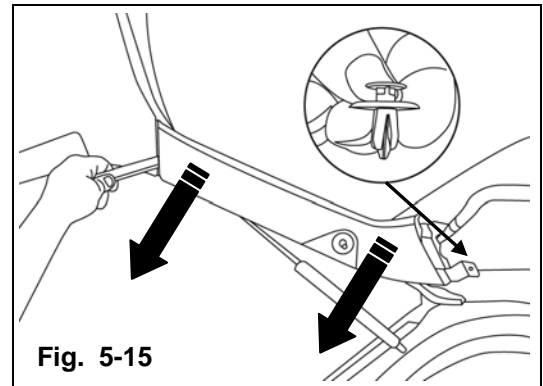


10. Remove driver-side lift gate trim.

- a) Remove one (1) plastic fastener at top of lift gate (**Fig. 5-15**)
- b) Use fiberstick to disengage clips and remove. (**Fig. 5-15**)

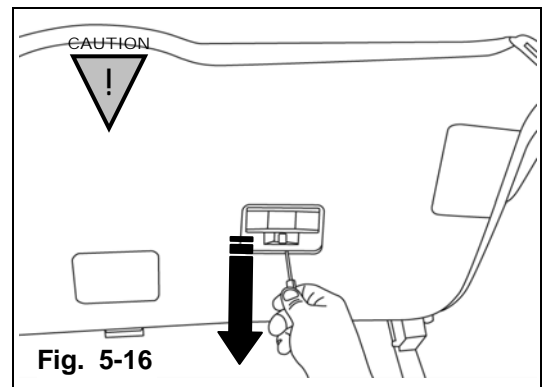


11. Remove rear light switch and disconnect connector. (Fig. 5-16)

CAUTION



Ensure care is taken removing cover. Cover is press fit and damage may occur.

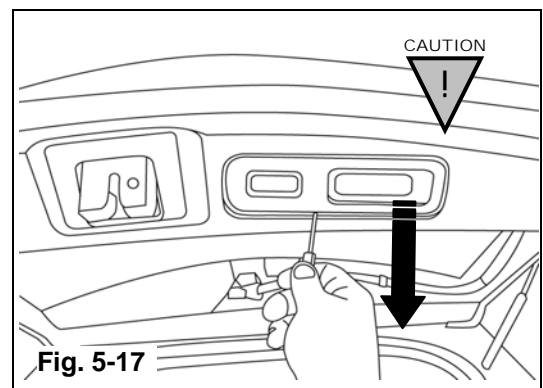


12. Remove rear gate auto close panel and disconnect connector (if equipped). (Fig. 5-17)

CAUTION

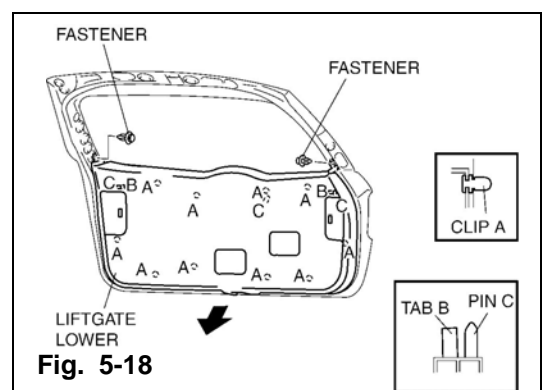


Ensure care is taken removing cover. Cover is press fit and damage may occur.



13. Remove lower lift gate panel.

- a) Remove two (2) plastic fasteners. (**Fig. 5-18**)
- b) Detach clips A, tabs B, and pins C by pulling them in the direction of the arrow. Ensure all (10) yellow clips are not damaged and are inserted into rear lift gate panel before reassembly. (**Fig. 5-18**)



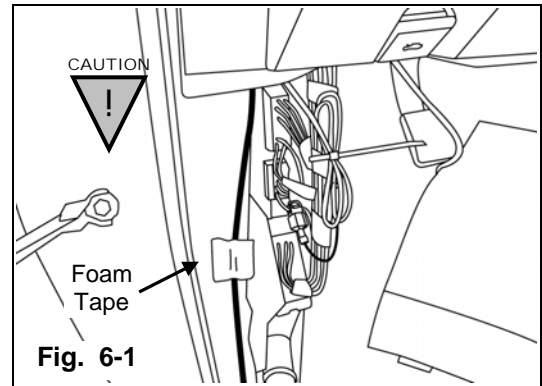
6

Route EC Mirror Video Cable to Rear Lift Gate

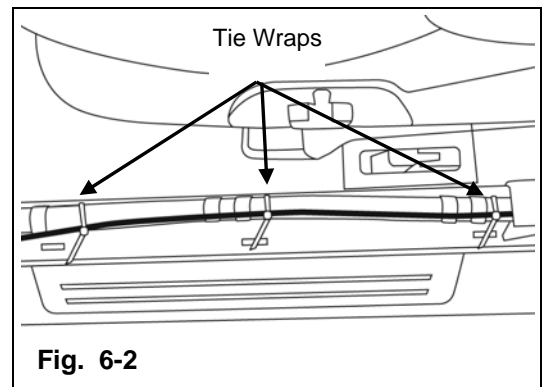
CAUTION

Routing of the video cable and removal of excess slack is extremely important to allow for adequate amount of cable at the rear of the vehicle.

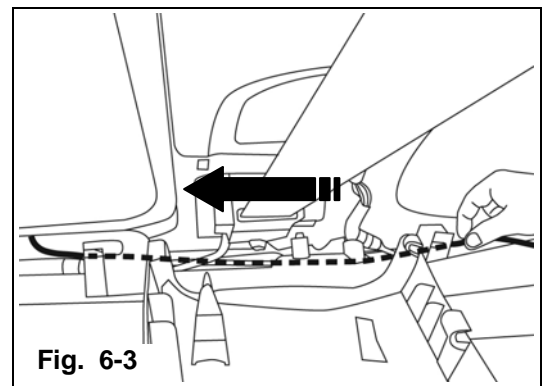
1. Secure video cable with one (1) piece of foam tape to driver side footwell area. (Fig. 6-1)



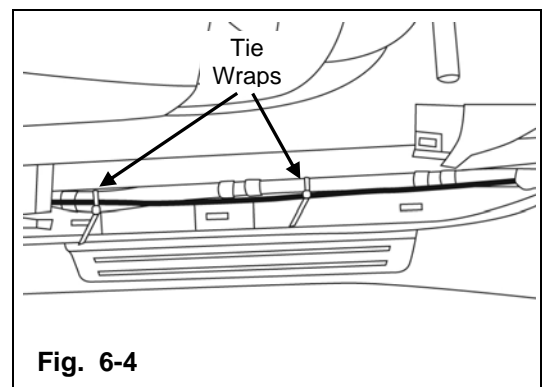
2. Route video cable from footwell area to driver-side B-pillar, securing to OE harness with three (3) tie wraps. (Fig. 6-2)



3. Route video cable inside B-pillar trim. (Fig. 6-3)



4. Route video cable from B-pillar toward the rear of the vehicle, securing to OE harness with two (2) tie wraps. (Fig. 6-4)



5. Route video cable up driver-rear wheel well into rear cargo area, securing to OE harness with five (5) tie wraps. (Fig. 6-5)

NOTE



Ensure to keep video cable under additional OE harnesses to prevent interference with driver side rear panel (Not Shown).

