

2003-05 ACCESSORIES & EQUIPMENT

Sliding/Tilt Roof - Repair Procedures - Z4 (E85)

HARDTOP

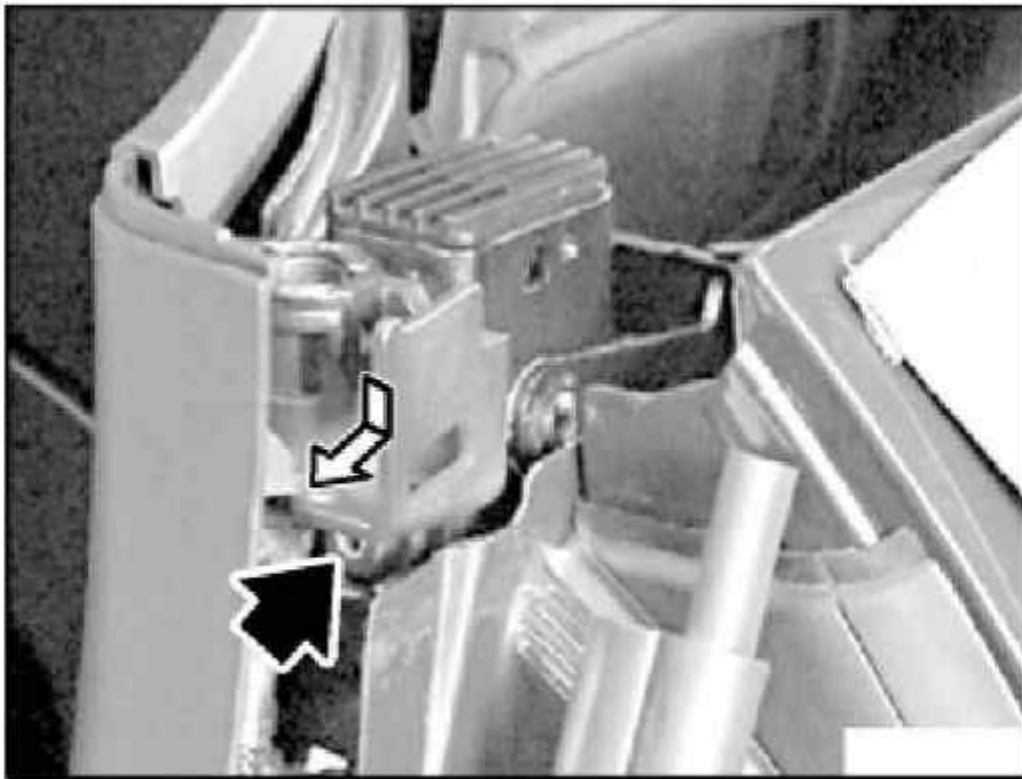
54 31 200 REMOVING AND INSTALLING/REPLACING HARD TOP MOUNTING

Necessary preliminary tasks:

- Release rear side trim panel upper section on B-pillar. See **51 16 235 REMOVING AND INSTALLING PANEL FOR REAR STORAGE BOX.**

Release screw.

If necessary, press mounting downwards a little and remove towards front top from main support.

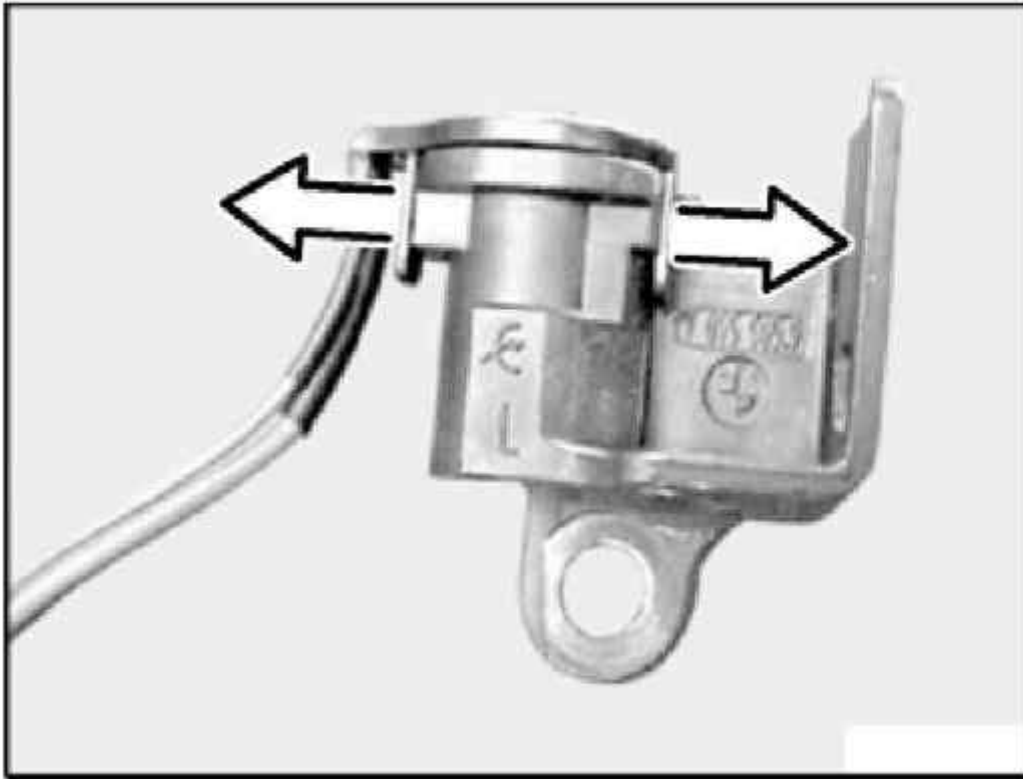


G03298203

Fig. 1: Removing Hardtop Mounting Toward Front Top From Main Support

Courtesy of BMW OF NORTH AMERICA, INC.

