> <p>Procedure</p> <ol style="list-style-type: none"> 1. Raise the rearward edge of the windshield wiper transmission assembly out of the plenum panel. 2. Remove the windshield wiper motor. Refer to Windshield Wiper Motor Replacement. 3. Upon installation of the windshield wiper transmission , connect the I/P electrical harness connector to the wiper motor. 4. Turn the wiper transmission 180°, insert the transmission into the plenum, aligning the locator on the motor bracket to the plenum.

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5. Align the grommets on the wiper transmission to the bolt holes located in the upper plenum.

Windshield Glass Cleaning

Clean the windshield with windshield cleaner, GM P/N 1050011 (Canadian P/N 992727) or equivalent. The cleaner should not harm the paint finish or scratch the glass. The glass is clean when the water no longer beads, but sheets across the entire glass surface.

Wiper Blade Element Cleaning

Lift each blade assembly off of the windshield and clean the element with a cloth saturated with full strength washer solvent. Then rinse the blade assemblies with clear water.

Wiper Chatter Repair

Some vehicles may exhibit a condition where the windshield wipers chatter and/or wipe unevenly. Several items may contribute to this condition. To completely repair this condition, ALL of the items listed should be tested and repaired as necessary.

- Clean the windshield glass.
- Clean the wiper blade elements.
- Perform the wiper arm pressure test.
- Inspect the wiper blade element set.