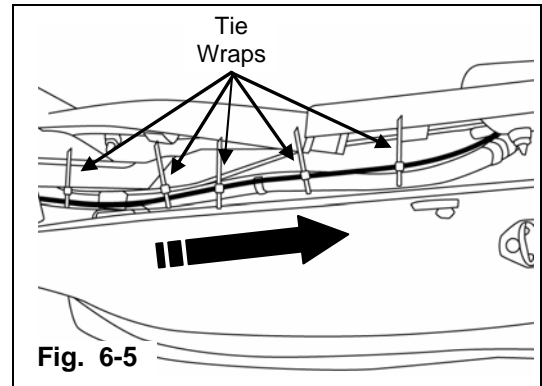


Fig. 6-5

6. Route video cable toward D-pillar, securing with one (1) tie wrap to existing OE harness and one (1) piece of foam tape. (Fig. 6-6)

CAUTION



Routing of the video cable and removal of excess slack is extremely important to allow for adequate amount of cable at the rear of the vehicle.

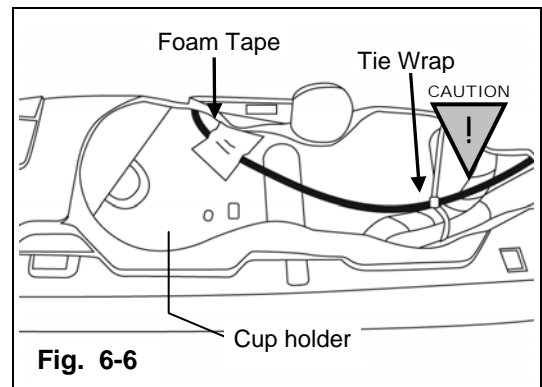


Fig. 6-6

7. Continue routing toward D-pillar securing with two (2) pieces of foam tape. (Fig. 6-7).

NOTE



Ensure to keep video cable under additional OE harnesses to prevent interference with driver side rear panel.

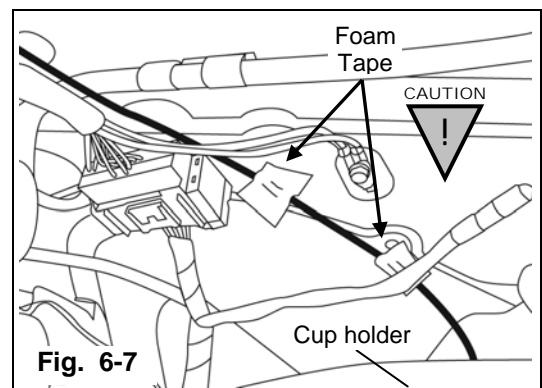


Fig. 6-7

8. Route video cable up driver-side D-pillar, securing to existing OE harness using three (3) tie wraps. (Fig. 6-8)

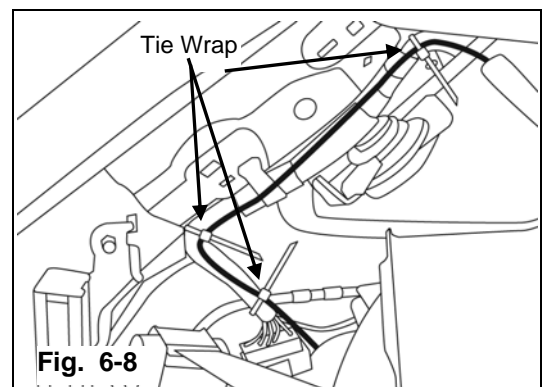


Fig. 6-8

9. Route video cable into headliner and wrap the provided 11-inch piece of foam wrap around video cable. (Fig. 6-9)

CAUTION



Use care not to damage or contaminate headliner.

(Review step 10 before completing this procedure)

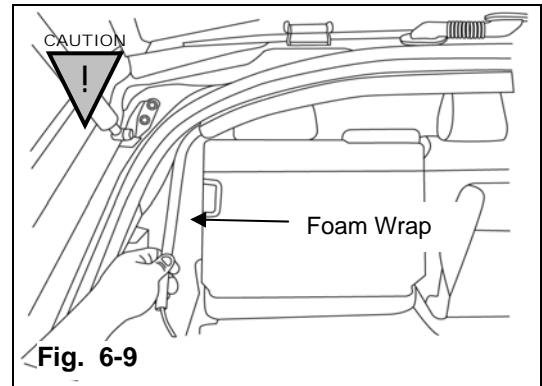


Fig. 6-9

10. Attach electrical tape (or equivalent) in three (3) places to the 11-inch foam wrap to prevent from falling off. (Fig. 6-10)

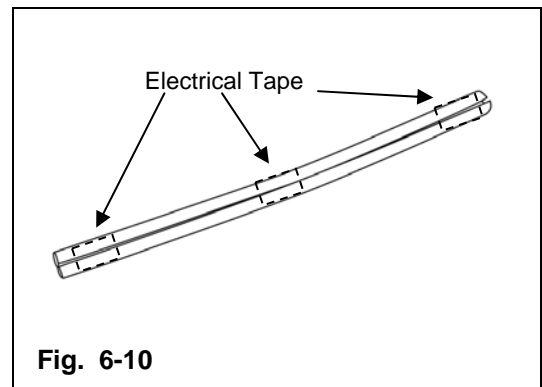


Fig. 6-10

11. Route video cable into rear gate.

- a) Attach one (1) piece of foam tape to the corner of the rear gate body in order to prevent damage to video cable during routing. (Fig. 6-11)

