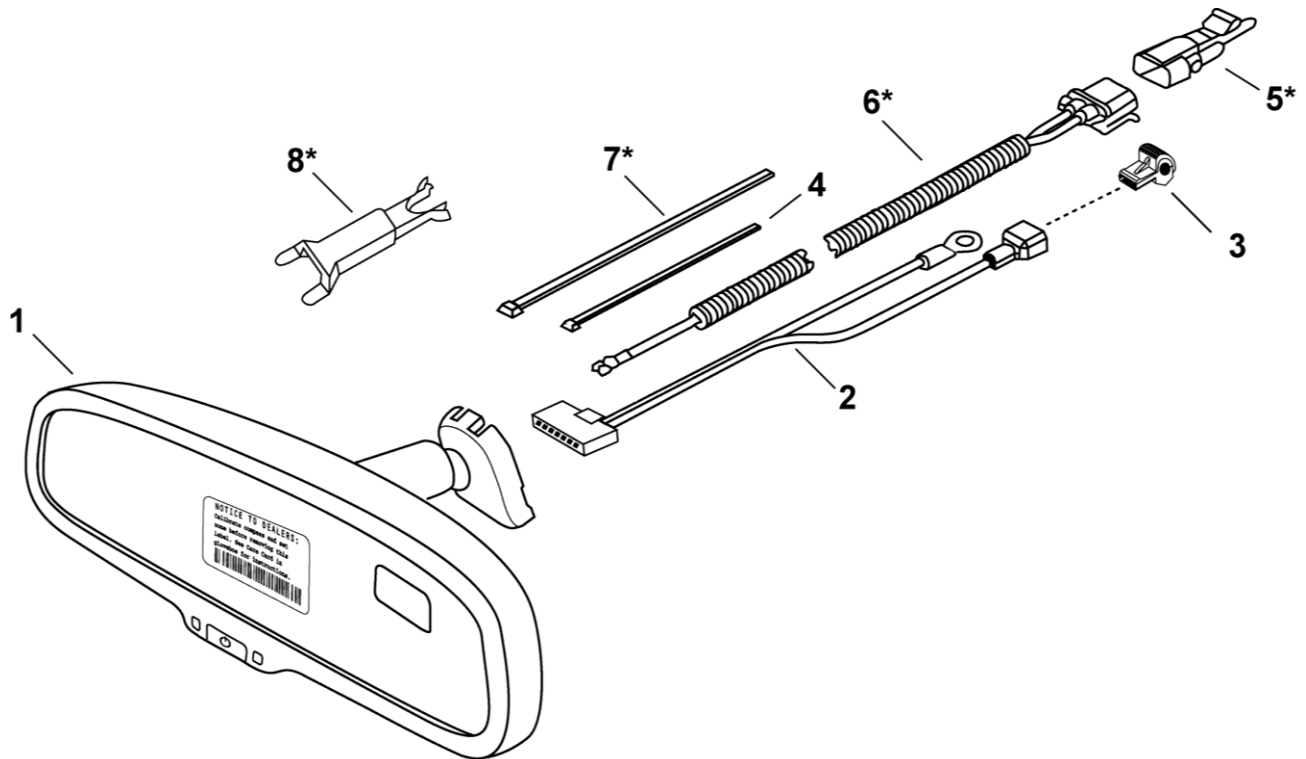


# Gentex by VOXX Corporation

## Installation Instructions

### KIT CONTENTS:

Item	Qty	Part Number	Description
1	1:	ADVGEN20A	7 Pin Auto-Dimming Mirror with Compass and Temperature
2	1	Contact VOXX Customer Service	<b>Installation Parts Pack</b> 7 Pin Harness Assembly with 2 Wires (Ignition and Ground)
3	2	--	T-Tap Connectors (1 Red 18 – 22 AWG, 1 Blue 14 – 18 AWG)
4	5	--	Short Tie Wraps
Not shown	1	--	Installation Instructions
Not shown	1	--	User Guide
Not shown	1	--	Warranty Card
<b>* Mirrors Equipped with Temperature Feature:</b>			
5	1	--	Temperature Sensor
6	1	--	Temperature Sensor Harness (7 Pin Applications)
7	5	--	Long Tie Wraps
<b>* Optional Items (Not Included with Installation Kit)</b>			
8	1	--	Wire Cover