Unclip contact tube and lay to one side.



G03298204

Fig. 2: Unclipping Contact Tube And Laying Aside
Courtesy of BMW OF NORTH AMERICA, INC.

With contact tube replacement only:

- Remove rear storage cover. See **51 16 240 REMOVING AND INSTALLING REAR STORAGE COMPARTMENT**.
- Disconnect plug connection.
- Disconnect cable

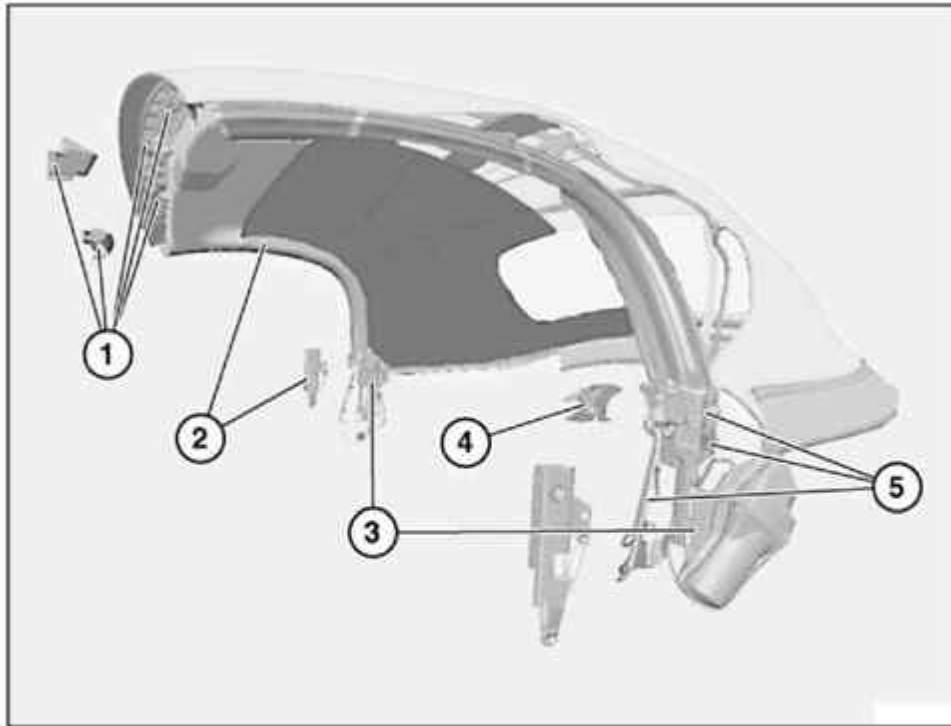


G03298205

Fig. 3: Removing Rear Storage Cover
Courtesy of BMW OF NORTH AMERICA, INC.

CONVERTIBLE TOP LINKAGE/OPERATION

54 31... OVERVIEW OF CONVERTIBLE TOP

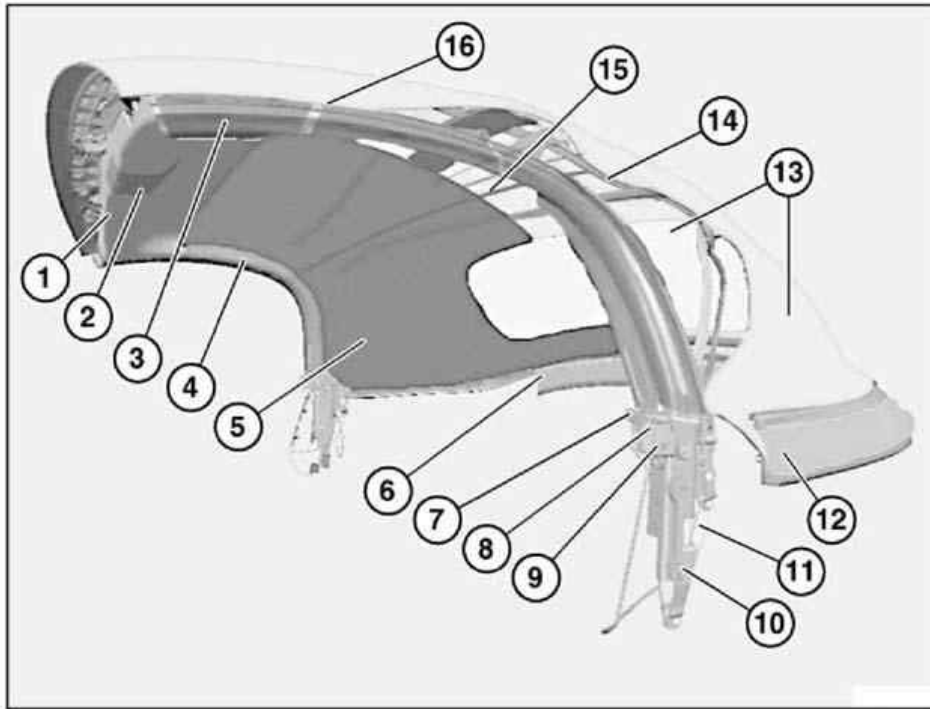


- | | | | |
|---|--|---|--|
| 0 | <u>General information and notes</u> | 3 | <u>Hydraulic system (EH convertible top only)</u> |
| 1 | <u>Convertible top catch, mechanical (mechanical convertible top only)</u> | 4 | <u>Stowage lock</u> |
| | <u>Convertible top catch, automatic (EH convertible top only)</u> | 5 | <u>Sensors, switches and wiring harness (refer to MG 61)</u> |
| 2 | <u>Convertible top and add-on parts</u> | | |

G03298208

Fig. 4: Overview Of Convertible Top
 Courtesy of BMW OF NORTH AMERICA, INC.