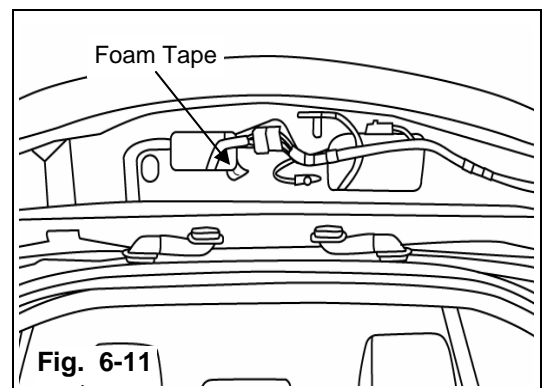


Fig. 6-11

- b) Create special tool (3 tie wraps taped together with fish wire attached to end or equivalent).
c) Route special tool through passenger side opening in rear gate, into driver side rear gate grommet and into rear headliner. (Fig. 6-12)

NOTE



Routing special tool through passenger side opening in rear gate will ease access into vehicle headliner.

CAUTION



It is not necessary to detach rear gate rubber grommet, difficulties to re-seat will occur.

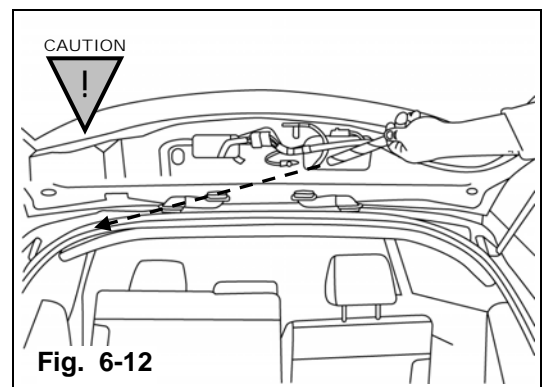
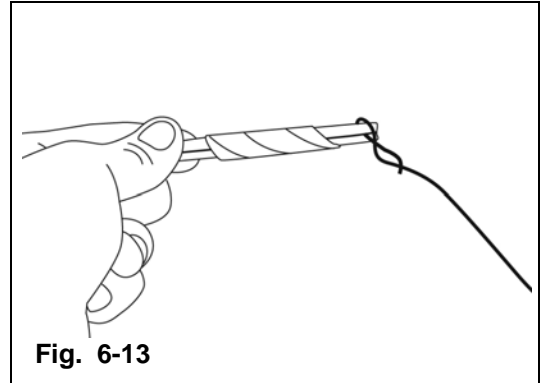
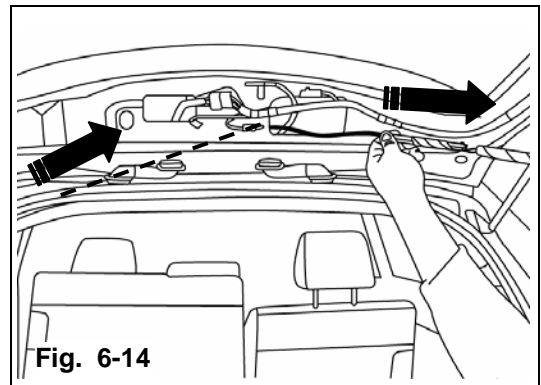


Fig. 6-12

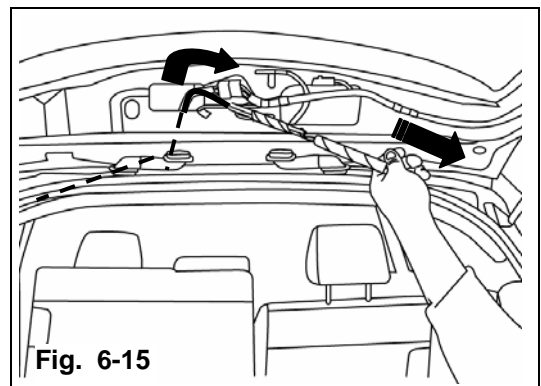
- d) Wrap fish wire around end of rubber tubing of video cable. **(Fig. 6-13)**



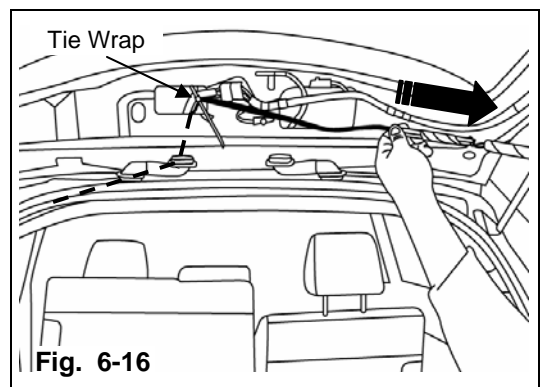
- e) Carefully pull video cable from inside the headliner, through rear gate grommet, and into rear gate. **(Fig. 6-14)**



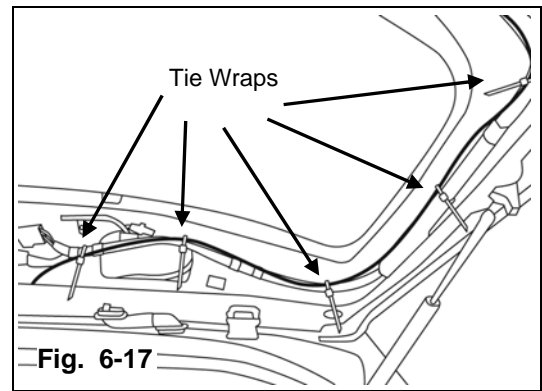
- f) Re-route video cable from passenger side opening in rear gate to driver side opening in rear gate and pull video cable through. **(Fig. 6-15)**



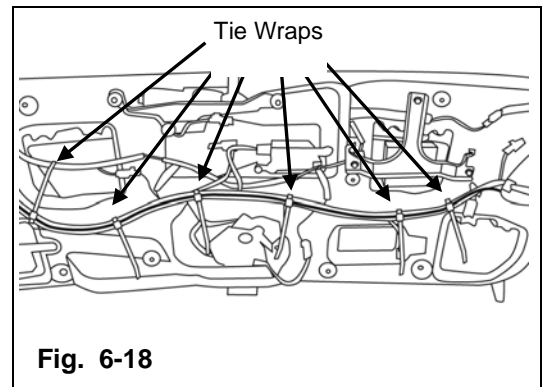
- g) Attach one (1) tie wrap to existing OE harness as shown. **(Fig. 6-16)**