### TOOLS REQUIRED:

Safety Glasses  
Clean Rag  
DC Voltmeter

Utility Knife  
Electrical Tape  
Fish-Wire (Coat Hanger)

Pliers  
4mm Flat Screwdriver  
#T20 Torx Driver

#2 Phillip's Screwdriver  
Flashlight  
Panel Removal Tool

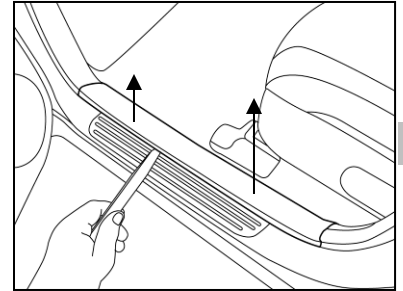
## INSTALLATION PRECAUTIONS / NOTES:

- **Do not** use excessive force when removing OEM mirror from windshield.
- **Do not** push fish-wire too far into dash to avoid damage to existing components.
- **Do not** place wire harness against objects with sharp edges that may cause electrical shorting.
- On vehicles equipped with A-pillar (side impact or SRS) airbags, verify mirror harness path remains clear of airbag. Harness should follow and be secured to, existing OEM wiring with tie wraps.
- Verify that auto-dimming mirror harnesses do not interfere with brake, clutch, emergency brake or air bag

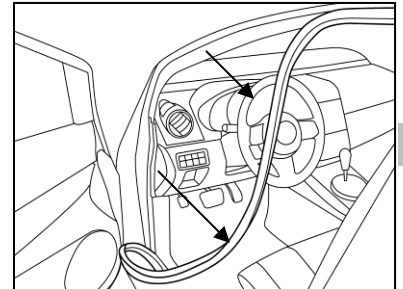
## 1 Preparation

Perform the following pre-installation steps:

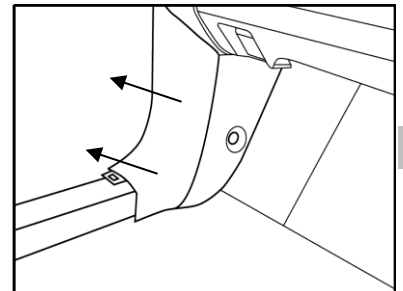
1. Place kit components on a clean, padded surface.
2. Record your programmed radio stations.
3. Remove driver side scuff plate. (Fig. 1)
4. Remove driver side door seal. (Fig. 2)
5. Remove driver side kick plate / cowl cover. (Fig. 3)
6. Remove driver side grab handle if equipped. (Fig. 4)
7. Remove driver side A-pillar trim. (Fig. 5)



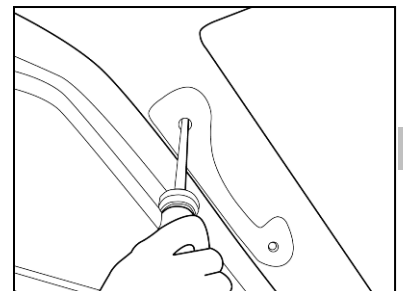
1



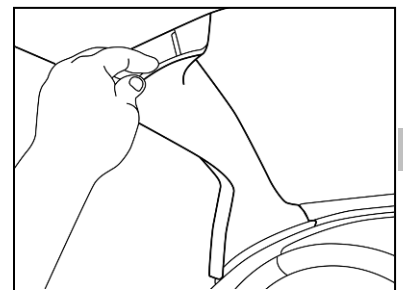
2



3



4



5

**CAUTION** 8. Remove OEM mirror. (Fig. 6,7 or 8)

**!** Do not use excessive force. Damage to windshield could occur.

- a) Loosen #T20 torx screw on mirror mount and slide mirror upwards off from windshield button. (Fig. 6)

