## 2. CHECKING FOR MOVEMENT OF SUNROOF PANEL ITSELF

1) Place a cloth on sunshade, and attach a spring scale to sunshade edge using the cloth.



2) Pull spring scale to measure force required to move sunshade.

## Force required to move sunshade: Less than 24.5±4.9 N (2.5±0.5 kg, 5.5±1.1 lb)

### NOTE:

Considerable effort is required to start sunshade moving, so take scale reading while sunroof panel is moving smoothly.

3) If force required exceeds specifications, check the sunroof glass lid, sunshade and deflector, and guide rail assembly for improper installation.

# 16. Crossbar

## A: REMOVAL

1) Loosen and remove TORX bolt T30 from the top of each crossbar end support, and then remove inner clamp.



- (1) TORX bolt T30
- (2) End support
- (3) Inner clamp
- (4) Roof rail
- 2) Remove crossbar.

## NOTE:

When removing the front crossbar from the roof rail, first move the front crossbar to the center of the roof rail.

## **B: INSTALLATION**

## **1. FRONT CROSSBAR**

## NOTE:

Front crossbar has "MAXIMUM LOAD ROOF RACK-150LBS. EVENLY DISTRIBUTED ROOF SURFACE-100LBS. EVENLY DISTRIBUTED" label on LH side.

1) Loosen and remove TORX bolt T30 from the top of each crossbar end support, and then remove the inner clamp.

2) With the front direction arrow label on the top right side of the crossbar pointing toward the front of the vehicle, carefully place the crossbar across the top of the vehicle so that the crossbar end supports rest on the top of the roof rails approximately 152.4 mm (6 in) rearward in the front radius of the roof rail.

#### Length:

A: 152.4 mm (6 in)



3) Rotate the end support and inner clamp to hook under the bottom of the roof rail on both sides and loose assemble the TORX bolt T30, through the side of the end support and into the threaded insert in the inner clamp on each end of the crossbar.

#### NOTE:

It may be necessary to start the inner clamp and the end support at the center of the roof rail for better installation of the pieces, then move the crossbar forward.

#### 4) Tighten TORX bolt T30.

#### Tightening torque:

3.7±0.3 N·m (0.38±0.03 kg-m, 2.75±0.22 ft-lb)



- (1) TORX bolt T30
- (2) End support
- (3) Inner clamp
- (4) Roof rail

## 2. REAR CROSSBAR

#### NOTE:

Rear crossbar does not have the "MAXIMUM LOAD ROOF RACK-150LBS. EVENLY DISTRIB-UTED ROOF SURFACE-100LBS. EVENLY DIS-TRIBUTED" label.

1) Loosen and remove TORX bolt T30 from the top of each crossbar end support, and then remove the inner clamp.

2) With the front direction arrow label on the top right side of the crossbar pointing toward the front of the vehicle, carefully place the crossbar across the top of the vehicle so that the crossbar end supports rest on the top of the roof rails approximately 152.4 mm (6 in) forward in the rear radius of the roof rail.

## Length:

B: 152.4 mm (6 in)



 Rotate the end support and inner clamp to hook under the bottom of the roof rail on both sides and loose assemble the TORX bolt T30, through the side of the end support and into the threaded insert in the inner clamp on each end of the crossbar.
Tighten TORX bolt T30.

#### Tightening torque: 3.7±0.3 N⋅m (0.38±0.03 kg-m, 2.75±0.22 ft-lb)



- (1) TORX bolt T30
- (2) End support
- (3) Inner clamp
- (4) Roof rail