12. Route video cable across lift gate and down passenger side, securing to OE harness with five (5) tie wraps. (Fig. 6-17)

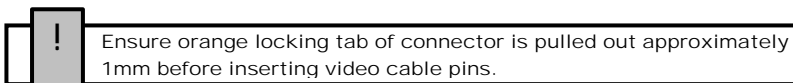


13. Route video cable across lower lift gate toward driver side, securing to OE harness with six (6) tie wraps. (Fig. 6-18)

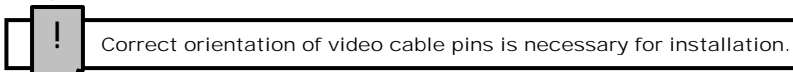


14. Remove black electrical tape and tubing from video cable end.

NOTE

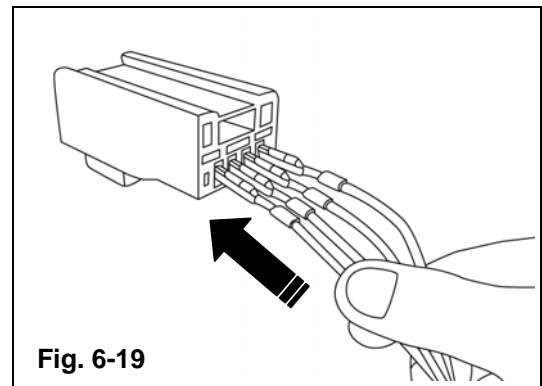
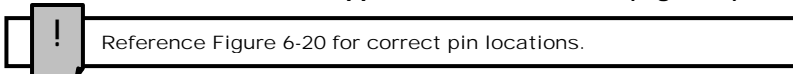


NOTE



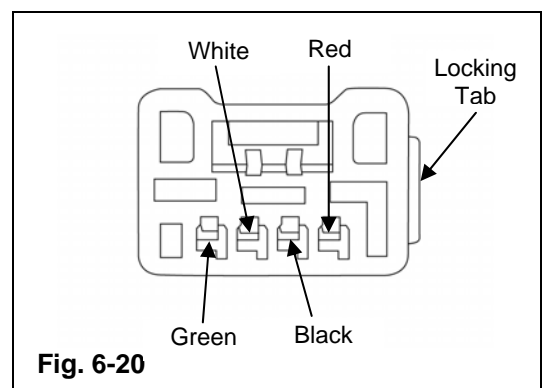
15. Insert (populate) video cable pins from video cable into supplied white connector. (Fig. 6-19)

NOTE



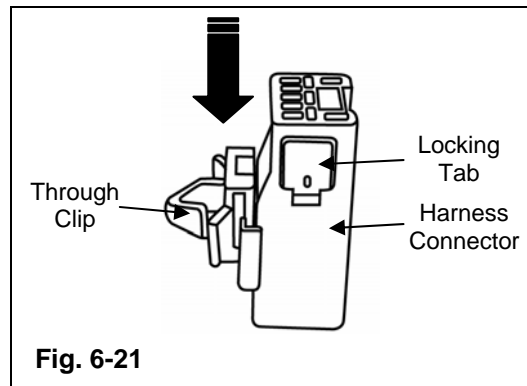
16. Populate video cable pins according to diagram. (Fig. 6-20)

17. Engage orange locking tab by pressing inward.

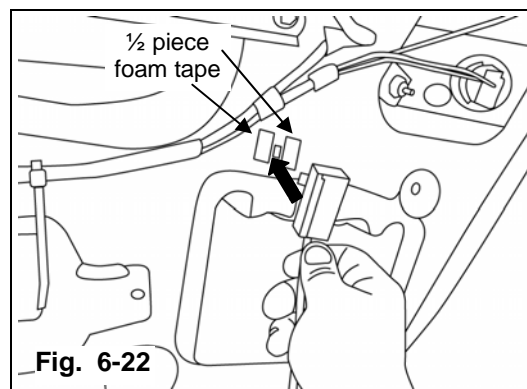


18. Attach supplied harness connector into cut-out located on driver-side rear lift gate.

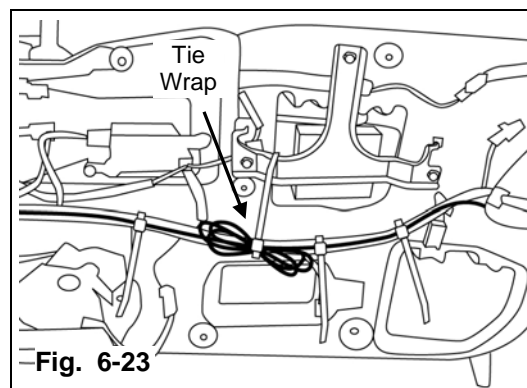
- a) Attach supplied through clip onto supplied harness connector as shown. **(Fig. 6-21)**



- b) Tear one (1) piece of foam tape in half.
- c) Apply ½ piece of foam tape to right side and ½ piece of foam tape to left side of connector cut-out. **(Fig. 6-22)**
- d) Attach supplied connector into cut-out. **(Fig. 6-22)**



19. Secure any remaining video cable to existing OE harness using one (1) tie wrap. (Fig. 6-23)



7

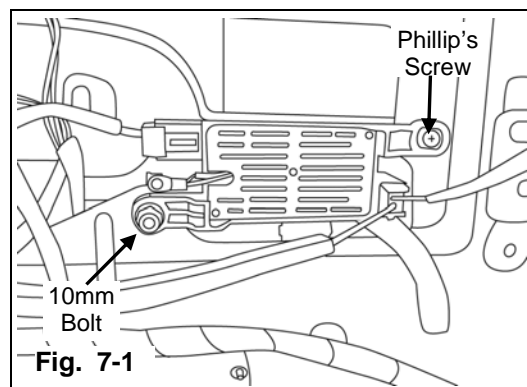
EC Mirror Camera Preparation

1. Remove noise filter from rear gate.

- a) Remove 10mm bolt. **(Fig. 7-1)**

Tightening torque:
61-86 in-lbs (6.8 – 9.8 N-m)

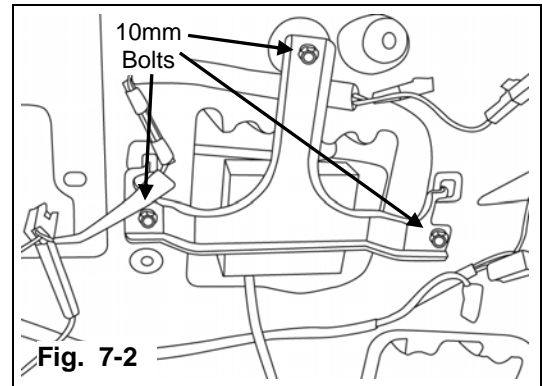
- b) Rotate phillip's screw and remove noise filter. **(Fig. 7-1)**
- c) Remove two (2) connectors.