- - OR - -

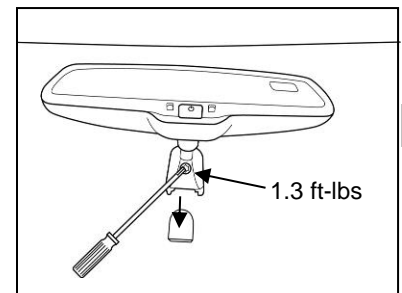
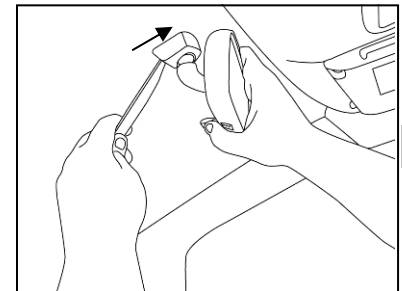
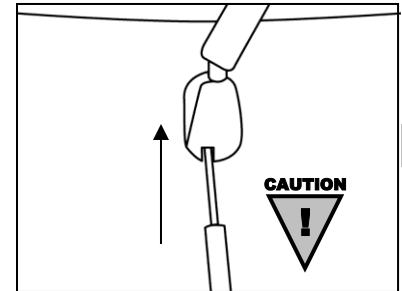
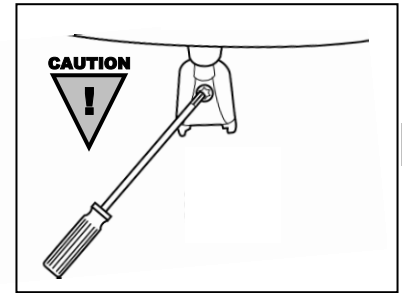
- b) Insert 4mm into opening at bottom of mirror mount to disengage locking tab and slide mirror upwards off from windshield button. (Fig. 7)

**NOTE:** Gently wiggling mirror while sliding upwards will assist removal.

- - OR - -

- c) Insert panel removal tool into opening at bottom of mirror mount to disengage locking tab and slide mirror upwards off from windshield button. (Fig. 8)

**NOTE:** Gently wiggling mirror while sliding upwards will assist removal.



**2** Auto-Dimming Mirror Installation

1. Attach auto-dimming mirror.

- a) Hold the mirror and slide the mirror downwards over windshield button until fully seated. (Fig. 9)
- b) Using #T20 torx driver, tighten the mirror mounting bracket screw to 1.3 ft-lbs (17.8 kg-cm). **DO NOT OVERTIGHTEN**

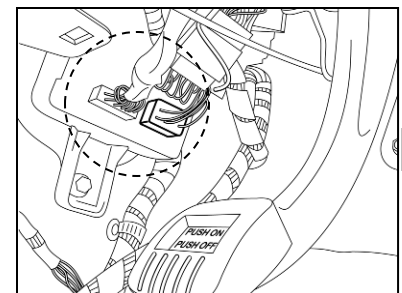
**3** Route Auto-Dimming Mirror Harness to Vehicle Power

**NOTE:** You will need to find a supply wire in your vehicle that provides +12V when vehicle is running or the key is in the ON or ACC position. Your automotive repair shop may sometimes be able to advise readily available locations for connecting to these power sources.

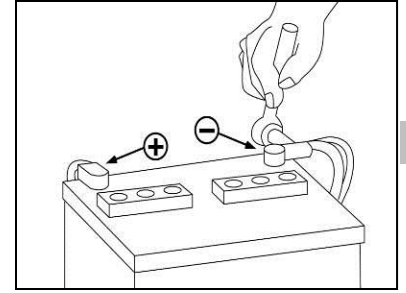
**A TIP:** The cigarette lighter or power port receptacle may be a source of switched +12V depending on vehicle make.

1. Locate ignition (+12V switched) wire.

- a) Using a multi-meter, find a wire exiting the fuse block or junction block that tests +12V and is controlled by the ignition switch. Operate vehicle accessories (power windows, door locks, power mirrors, etc.) to ensure that voltage does not drop on this wire. (Fig. 10)
- b) Ensure power in this wire is off when vehicle key is OFF and label wire "IGNITION."