54 31... OVERVIEW OF CONVERTIBLE TOP AND ADD-ON PARTS



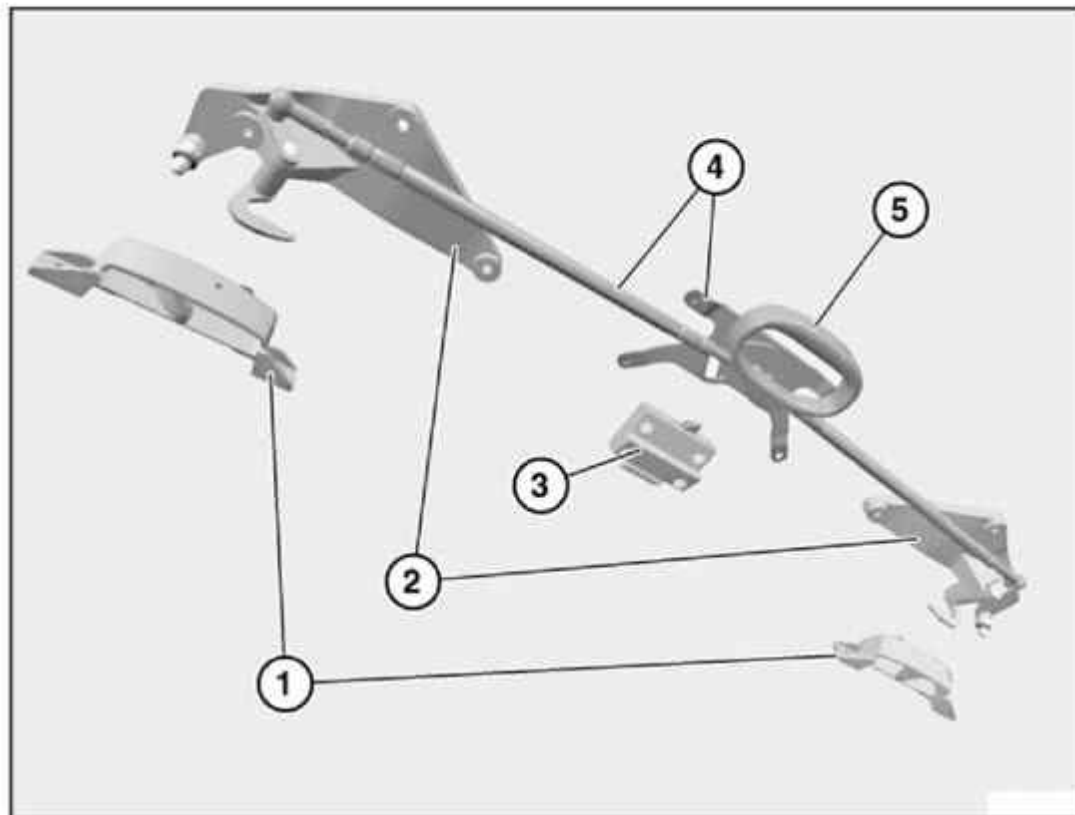
- | | |
|---|---|
| 0 <u>Convertible top complete (removal and installation)</u> | 9 <u>Mounting hardtop (only with SE hardtop mounting only)</u> |
| 1 <u>Trim, cowl panel</u> | 10 <u>Main support, mechanical</u>
<u>Main support, automatic</u> |
| 2 <u>Recessed handle (cover middle)</u> | 11 <u>Gas pressure spring (mechanical convertible top only)</u> |
| 3 <u>Window guide (seal with rail)</u> | 12 <u>Convertible top strip</u> |
| 4 <u>Convertible top frame (partly magnesium)</u> | 13 <u>Fabric with rear window</u> |
| 5 <u>Roof liner</u> | 14 <u>Tensioning belt</u> |
| 6 <u>Cover, convertible top compartment</u> | 15 <u>Wire bar (only for mechanical convertible top in roofliner)</u> |
| 7 <u>Covers main support (described in Convertible top removal)</u> | 16 <u>Tension cable</u> |
| 8 <u>Contact jack hardtop (only with SE hardtop mounting only)</u> | |

G03298207

Fig. 5: Overview Of Convertible Top And Add-On Parts

Courtesy of BMW OF NORTH AMERICA, INC.

54 31... OVERVIEW OF MECHANICAL CONVERTIBLE TOP CATCH



0 General information and notes

1 Base plate, catch

2 Catch, left or right

3 Lock (center lock)

4 Turn cross with actuating rods

5 Handle

G03298208

Fig. 6: Overview Of Mechanical Convertible Top Catch
Courtesy of BMW OF NORTH AMERICA, INC.