2. Remove rear gate dynamic damper.

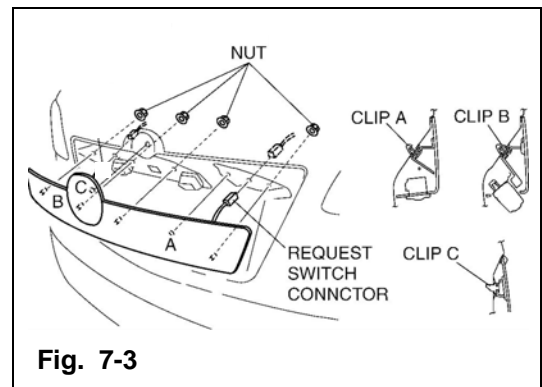
- a) Remove three (3) 10mm bolts. **(Fig. 7-2)**

Tightening torque:
61-86 in-lbs (6.8 – 9.8 N-m)

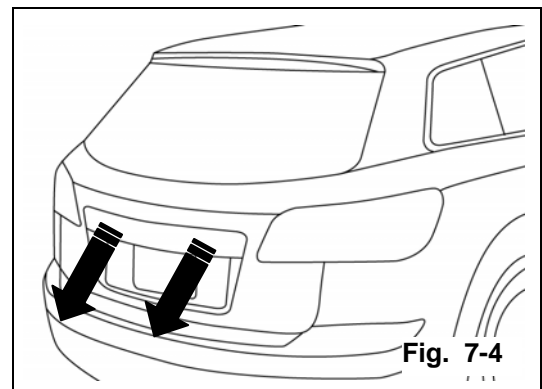


3. Remove rear lift gate finisher.

- a) Disconnect request switch connector. **(Fig. 7-3)**
- b) Remove four (4) 10mm nuts. **(Fig. 7-3)**
- c) Squeeze together clips a, b, and c while pulling out on exterior panel. **(Fig. 7-3)**



- d) Remove rear lift gate finisher. **(Fig. 7-4)**



8

EC Mirror Camera Installation

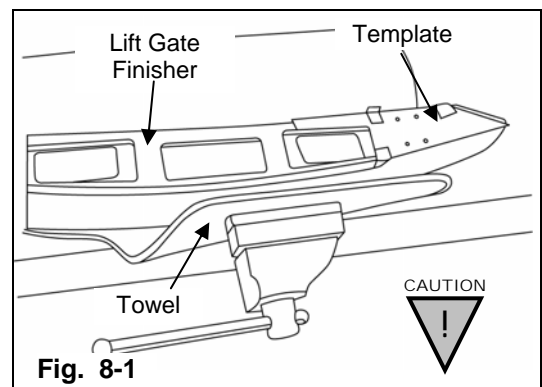
1. Attach camera template to lift gate finisher.

- a) Lightly secure lift gate finisher into a vise grip, being sure to cover jaws of vise grip with a towel. **(Fig. 8-1)**



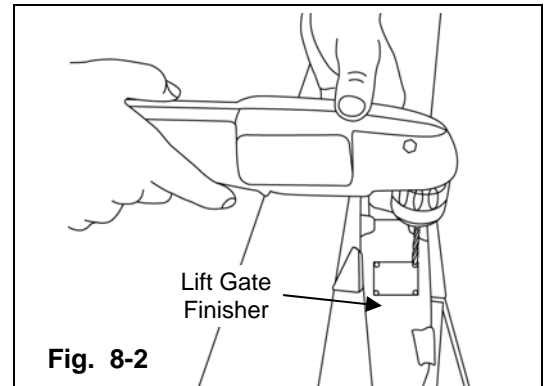
Ensure jaws of vise grip are covered with a towel to prevent damage to lift gate finisher.

- b) Cut out template located on the last page of instructions and attach to lift gate finisher as shown. **(Fig. 8-1)**



2. Perform cut-out for rear camera.

- a) Using a 1/8" drill bit, drill all four (4) "X" marks. **(Fig. 8-2)**
- b) Remove template.

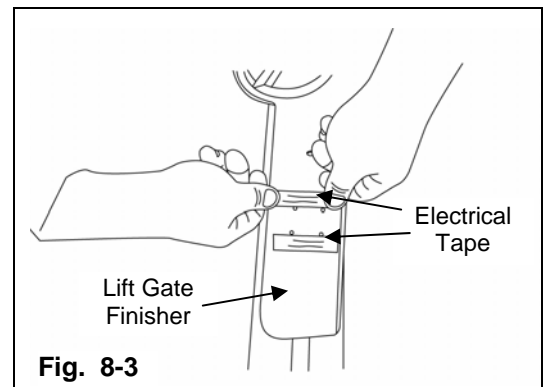


- c) Attach two (2) pieces of electrical tape perpendicular to rear gate finisher. Be sure tape is placed to the outside of the drill holes. **(Fig. 8-3)**

NOTE



Ensure tape is placed to the outside of the drill holes to prevent camera cut-out from being inaccurate.

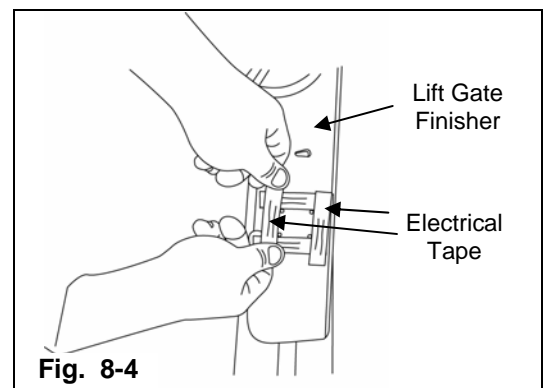


- d) Attach two (2) pieces of electrical tape parallel to rear gate finisher. Be sure tape is placed to the outside of the drill holes. **(Fig. 8-4)**

NOTE



Ensure tape is placed to the outside of the drill holes to prevent camera cut-out from being inaccurate.