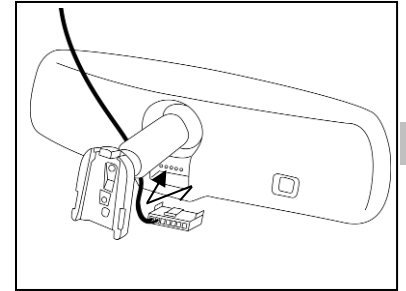


2. Disconnect vehicle's negative battery terminal. (Fig. 11)



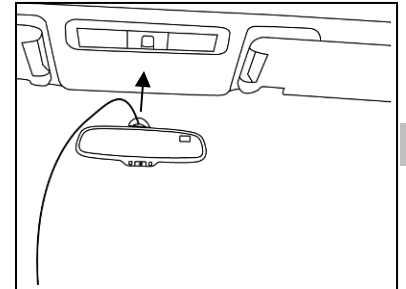
11

3. Plug auto-dimming mirror harness into back of mirror. (Fig. 12)



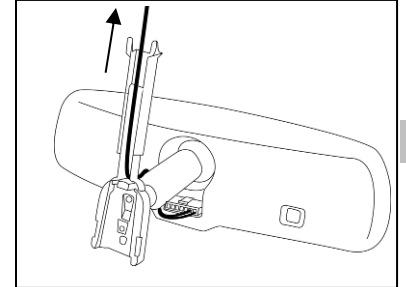
12

4. Route harness up to vehicle headliner. (Fig. 13)



13

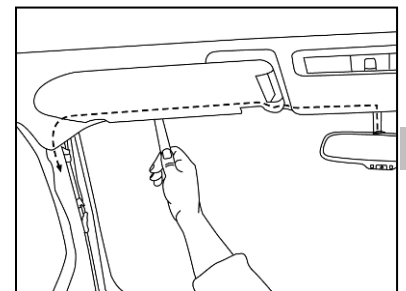
a) Install optional wire cover (if purchased). (Fig. 14)



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5. Route harness across vehicle headliner to top of A-pillar on side of vehicle where vehicle connection wires / fuse block were found.

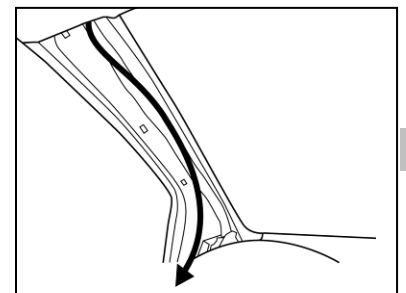
a) Use panel removal tool to ensure harness is tucked between headliner and roof of vehicle. (Fig. 15)



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6. Route harness down A-pillar. (Fig. 16)

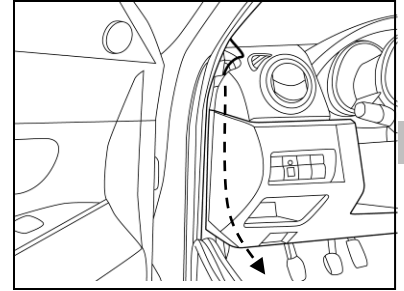
**NOTE:** Harness will be secured later in installation procedure.



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**7. Route harness to vehicle connection wires.**

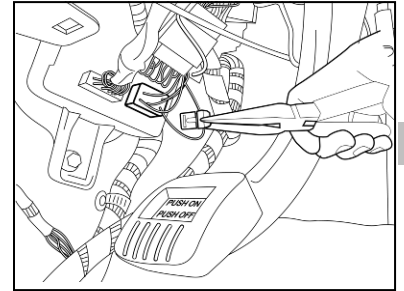
- a) Using fish-wire, route harness from base of A-pillar through dash and into connection wire / fuse block area. **(Fig. 17)**



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**8. Attach wire tap to vehicle wire marked IGNITION.**

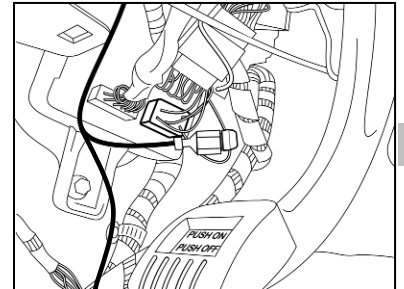
- a) Center blade of wire tap on IGNITION wire and close wire tap with pliers. **(Fig. 18)**
- b) Ensure both halves of wire tap are closed completely and locking tab is engaged.



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**9. Connect auto-dimming mirror harness switched power wire to vehicle wire marked IGNITION.**

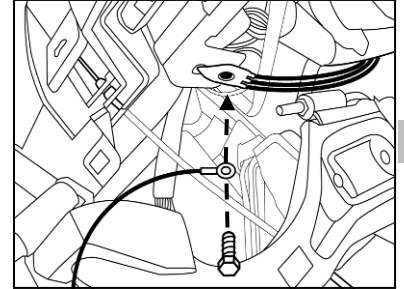
- a) Insert spade terminal on auto-dimming mirror harness wire into the wire tap on the vehicle wire labeled IGNITION. **(Fig. 19)**



19

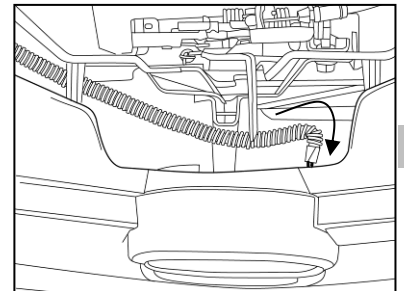
**10. Connect auto-dimming mirror harness ground wire.**

- a) Locate a ground bolt near connection / fuse block area and remove.  
**NOTE:** Bolt locations may vary but common locations are in the kick plate / cowl cover area or parking brake release handle.
- b) Install ring terminal of harness over bolt and reinstall. **(Fig. 20)**



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**NOTE:** If auto-dimming mirror is not equipped with outside temperature feature, skip to section 5 "Secure Harness Wires."