54 31... OVERVIEW OF VARIABLE CONVERTIBLE TOP COMPARTMENT

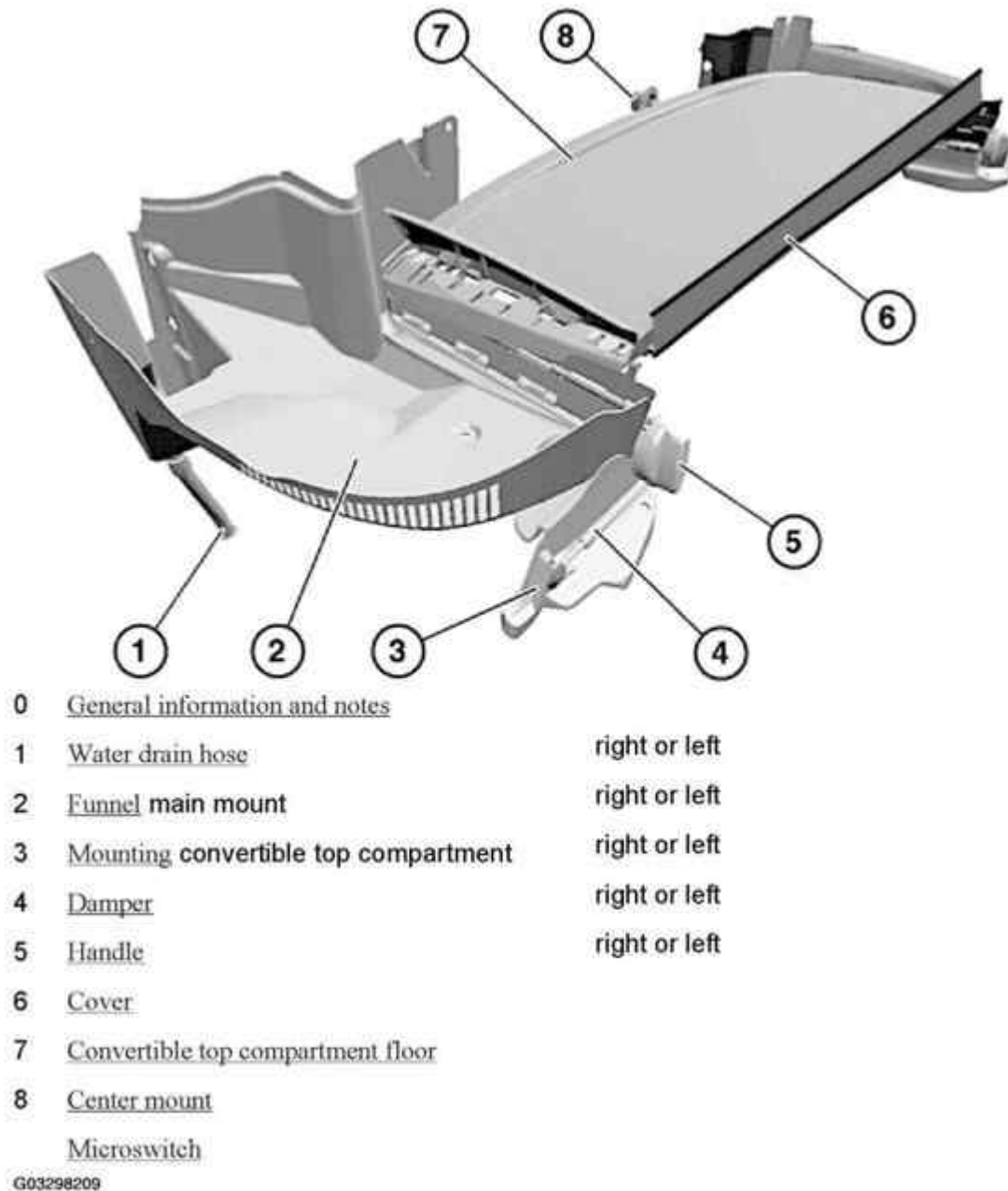


Fig. 7: Overview Of Variable Convertible Top Compartment
 Courtesy of BMW OF NORTH AMERICA, INC.

54 31 000 ADJUSTING CONVERTIBLE TOP

Remove main bearing cover trim. Measure gap between inside edge of side panel and main bearing. Ideal dimension is 51-53 mm.

For adjustment work only: remove convertible top. See **54 34 101 Removing And Installing Complete**

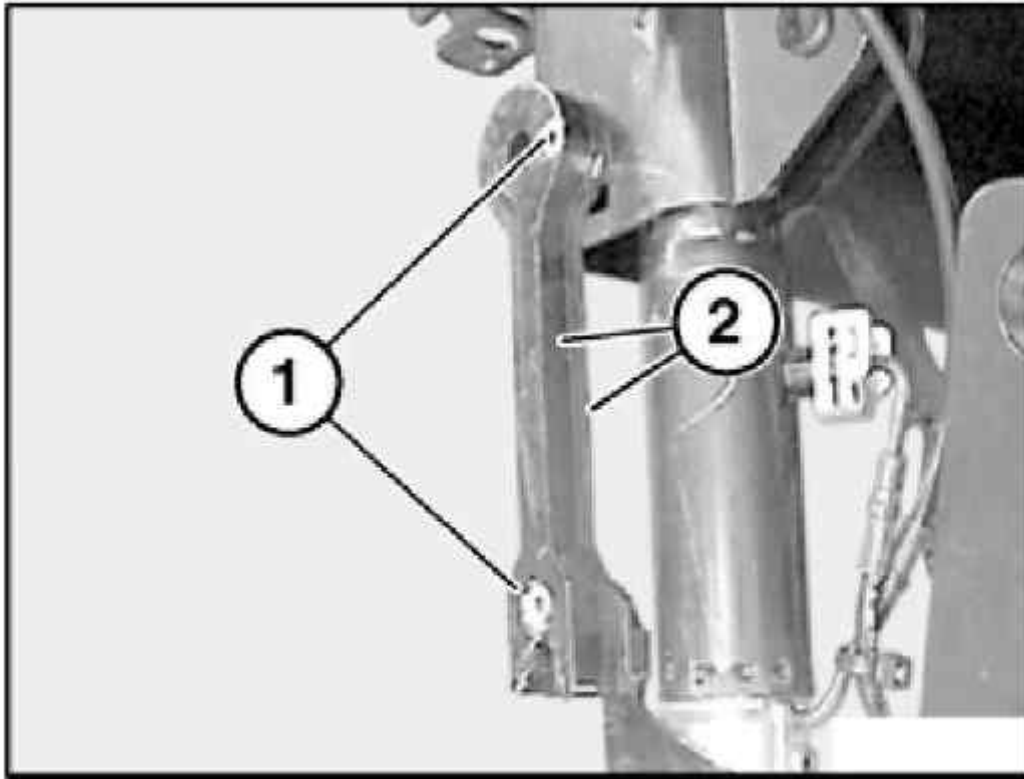
Convertible Top . Release screws (1) and remove shim (2) or place underneath. Shims are one mm thick.