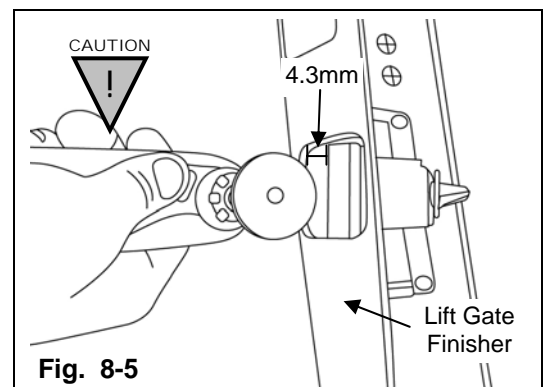
- e) Taped portion will serve as a template for the cut-out of the rear camera.

CAUTION



Be sure to read step f before proceeding.

- f) Take care when performing cut-out. Do not allow dremel cutting wheel to protrude further than 4.3mm or damage to camera bracket may occur. **(Fig. 8-5)**



- g) Using a dremel tool and a 13/16" rotary tool cut off wheel, create a cut at the upper and lower sections of the taped off portion, parallel to the rear gate finisher. Be sure not to protrude into the taped off portion. **(Fig 8-6)**

CAUTION



Ensure cut-out does not protrude into taped off portion, damage to rear gate finisher will occur.

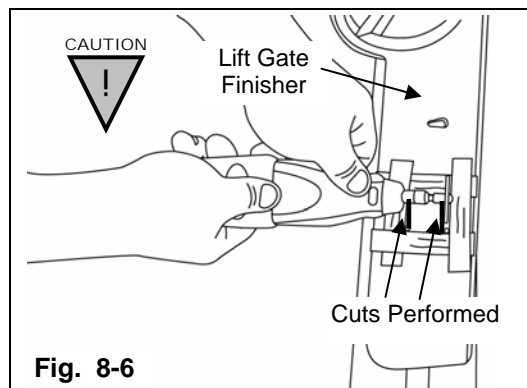


Fig. 8-6

- h) Create a cut at the left and right sections of the taped off portion, perpendicular to the rear gate finisher, connecting previously performed cuts. Be sure not to protrude into the taped off portion. **(Fig. 8-7)**

CAUTION



Ensure cut-out does not protrude into taped off portion, damage to rear gate finisher will occur.

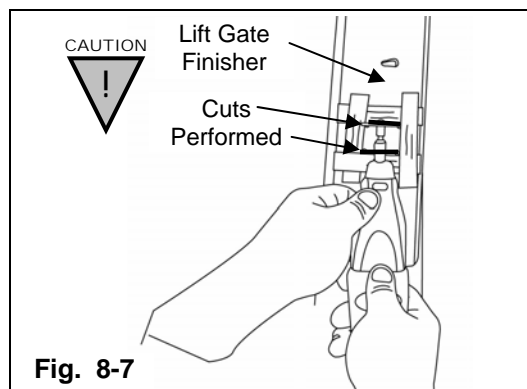


Fig. 8-7

- i) Remove cut-out and electrical tape from rear gate finisher.

3. Install camera into cut out of rear gate finisher.

- a) Insert camera into cut out as shown. **(Fig. 8-8)**
- b) Secure camera to rear gate finisher by inserting and tightening down two (2) provided screws. **(Fig. 8-10)**

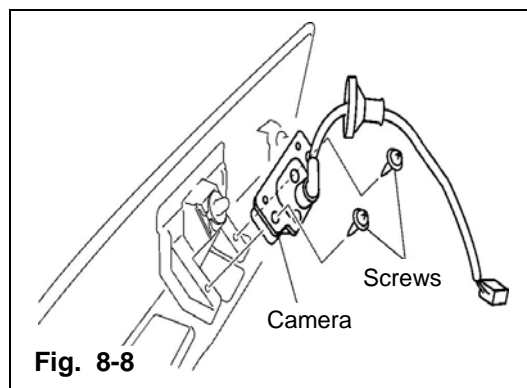


Fig. 8-8

4. Reattach rear gate finisher.

- a) Reconnect request switch connector. **(Fig. 8-9)**
- b) Ensure clips a, b, and c lock into rear gate. **(Fig. 8-9)**
- c) Reinstall four (4) 10mm nuts. **(Fig. 8-9)**

Tightening Torque:
35 – 52 in-lbs (3.9 – 5.9 N-m)

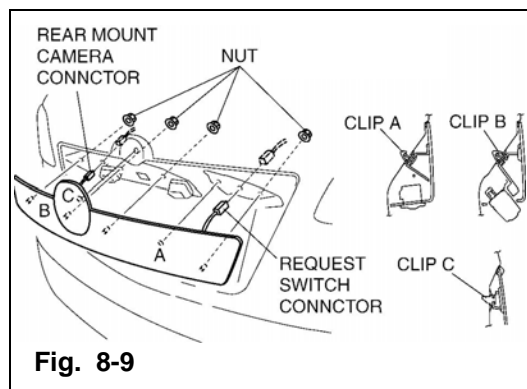
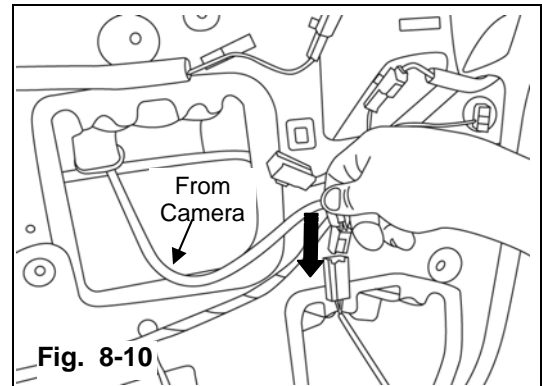


Fig. 8-9

5. Connect camera harness to video cable harness.

- a) Route camera harness to video cable harness connector and connect. **(Fig. 8-10)**



9

Testing

1. Reconnect negative battery cable.
2. Turn the ignition switch ON.
3. With the vehicle in a fairly well-lit area, perform the following:
 - a) Cover the forward looking photocell on the back of mirror with a dark cloth or towel. **(Fig. 9-1)**

In a few seconds, the mirror will begin to darken.

NOTE

Time to darken will vary with ambient light level.