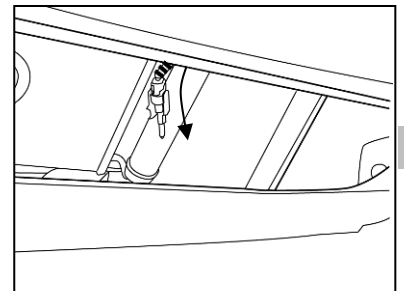


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**4 (Optional) Temperature Sensor Installation and Routing**

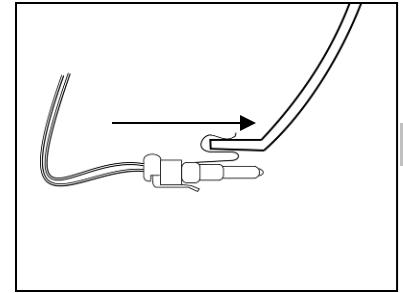
**1. Mount temperature sensor.**

- a) Remove splash guard panels if necessary to gain access to the area behind front bumper.
- b) From inside engine compartment, route sensor end of temperature harness down in front of radiator to area behind front bumper. **(Fig. 21)**
- c) Locate a mounting area for the temperature sensor in vehicle grille or bumper opening. This area should be as far away from the front of the radiator as possible while still allowing for free airflow around sensor. **(Fig. 22)**



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- d) Slide sensor clip over edge of bumper or grille. **(Fig. 23)**
- e) Ensure clip is fully engaged to bumper or grille and that sensor secure.
- f) Replace splash guard if removed.



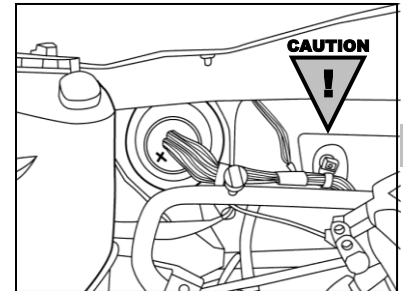
23

**2. Locate routing point for temperature harness wire on vehicle firewall. (Fig. 24 or 25)**



**Do not slice outer sealing lip of grommet.**

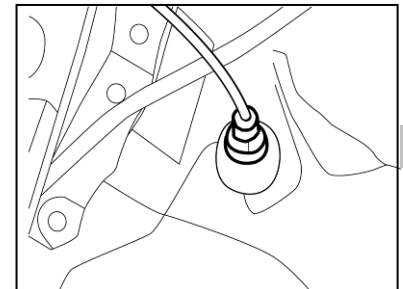
- a) Locate a rubber grommet in firewall that passes through to passenger compartment and cut a small "X" through it. **(Fig. 24)**



24

**-- OR --**

- b) Locate hood latch cable grommet in firewall. **(Fig. 25)**



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**3. Route temperature harness to grommet in firewall.**

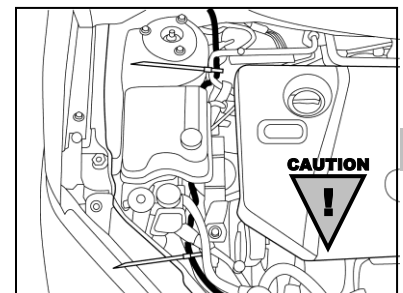


**Ensure routing path is clear of any moving engine parts.**



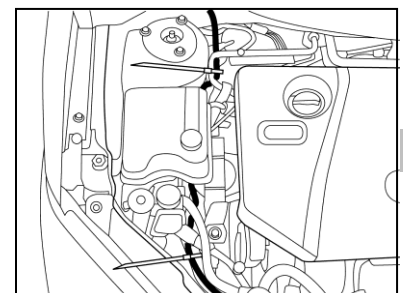
**Do not route harness near areas of high engine heat.**

