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REAR BUMPER REINFORCEMENT REMOVAL/INSTALLATION

- 1. Disconnect the negative battery cable.
- 2. Remove the rear combination light. (See <u>REAR COMBINATION LIGHT</u> <u>REMOVAL/INSTALLATION</u>.)
- 3. Remove the rear bumper. (See **<u>REAR BUMPER REMOVAL/INSTALLATION</u>**.)
- 4. Remove the fasteners, then remove the energy-absorbing foam.
- 5. Remove the bolts and nuts, then remove the rear bumper reinforcement.
- 6. Install in the reverse order of removal.

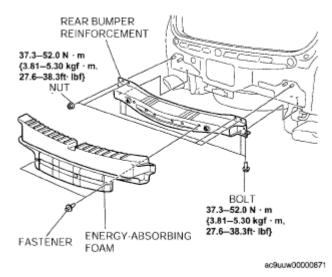


Fig. 1: Identifying Rear Bumper Reinforcement & Torque Specifications Courtesy of MAZDA MOTORS CORP.

BODY PANELS LOCATION INDEX

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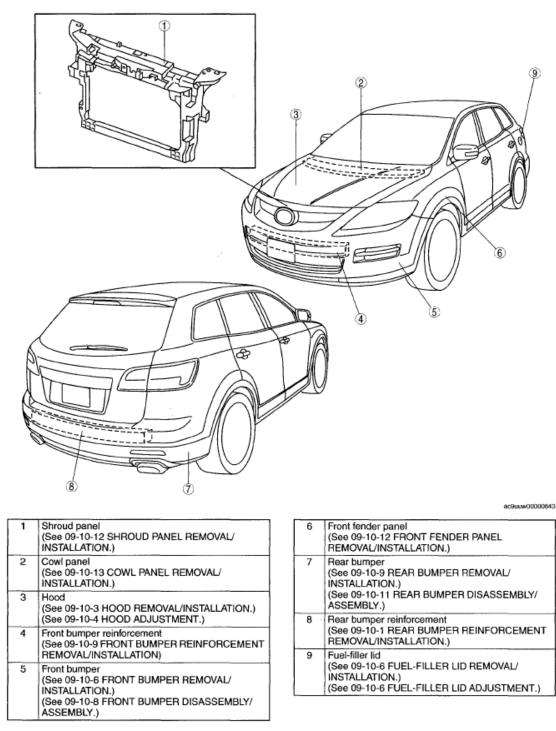


Fig. 2: Identifying Body Panels Location Courtesy of MAZDA MOTORS CORP.

HOOD REMOVAL/INSTALLATION

- WARNING:
- Removing the hood without supporting it could cause the hood to

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fall and cause serious injury. Always perform the procedure with at least another person to prevent the hood from falling.

- 1. Disconnect the negative battery cable.
- 2. To remove the hood hinges, remove the following parts:
 - 1. Windshield wiper arm and blade (See <u>WINDSHIELD WIPER ARM AND BLADE</u> <u>REMOVAL/INSTALLATION</u>)
 - 2. Side cowl grille (See COWL GRILLE REMOVAL/INSTALLATION)
- 3. Remove in the order indicated in the table.

1	Hood insulator
2	Shroud seal weatherstrip
3	Parting seal weatherstrip
4	Hood
5	Hood hinge
6	Hood stay

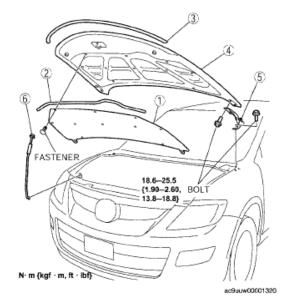


Fig. 3: Identifying Hood Removing Components & Torque Specifications Courtesy of MAZDA MOTORS CORP.

- 4. Install in the reverse order of removal.
- 5. Adjust the hood. (See HOOD ADJUSTMENT.)