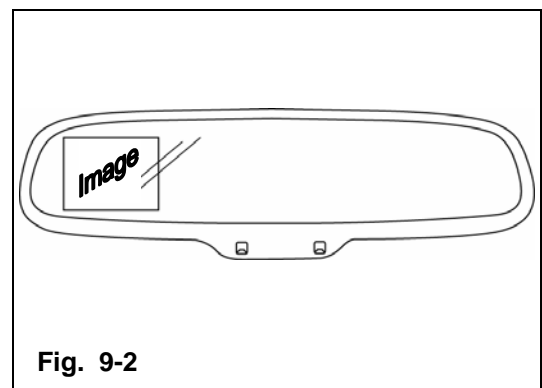
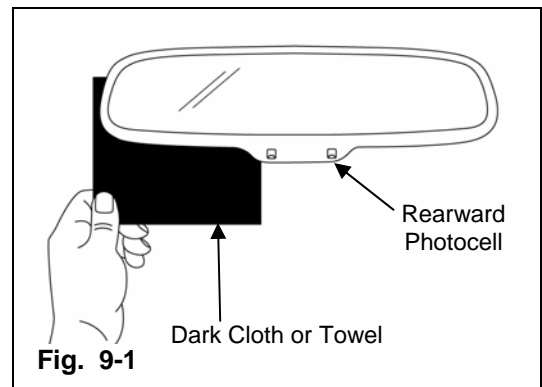
- b) Remove the cover from the forward looking photo cell and the mirror will begin to clear.

4. With your foot on the brake pedal, move the gear selector lever into reverse.

- a) A clear image should display in the left hand side of the mirror. **(Fig. 9-2)**

NOTE

It is best to have the lift gate in the down position (not necessarily closed) for testing.

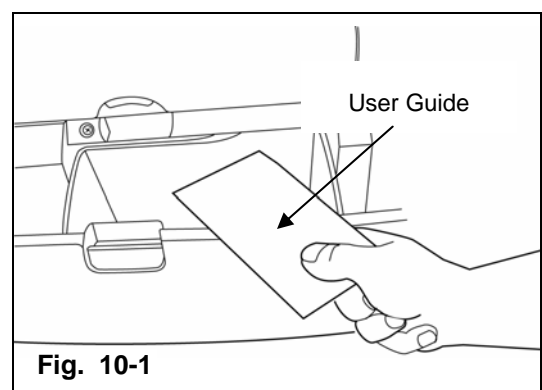


5. Testing is now complete.

10

Installation of Removed Components

1. Trim excess off all tie wraps.
2. Reinstall in reverse order, all trim pieces removed during installation.
3. Place User Guide in vehicle glove-box. **(Fig. 10-1)**



- Inspection parts differ depending on the vehicle.
- Inspect the installed / reinstalled parts for the following items:

Inspection Parts	Inspection Items (○)			
	Clearance / Fit	Scratches / Dirt / Harness Interference	Installation / Tightening / Engagement	Operation Check
Negative battery terminal			○	
Driver-side front scuff plate	○	○	○	
Driver-side passenger rear scuff plate	○	○	○	
Driver-side front door seal	○		○	
Driver-side passenger rear door seal	○		○	
Driver-side lower dash cover	○	○	○	
Driver-side A-pillar trim	○	○	○	
Driver-side B-pillar trim	○	○	○	
Driver-side cup holder	○	○	○	
Rear entertainment system	○	○	○	○
Driver-side rear panel	○	○	○	
Driver-side rear seat belt bracket.	○		*1 ○	*2 ○
Driver-side D-pillar trim	○	○	○	
Rear light switch	○	○	○	○
Rear auto close panel	○	○	○	
Rear gate panels (x3)	○	○	○	
Rear noise filter	○	○	○	
Rear gate damper	○	○	○	
Lift gate finisher	○	○	○	
EC mirror torx screw			*3 ○	
EC mirror harness connector			○	
EC mirror features:				
- auto-dimming				*4 ○
- Video display				*5 ○
Camera	○	○	○	*6 ○
User Guide			*7 ○	

○: Applicable

*1: Tightened to 28.2 – 57.8 in-lbs (38.2 – 78.4 N-m).

*2: Seat belt operates freely and is free of interference.

*3: Tightened to 1.3 ft-lbs. (17.8 kg-cm).

*4: Mirror dims (key must be in ON position).

*5: Mirror displays clear image on left side of mirror (key must be in ON position and vehicle must be in REVERSE).

*6: Image is visible and clear on left side of mirror (key must be in ON position and vehicle must be in REVERSE).

*7: In vehicle glove-box.

The term of validity for this sheet: 3 months

Date: / /					
Vehicle:					
VIN:					
Approved		Checked		Person in charge	

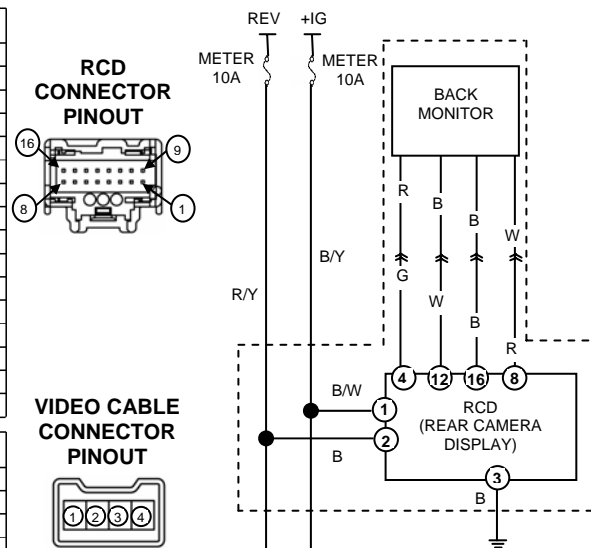
BASIC INSTALLATION TROUBLE-SHOOTING

Verify the following:

- ▶ Switched EC harness wire (pin 1) is receiving 12V with ignition ON.
- ▶ Switched EC harness wire (pin 2) is receiving 12V with ignition ON and vehicle in REVERSE.
- ▶ Ground wire is securely attached.
- ▶ Switched video cable harness wire (pin 1) is receiving 6V with ignition ON and vehicle in REVERSE.
- ▶ Video cable harness wire (pin 2) is receiving ground with ignition ON and vehicle in REVERSE.
- ▶ EC mirror connector is fully inserted into mirror.
- ▶ Video cable harness is fully inserted into back monitor camera.
- ▶ EC mirror and video cable harnesses are not pinched, cut, or damaged.