- a) Route harness from radiator area, alongside fender to grommet in firewall. **(Fig. 26)**



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- b) Secure harness to vehicle harnesses in engine compartment with long wire ties. **(Fig. 27)**

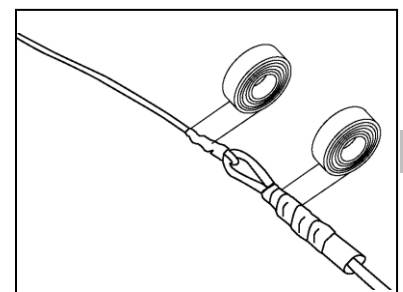


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**4. Route temperature harness into passenger compartment.**

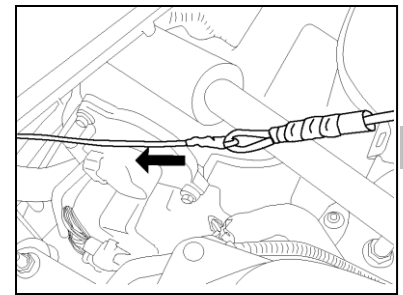
- a) From inside passenger compartment of vehicle, insert fish-wire through cut in firewall grommet or cable opening in hood latch cable grommet, and into engine compartment.

- b) Bend approximately 3 inches of harness at terminal end.
- c) Using electrical tape, secure fish-wire, to harness. **(Fig. 28)**



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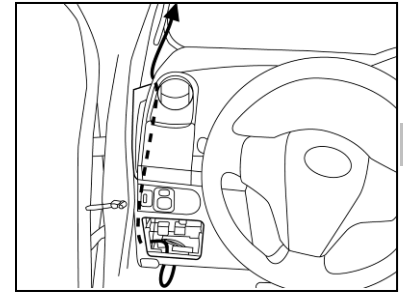
- d) Pull harness through grommet and into passenger compartment. **(Fig. 29)**
- e) Remove tape from harness.
- f) Inside engine compartment, leave extra wire for drip loop in front of grommet.
- g) Apply silicone sealant to grommet where harness wire passes through, to seal opening.



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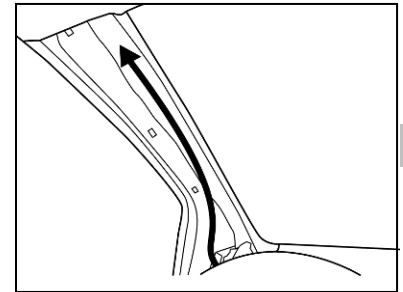
**5. Route temperature harness to auto-dimming mirror.**

- a) Route harness through dash up to base of A-pillar. **(Fig. 30)**



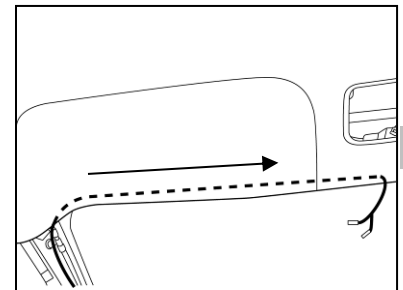
30

- b) Route harness up A-pillar. **(Fig. 31)**



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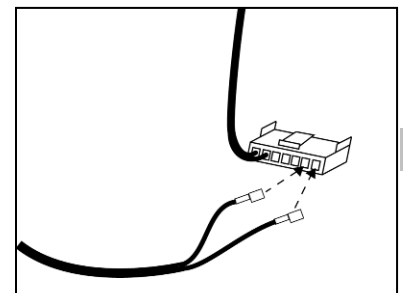
- c) Route harness across vehicle headliner and down to auto-dimming mirror. **(Fig. 32)**
- d) Conceal harness wires under optional wire cover if used.



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**6. Connect temperature harness to auto-dimming mirror connector.**

- a) Unplug connector from back of auto-dimming mirror.
- b) Insert terminals from temperature harness into pins #6 and #7 of mirror connector. **(Fig. 33)**  
**NOTE:** Temperature harness wires are not polarity sensitive so either terminal can be plugged into either opening on connector.
- c) Plug connector back into auto-dimming mirror.
- d) Ensure mirror has full rotation before proceeding to next step.



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## 5 Secure Harness Wires.

CAUTION



Do not secure harness wires to any airbag components in A-pillar.

CAUTION



Ensure harness wires do not obstruct A-pillar airbag.