HOOD ADJUSTMENT

GAP ADJUSTMENT

1. Measure the gap between the hood and body.

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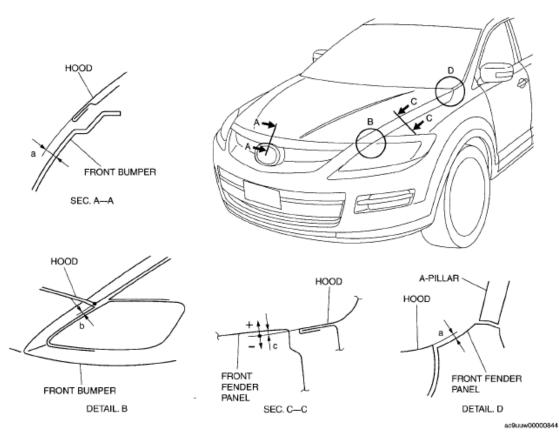


Fig. 4: Measuring Gap Between Hood And Body Courtesy of MAZDA MOTORS CORP.

Standard clearance

a: -1.5-1.5 mm {-0.05-0.05 in}

b: 0.73-4.33 mm {0.03-0.17 in}

c: -1.2-1.2 mm {-0.04-0.04 in}

- 2. Disconnect the negative battery cable.
- 3. Remove the following parts:
 - 1. Windshield wiper arm and blade (See <u>WINDSHIELD WIPER ARM AND BLADE</u> <u>REMOVAL/INSTALLATION</u>)
 - 2. Cowl grille (See COWL GRILLE REMOVAL/INSTALLATION)
- 4. Loosen the hood hinge installation bolts and adjust the hood.
- 5. Tighten the bolts.

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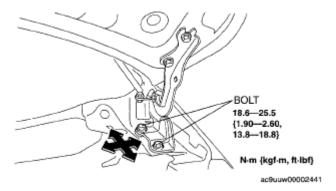


Fig. 5: Identifying Hood Hinge Bolts & Torque Specifications Courtesy of MAZDA MOTORS CORP.

HEIGHT ADJUSTMENT

1. Measure the height difference between the hood and body.

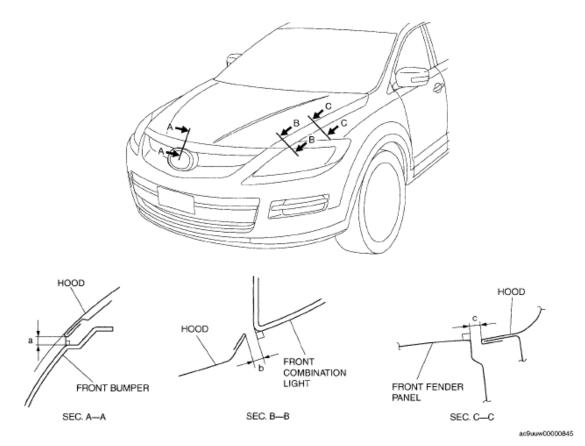
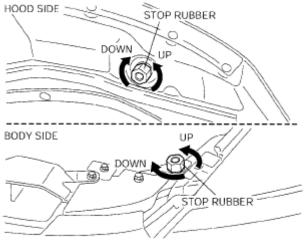


Fig. 6: Measuring Height Difference Between Hood And Body Courtesy of MAZDA MOTORS CORP.

Clearance

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- a: 3.0-6.0 mm {0.11-0.23 in}
- b: 2.0-5.0 mm {0.07-0.19 in}
- c: 2.8-5.2 mm {0.11-0.20 in}
- 2. Turn the stop rubber to adjust.



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Fig. 7: Turning Stop Rubber To Adjust Courtesy of MAZDA MOTORS CORP.

FUEL-FILLER LID REMOVAL/INSTALLATION

- 1. Remove the bolts.
- 2. Remove the fuel-filler lid
- 3. Install in the reverse order of removal.
- 4. Adjust the fuel-filler lid. (See <u>FUEL-FILLER LID ADJUSTMENT</u>.)