Check ideal adjustment of door window glass after completing adjustment work on convertible top. Initialize power windows.



G00400031

Fig. 8: Measuring Gap Between Inside Edge Of Side Panel & Main Bearing
Courtesy of BMW OF NORTH AMERICA, INC.



G03298210

Fig. 9: Releasing Screws And Removing Shims
Courtesy of BMW OF NORTH AMERICA, INC.

54 31 015 REPLACING CONVERTIBLE TOP FRAME

Necessary preliminary tasks:

- Remove convertible top . See **54 34 101 Removing And Installing Complete Convertible Top** .
- Remove complete window guides . See **54 31 155 Removing And Installing/Replacing All Window Guides On Right And Left Of Convertible Top** .
- Remove convertible top fabric . See **54 34 120 Replacing Convertible Top Fabric** .
- Remove roofliner . See **54 34 130 Removing And Installing Or Replacing Headlining In Convertible Top** .
- Remove tension belts . See **54 31 150 Removing And Installing/Replacing Tension Belts** .
- Remove complete convertible top catch and drive. See **54 31 060 Removing And Installing/Replacing Left Or Right Convertible Top Catch (Mechanical)** .

2005 BMW Z4

2003-05 ACCESSORIES & EQUIPMENT Sliding/Tilt Roof - Repair Procedures - Z4 (E85)

- Remove center lock . See **54 31 190 Replacing Convertible Top Center Lock (Mechanical)** .

EH convertible top only:

- Remove complete hydraulic system . See **54 34... Mounting Of Hydraulic Components** .

Replace convertible top frame. See **54 31 015 Replacing Convertible Top Frame** .

Installation:

- Adjust convertible top . See **54 31 000 Adjusting Convertible Top** .

54 31 017 REMOVING AND INSTALLING/REPLACING MAIN MOUNT FOR CONVERTIBLE TOP

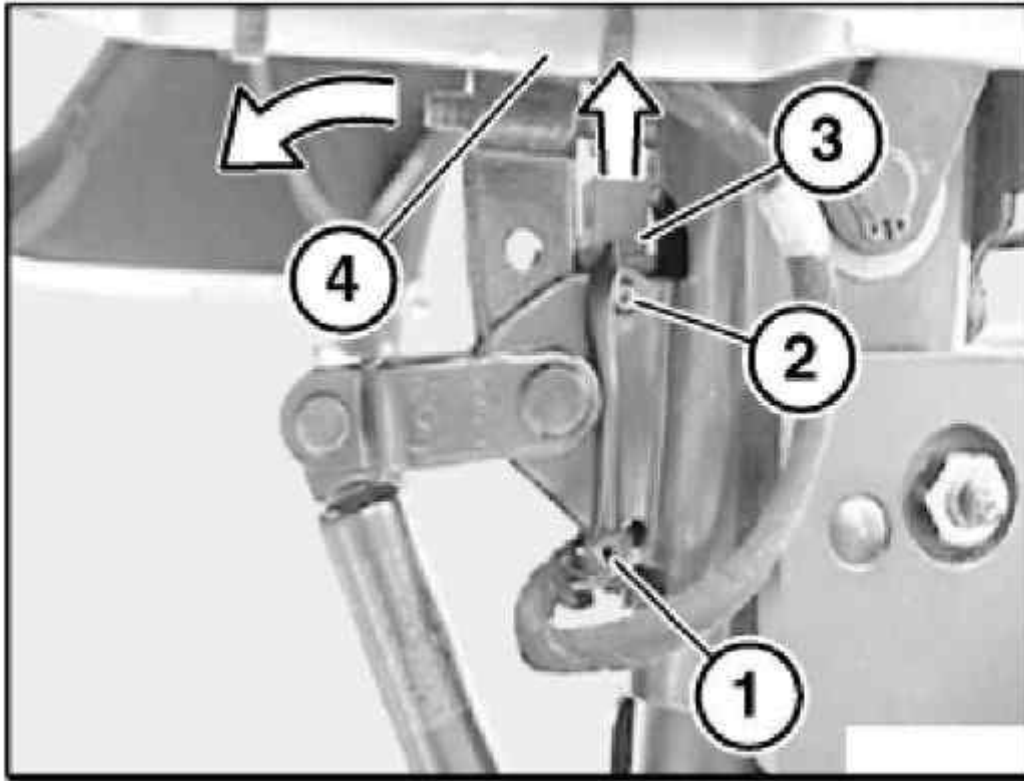
Necessary preliminary tasks:

- Remove convertible top . See **54 34 101 Removing And Installing Complete Convertible Top** .

Only on right side:

Disconnect cable tie (1), release screw (2), if necessary raise convertible top (4) slightly and remove micro-switch (3) towards top.