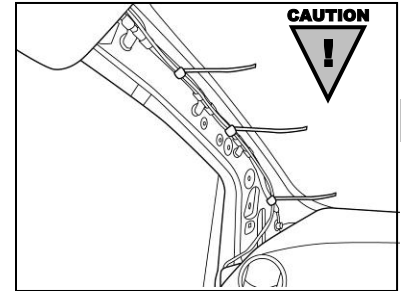
CAUTION



Do not secure harness wires to any drain tubes in A-pillar

### 1. Secure all harness wires in A-pillar.

- a) Secure auto-dimming mirror harness wire(s) to vehicle harness in A-pillar with 3 short tie wraps. (Fig. 34)



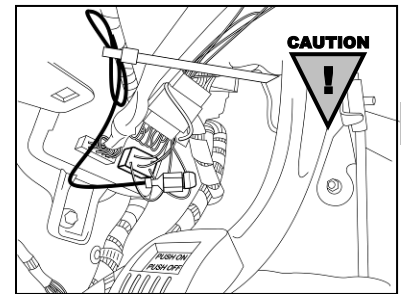
34

CAUTION





Ensure all wires being secured are clear of pedal and steering assemblies.

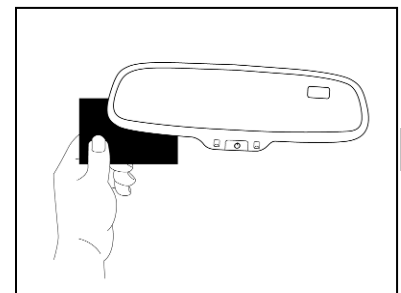
2. Bundle any excess harness wire(s) in kick-plate / cowl cover area and connection wire / fuse block area and secure with remaining short tie wraps. (Fig. 35)



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## 6 Testing.

1. Reconnect negative battery cable.
2. Turn the ignition switch ON/ACC position.
3. With the vehicle in a fairly well-lit area, perform the following:
  - a) To make sure the auto-dimming feature is on, verify that the green LED to the left of the center switch is on. If it is not on, push the  button and hold for approximately 6 seconds to turn the green LED on.
  - b) Cover the forward looking photocell on the back of mirror with a dark cloth or towel. (Fig. 36)  
  
In a few seconds, the mirror will begin to darken.  
**NOTE:** Time to darken will vary with ambient light level.
  - c) Remove the cover from the forward looking photo cell and the mirror will begin to clear.
  - d) Verify that either a direction, such as NE, or "CAL" is displayed in the display window. If not, ensure the feature is turned ON by pressing and the  button.



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### 7. Testing is now complete.



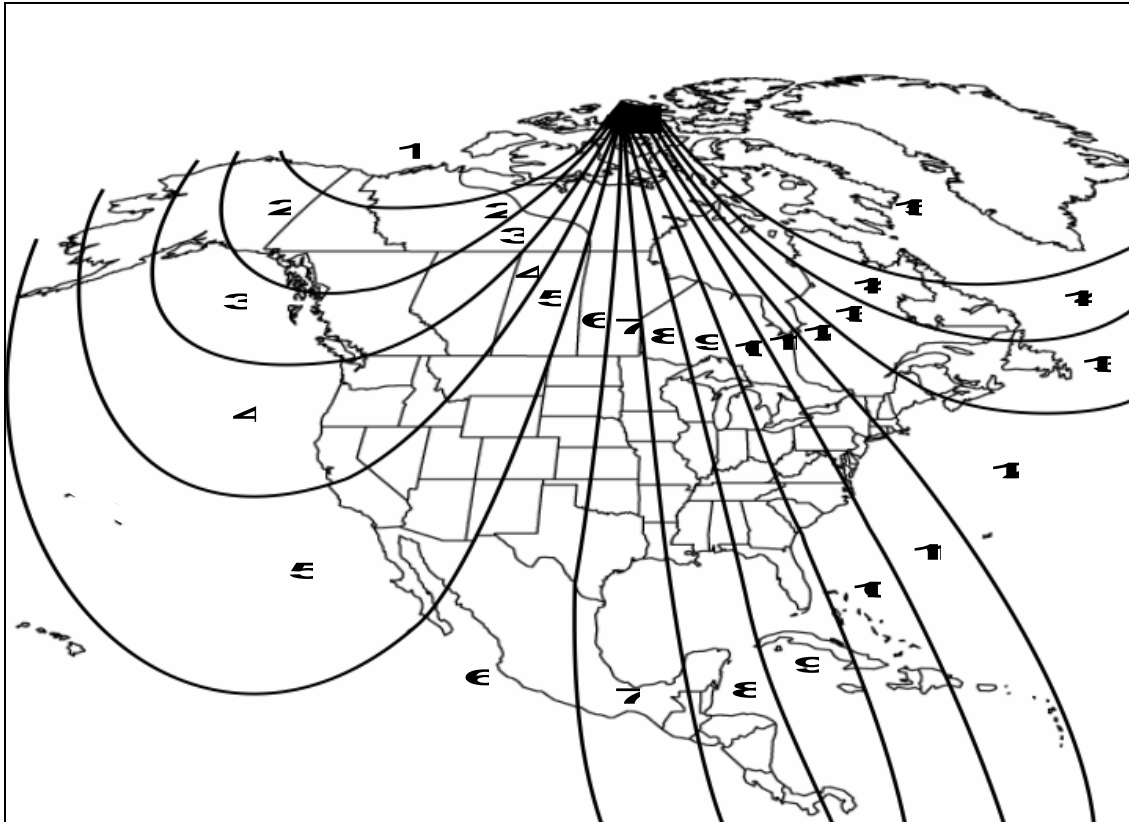
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## 7 Compass Zone Adjustment