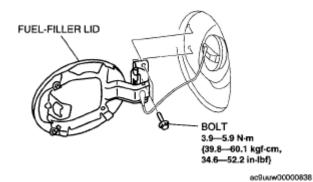


Fig. 8: Identifying Fuel-Filler Lid & Torque Specifications Courtesy of MAZDA MOTORS CORP.

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FUEL-FILLER LID ADJUSTMENT

- 1. Measure the gap and height difference between the fuel-filler lid and the body.
- 2. Loosen the fuel-filler lid installation bolts and adjust the fuel-filler lid.

Clearance

a: 1.7-3.7 mm {0.07-0.14 in}

b:-0.5-1.5 mm {-0.01-0.05 in}

3. Tighten the bolts.

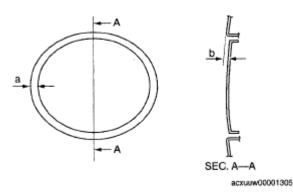


Fig. 9: Measuring Gap And Height Difference Between Fuel-Filler Lid And Body Courtesy of MAZDA MOTORS CORP.

FRONT BUMPER REMOVAL/INSTALLATION

- 1. Disconnect the negative battery cable.
- 2. Remove the clip of the front over fender and put aside the front bumper.

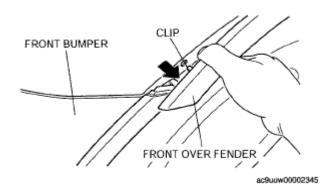


Fig. 10: Removing Clip Of Front Over Fender Courtesy of MAZDA MOTORS CORP.

3. Remove in the order indicated in the table.

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1	Screw A
2	Bolt
3	Fastener A
4	Fastener B
5	Screw B
6	Front bumper (See 09-10-7 Front Bumper Removal Note) (See 09-10-7 Front Bumper Installation Note)

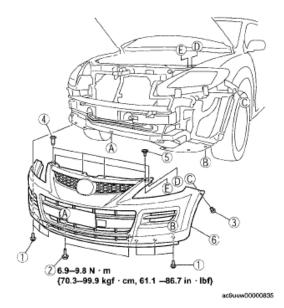


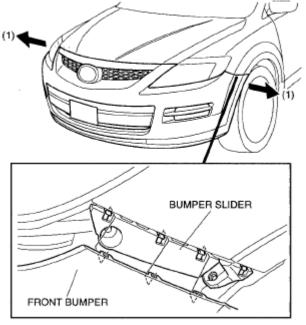
Fig. 11: Identifying Removing Sequence Of Front Bumper Components & Torque Specifications Courtesy of MAZDA MOTORS CORP.

- 4. Disconnect the front fog light connector. (Vehicles with front fog lights)
- 5. Install in the reverse order of removal.
- 6. Adjust the front fog light aiming for vehicles with front fog lights. (See <u>FRONT FOG LIGHT</u> <u>AIMING</u>.)

FRONT BUMPER REMOVAL NOTE

- 1. Pull the front bumper ends (wheel arch) outward (1) to disengage from the bumper slider.
 - When disengaging the front bumper from the bumper slider, the front bumper could fall and be damaged. Secure the front bumper so that it does not fall.
- 2. Remove the front bumper from the body.

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Fig. 12: Identifying Front Bumper Ends Courtesy of MAZDA MOTORS CORP.

FRONT BUMPER INSTALLATION NOTE

- 1. Spread the front bumper ends apart.
- 2. Assemble the front bumper to the body.
- 3. Press the front bumper connecting area into the body to engage with the bumper slider.

FRONT BUMPER DISASSEMBLY/ASSEMBLY

- 1. Remove the front fog light. (Vehicles with front fog lights) (See <u>FRONT FOG LIGHT</u> <u>REMOVAL/INSTALLATION</u>.)
- 2. Remove the radiator grille. (See **<u>RADIATOR GRILLE REMOVAL/INSTALLATION</u>**.)
- 3. Disassemble in the order indicated in the table.