NOTE: **Further information in MG 61**



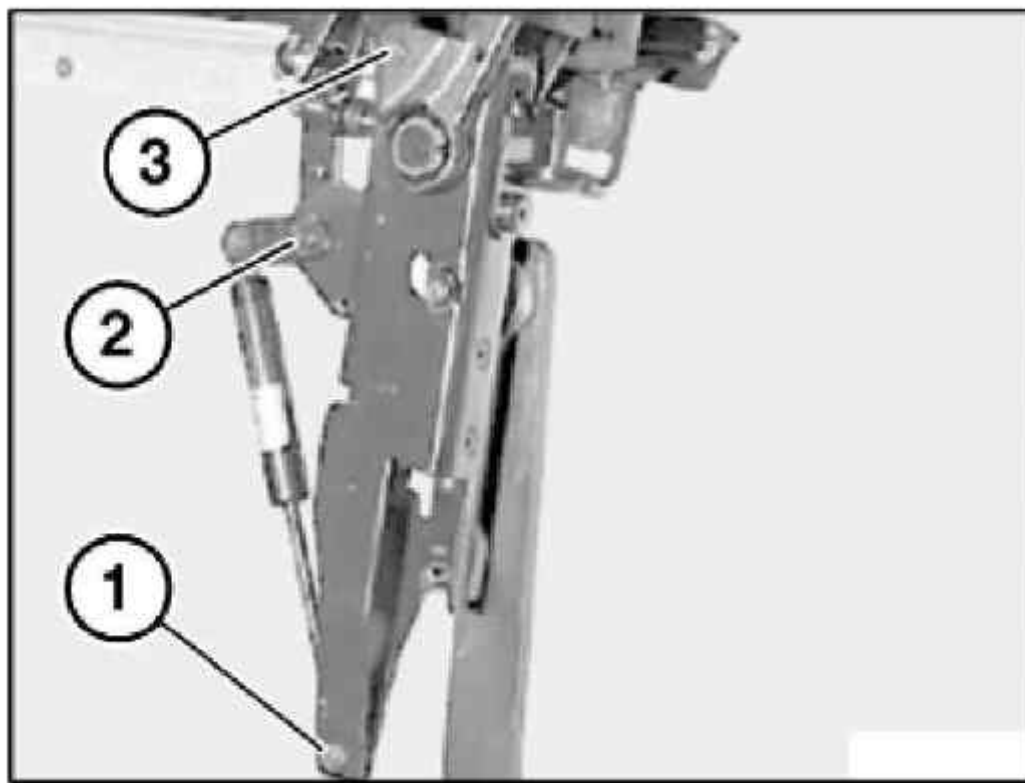
G03298211

Fig. 10: Removing Micro-Switch Towards Top
Courtesy of BMW OF NORTH AMERICA, INC.

Release pins (1 and 2) and remove.

Release screw (3).

Tightening torque, see 54 31 14AZ in **SLIDE/TILT ROOF AND CONVERTIBLE TOP - TIGHTENING TORQUES** .



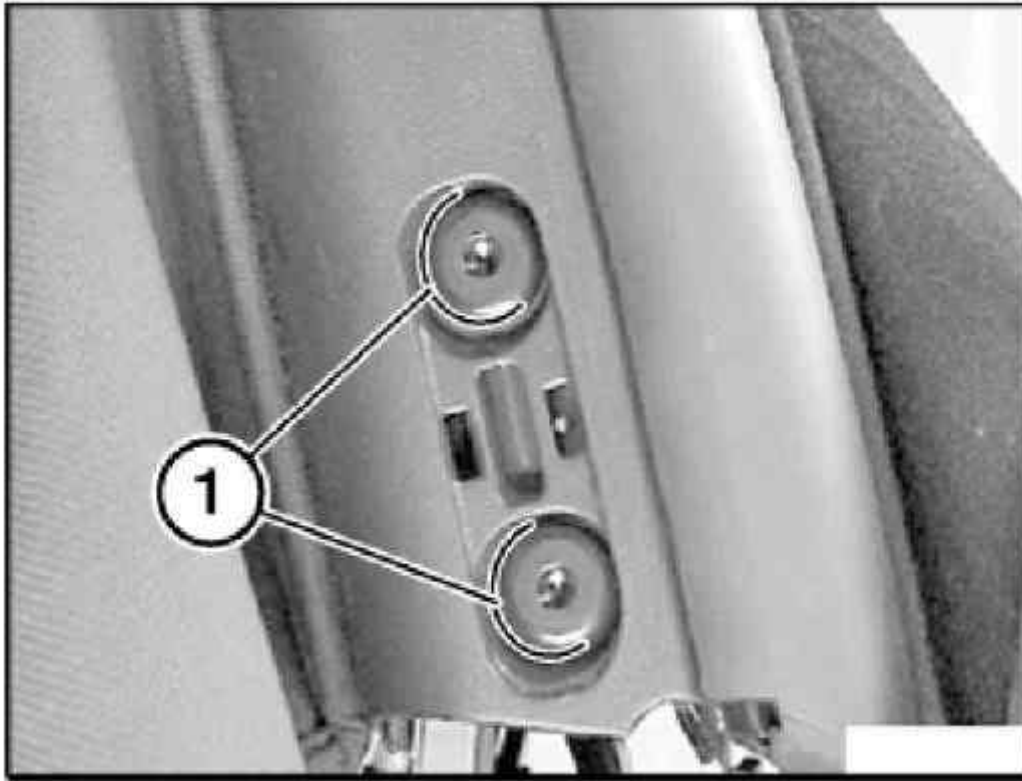
G03298212

Fig. 11: Releasing Pins

Courtesy of BMW OF NORTH AMERICA, INC.

Unclip cover.

Mark position of screw heads (1).



G03298213

Fig. 12: Marking Position Of Screw Heads
Courtesy of BMW OF NORTH AMERICA, INC.