PIN	COLOR	FUNCTION
1	BLACK/WHITE	+12V DC SWITCHED
2	BLACK/SMOOTH	REVERSE INHIBIT
3	BLACK/RIBBED	GROUND
4	GREEN	+6V CAMERA POWER
5		OPEN
6		OPEN
7		OPEN
8	RED	NTSC VIDEO (+)
9		OPEN
10		OPEN
11		OPEN
12	WHITE	CAMERA GROUND
13		OPEN
14		OPEN
15		OPEN
16	BLACK	NTSC VIDEO (-)

PIN	COLOR	FUNCTION
1	GREEN	+6V CAMERAR POWER
2	WHITE	CAMERA GROUND
3	RED	NTSC VIDEO (+)
4	BLACK	NTSC VIDEO (-)



CAUTION



When the battery is disconnected, the DSC may stop operating.
(The DSC OFF indicator will flash at this time, and the TCS/DSC operation indicator will illuminate.)

Carry out the following procedure to reactivate DSC:

1. Turn the ignition switch to "OFF" and then turn it back to "ON".
2. Turn the steering wheel clockwise as far as it will go, and then turn it back counterclockwise as far as it will go.
3. Check that the TCS/DSC operation indicator is turned off.
4. Turn the ignition switch to "OFF" and then turn it back to "ON".
5. Check that the TCS/DSC operation indicator is turned off. If the TCS/DSC operation indicator is still illuminated or the DSC indicator is not turned off when the ignition switch is turned back to "ON", contact your Mazda dealer.

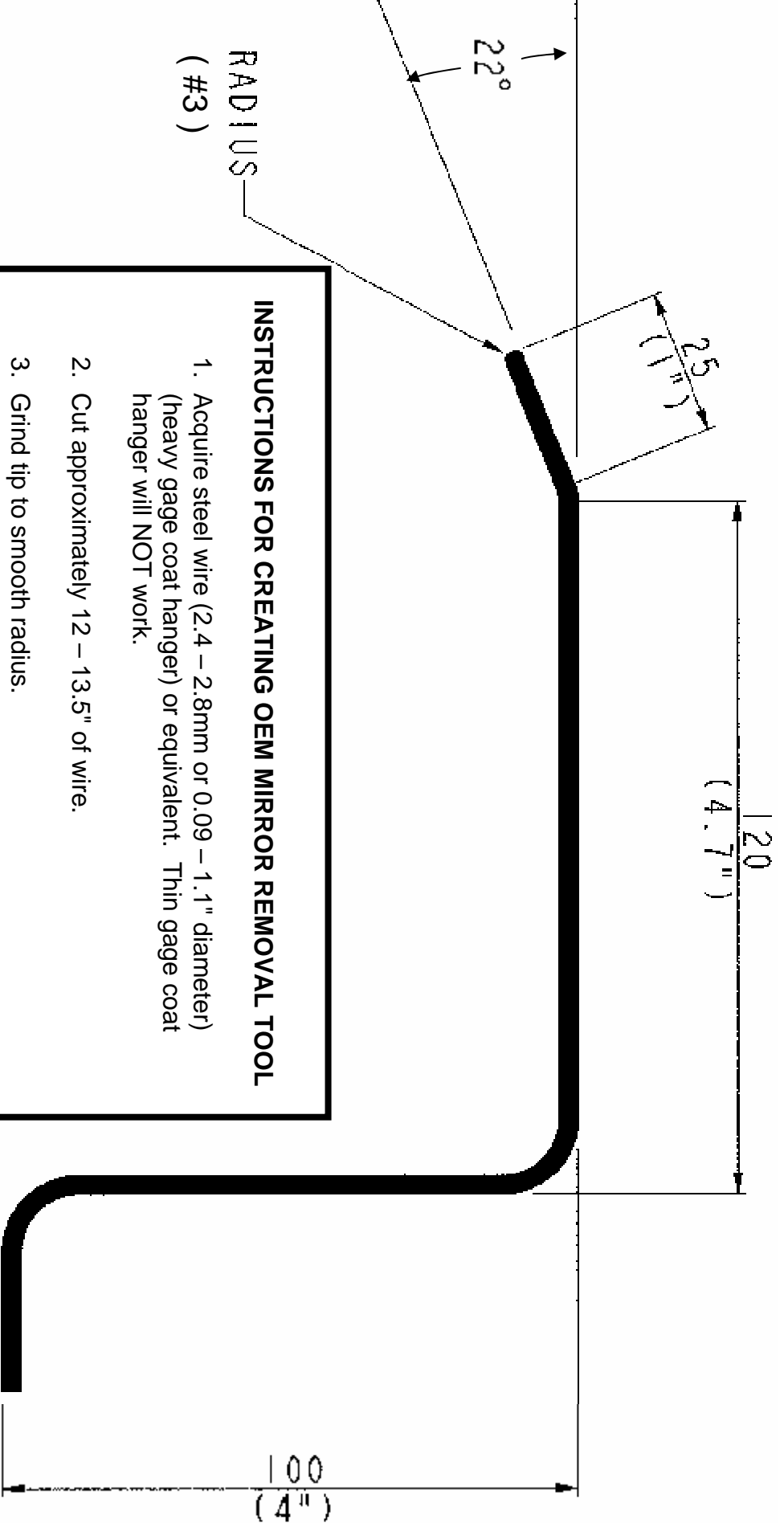
CAUTION



If the battery is disconnected, the power windows will no longer fully open or fully close automatically.

Carry out the following operation at driver seat first and passenger seat to restore normal operation:

1. Turn the ignition key to the "ON" position.
2. Press the power window switch to fully open the power windows.
3. Lift up the power window switch to fully close the power windows, and keep it pulled up for approximately 2 seconds.
4. Position the engine switch at OFF, and then at ON again. When the function doesn't work after these procedures, please contact your Mazda dealer.



INSTRUCTIONS FOR CREATING OEM MIRROR REMOVAL TOOL

1. Acquire steel wire (2.4 – 2.8mm or 0.09 – 1.1" diameter) (heavy gage coat hanger) or equivalent. Thin gage coat hanger will NOT work.
2. Cut approximately 12 – 13.5" of wire.
3. Grind tip to smooth radius.
4. Using pliers, bend wire to shape specified on drawing.

FACTORY MIRROR HEAD REMOVAL TOOL

NOTES:

1. MATERIAL: STEEL
2. DIAMETER: 2.4 - 2.8 (0.09 - 1.1")
3. MATERIAL LENGTH: 305 - 343 (12 - 13.5")