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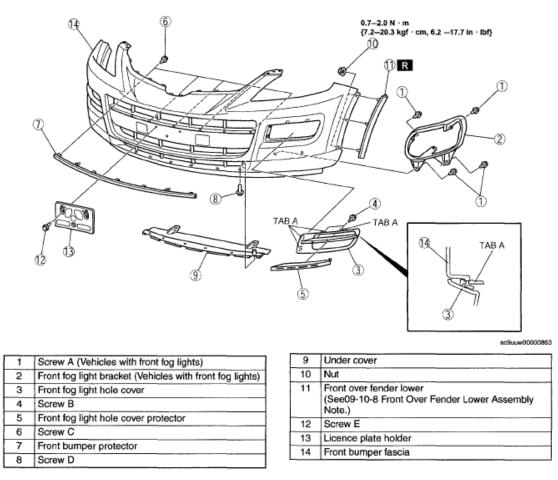
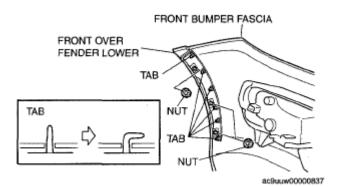


Fig. 13: Identifying Front Bumper Components & Torque Specifications Courtesy of MAZDA MOTORS CORP.

4. Assemble in the reverse order of disassembly.

FRONT OVER FENDER LOWER ASSEMBLY NOTE

- 1. Attach the front over fender lower to the front bumper fascia with nuts.
- 2. Use a soldering copper and thermally deform the tab in order to fasten the stiffening rib.



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Fig. 14: Identifying Front Over Fender Lower And Front Bumper Fascia With Nuts Courtesy of MAZDA MOTORS CORP.

FRONT BUMPER REINFORCEMENT REMOVAL/INSTALLATION

- 1. Disconnect the negative battery cable.
- 2. Remove the front bumper. (See FRONT BUMPER REMOVAL/INSTALLATION.)
- 3. Remove in the order indicated in the table.
- 4. Install in the reverse order of removal.

1	Fastener A
2	Front energy-absorbing foam
3	Fastener B
4	Seal plate
5	Bolt A
6	Bolt B
7	Front bumper reinforcement

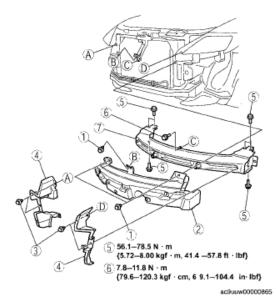


Fig. 15: Identifying Removing Sequence Of Front Bumper Reinforcement Components & Torque <u>Specifications</u> Courtesy of MAZDA MOTORS CORP.

REAR BUMPER REMOVAL/INSTALLATION

- 1. Disconnect the negative battery cable.
- 2. Remove the rear combination light. (See <u>REAR COMBINATION LIGHT</u> <u>REMOVAL/INSTALLATION</u>.)
- 3. Remove the screw and fastener.
- 4. Detach the tab of the splash shield to remove it.

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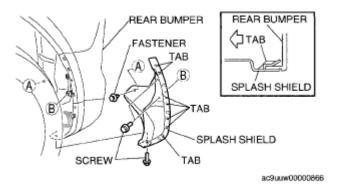


Fig. 16: Identifying Rear Bumper And Splash Shield With Tabs Courtesy of MAZDA MOTORS CORP.

5. Remove the clip of the rear over fender and put aside the rear bumper.

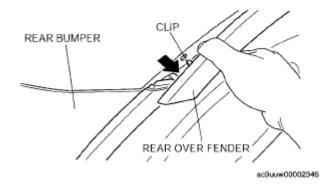
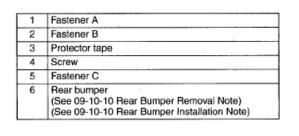


Fig. 17: Removing Clip Of Rear Over Fender Courtesy of MAZDA MOTORS CORP.

- 6. Remove in the order indicated in the table.
- 7. Install in the reverse order of removal.



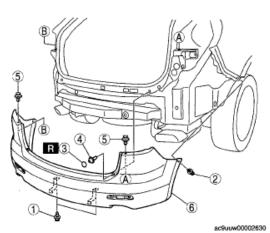


Fig. 18: Identifying Removing Sequence Of Rear Bumper Components Courtesv of MAZDA MOTORS CORP.