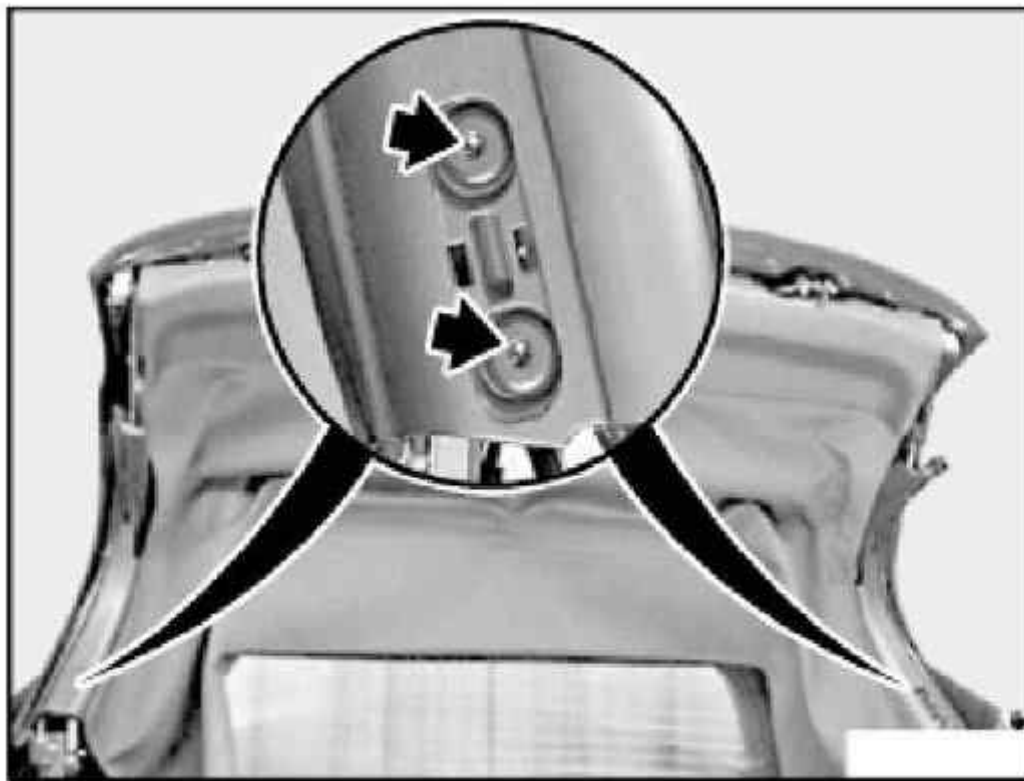
Release screws and remove main mount.

Installation:

Fit thin spacer between bracket and frame.

Return screws to their original location, then tighten down screws.

Tightening torque, see 54 31 12AZ in **SLIDE/TILT ROOF AND CONVERTIBLE TOP - TIGHTENING TORQUES** .

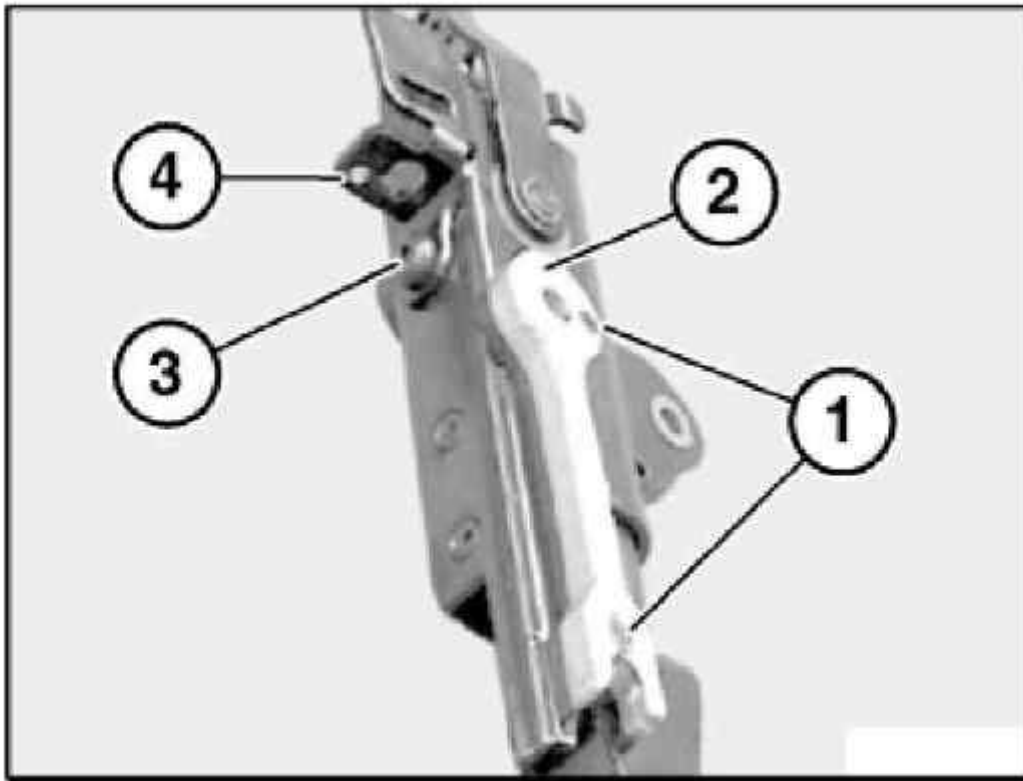


G03298214

Fig. 13: Releasing Screws And Removing Main Mount
Courtesy of BMW OF NORTH AMERICA, INC.

Replacement only:

- Release screws (1) and remove spacers (2).
- If necessary, release screw (3) and remove hardtop mounting (4).



G03298215

Fig. 14: Releasing Screws, Spacers, Screw & Hardtop Mounting
Courtesy of BMW OF NORTH AMERICA, INC.