### 1. Adjust compass zone after EC mirror installation.

- a) The zone setting is factory preset to Zone 8. Refer to Compass Calibration Zone Map to find correct compass zone setting for your geographical location. (Fig. 37)





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- b) To change the zone setting, push and hold the  button for approximately 9 seconds until a number appears in the display. Press button repeatedly until desired compass zone number is reached.



## 8 Compass Calibration

### 1. Calibrate compass.

- a) Drive to an open, level area, away from large metallic objects or structures.
- b) Hold the  button for approximately 12 seconds until "CAL" or "C" text appears in the display. Release the  button to enter the calibration mode.
- c) Drive slowly in up to 3 circles until the "CAL" or "C" text disappears, and a directional heading is displayed.

The compass is now calibrated.

**1. To change display from degrees Fahrenheit to degree Celsius.**

- a) Push and hold the  button for approximately 4 seconds until the display blinks “°C” or “°F”.
- b) Release then toggle the  button to select desired display mode.
- c) After 5 seconds of no button activity, the display will be set and will return to normal temperature reading.

**2. Ice feature display.**

- a) When outside temperature is 38° or lower, the display will read, "ICE" to alert driver of potential driving hazards.

## TROUBLESHOOTING

	PROBLEM	SOLUTION
1	"C" or "CAL" is displayed in display window	Perform calibration sequence (ref. Sec. 8)
2	Inaccurate compass direction	Perform compass zone setting procedure (ref. Sec. 7)
		Vehicle magnetics may have changed. Perform calibration sequence (ref. Sec. 8) <b>NOTE:</b> Installing items such as a ski rack, antenna, luggage rack or recent body repair can cause changes to the vehicle's magnetic field.
3	Mirror does not dim	Ensure connector is plugged into back of mirror.
		Ensure harness wires are connected to vehicle wires.
		Ensure nothing is blocking sensor on front of mirror or its viewing path to the rear window of vehicle.
4	Mirror dims constantly	Ensure nothing is blocking forward-looking sensor on back of mirror.
5	Temperature display is reading significantly low	Temperature display is set to degrees Celsius. Switch to degrees Fahrenheit (ref. Sec. 9)
6	Temperature display is reading too high or rises after starting vehicle	Temperature sensor is located in an area of high heat or low airflow. Move sensor to different location in vehicle grill area.
7	Temperature is reading -20 degrees F or lower	Turn ignition off for 2.5 hours. Do not unplug mirror.
8	Display window shows "SC" (short circuit)	Check all power wires to mirror for breaks, crimps or slices. Repair wires with electrical tape.
9	Display window shows "OC" (open circuit)	Temperature sensor wires are not connected properly to mirror connector. Check connection to mirror connector.
		Temperature sensor wire(s) crimped or broken. Check wires and repair with electrical tape. <b>Any broken wires MUST be soldered back together.</b>
		Temperature sensor is not plugged into harness. Check connection and ensure sensor is fully plugged into harness.

**For customer or technical support please call VOXX support:**

**1-844-569-4654**