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REAR BUMPER REMOVAL NOTE

1. Pull the rear bumper ends (wheel arch) outward (1) to disengage from the bumper slider.

• When disengaging the rear bumper from the bumper slider, the rear bumper could fall and be damaged. Secure the rear bumper so that it does not fall.

2. Remove the rear bumper (2).

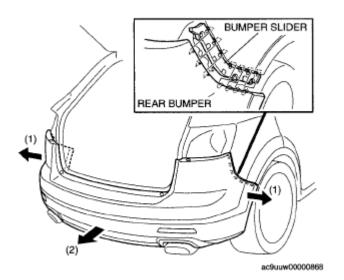


Fig. 19: Identifying Rear Bumper And Bumper Slider Courtesy of MAZDA MOTORS CORP.

REAR BUMPER INSTALLATION NOTE

- 1. Spread the rear bumper ends apart.
- 2. Assemble the rear bumper to the body.
- 3. Press the rear bumper connecting area into the body to engage with the bumper slider.

REAR BUMPER DISASSEMBLY/ASSEMBLY

- 1. Disassemble in the order indicated in the table.
- 2. Assemble in the reverse order of disassembly.

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1	Fastener A	R
2	Bracket A	R . D . M B D
3	Screw A	
4	Bracket B	
5	Screw B	
6	Rear reflector (See 09-10-11 Reflector Removal Note)	
7	Nut	
8	Rear over fender lower (See09-10-11 Rear Over Fender Lower Assembly Note)	10
9	Insulator	6
10	Rear bumper fascia	⑦ 0.7-2.0 N ⋅ m {7.2-20.3 kgf ⋅ cm, 6.2 -17.7 in ⋅ lbf}

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Fig. 20: Identifying Rear Bumper Components & Torque Specifications Courtesy of MAZDA MOTORS CORP.

REFLECTOR REMOVAL NOTE

1. Pull off the reflector from the rear bumper in the direction and in the order as shown by the arrows.

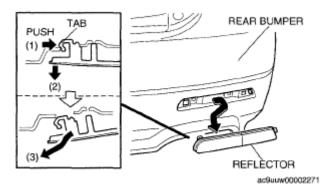


Fig. 21: Identifying Rear Bumper And Reflector Courtesy of MAZDA MOTORS CORP.

REAR OVER FENDER LOWER ASSEMBLY NOTE

- 1. Attach the rear over fender lower to the rear bumper fascia with nuts.
- 2. Use a soldering copper and thermally deform the tab in order to fasten the stiffening rib.

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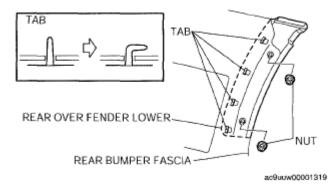


Fig. 22: Identifying Rear Over Fender Lower And Rear Bumper Fascia With Nuts Courtesy of MAZDA MOTORS CORP.

FRONT FENDER PANEL REMOVAL/INSTALLATION

- 1. Disconnect the negative battery cable.
- 2. Remove the following parts:
 - 1. Windshield wiper arm and blade (See <u>WINDSHIELD WIPER ARM AND BLADE</u> <u>REMOVAL/INSTALLATION</u>)
 - 2. Side cowl grille (See <u>COWL GRILLE REMOVAL/INSTALLATION</u>)
 - 3. Front over fender (See OVER FENDER REMOVAL/INSTALLATION)
 - 4. Front bumper (See FRONT BUMPER REMOVAL/INSTALLATION)
 - 5. Front combination lights (See <u>FRONT COMBINATION LIGHT</u> <u>REMOVAL/INSTALLATION</u>)
 - 6. Sail garnish (See SAIL GARNISH REMOVAL/INSTALLATION) '
- 3. Remove in the order indicated in the table.
- 4. Install in the reverse order of removal.

1	Screw	
2	Front bumper retainer	
3	Bolt A	
4	Bolt B	
5	Bolt C	
6	Bolt D	
7	Bolt E	
8	Clip	
9	Seal plate	
10	Front fender panel	

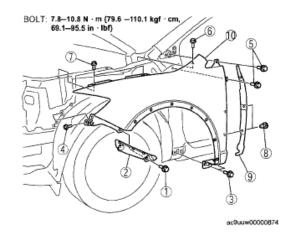


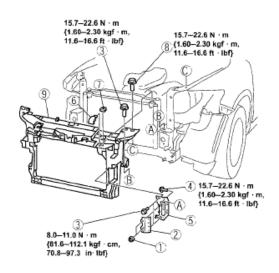
Fig. 23: Identifying Removing Sequence Of Front Fender Panel Components & Torque Specifications Courtesy of MAZDA MOTORS CORP.

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SHROUD PANEL REMOVAL/INSTALLATION

- 1. Disconnect the negative battery cable.
- 2. Remove the following parts:
 - 1. Front bumper (See FRONT BUMPER REMOVAL/INSTALLATION)
 - 2. Front combination lights (See <u>FRONT COMBINATION LIGHT</u> <u>REMOVAL/INSTALLATION</u>)
 - 3. Front bumper reinforcement (See <u>FRONT BUMPER REINFORCEMENT</u> <u>REMOVAL/INSTALLATION</u>)
 - 4. Ambient temperature sensor (See <u>AMBIENT TEMPERATURE SENSOR</u> <u>REMOVAL/INSTALLATION</u>)
 - 5. Crash zone sensor (See CRASH ZONE SENSOR REMOVAL/INSTALLATION)
 - 6. Hood latch (See HOOD LATCH AND RELEASE LEVER REMOVAL/INSTALLATION)
- 3. Put the oil cooler aside.
- 4. Remove the front crossmember extension. (See <u>FRONT CROSSMEMBER</u> <u>REMOVAL/INSTALLATION</u> .)
- 5. Remove in the order indicated in the table.
- 6. Install in the reverse order of removal.

1	Nut	
2	Bumper bracket A Bolt A Bolt B	
3		
4		
5	Bumper bracket B	
6	Upper mount rubber bracket (See 09-10-13 Upper Mount Rubber Bracket Removal Note) Upper mount rubber	
7		
8	Bolt C	
9	Shroud panel	



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Fig. 24: Identifying Removing Sequence Of Shroud Panel Components & Torque Specifications Courtesy of MAZDA MOTORS CORP.

UPPER MOUNT RUBBER BRACKET REMOVAL NOTE

1. Remove the upper mount rubber bracket while pressing down the upper mount rubber bracket tab in the direction of the arrow.

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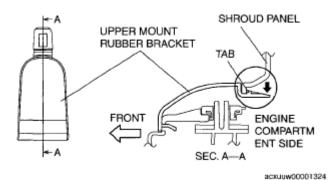


Fig. 25: Identifying Upper Mount Rubber Bracket Courtesy of MAZDA MOTORS CORP.

COWL PANEL REMOVAL/INSTALLATION

- 1. Disconnect the negative battery cable.
- 2. Remove the following parts:
 - 1. Windshield wiper arm and blade (See <u>WINDSHIELD WIPER ARM AND BLADE</u> <u>REMOVAL/INSTALLATION</u>)
 - 2. Cowl grille (See COWL GRILLE REMOVAL/INSTALLATION)
 - 3. Windshield wiper motor (See <u>WINDSHIELD WIPER MOTOR</u> <u>REMOVAL/INSTALLATION</u>)
- 3. Remove the bolts, then remove the cowl panel.
- 4. Install in the reverse order of removal.

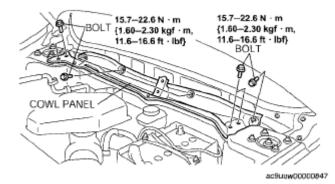


Fig. 26: Identifying Cowl Panel With Nuts, Bolts & Torque Specifications Courtesy of MAZDA MOTORS CORP.