54 31 024 REMOVING AND INSTALLING OR REPLACING HANDLE FOR CONVERTIBLE TOP COVER LOCK

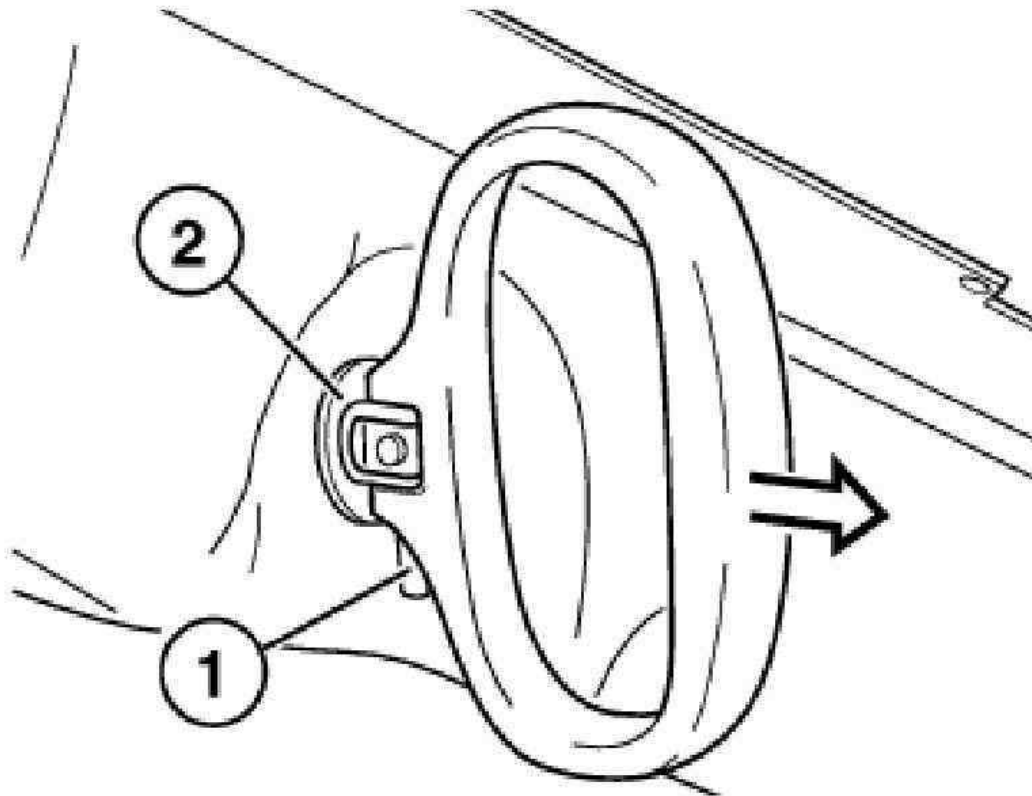
Removing handle:

- Open door windows slightly.
- Unlock convertible top and raise slightly (if necessary over dead center).
- Release screw (1).
- Remove handle.
- Detach rosette (2).

Installation:

Make sure handle is in correct folding position (towards rear). To feed in screw, forcefully press handle

upwards.



G03298216

Fig. 15: Detaching Rosette

Courtesy of BMW OF NORTH AMERICA, INC.

54 31 055 REMOVING AND INSTALLING/REPLACING GAS SPRING STRUT ON CONVERTIBLE TOP (MECHANICAL)

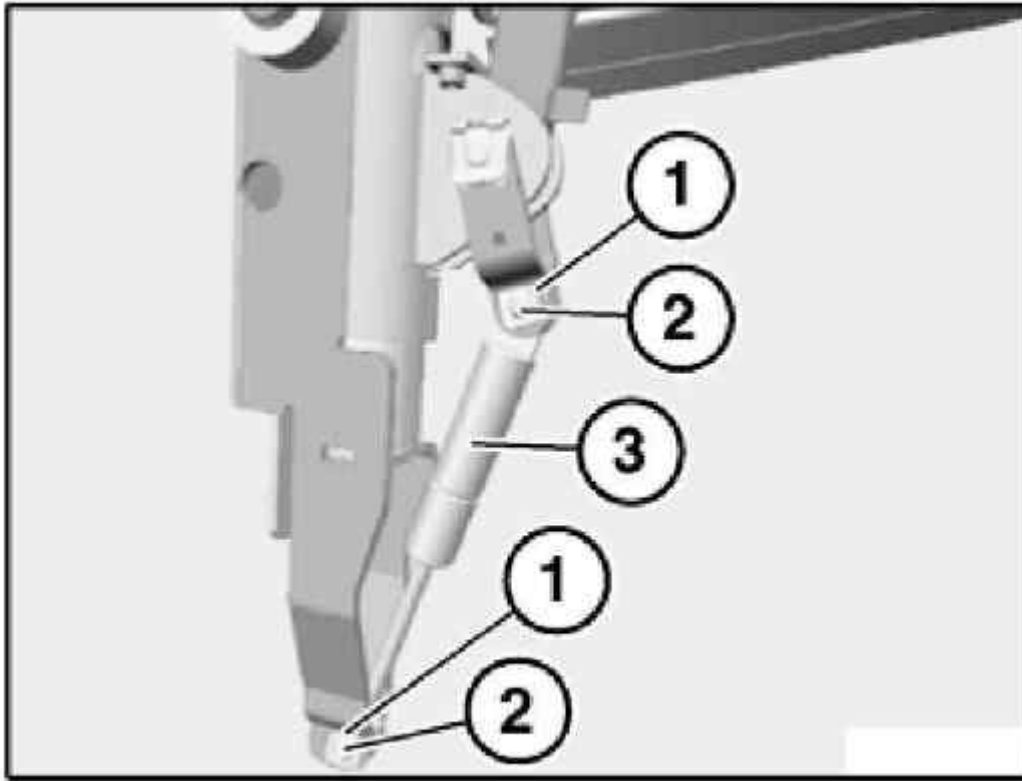
Necessary preliminary tasks:

- Remove convertible top . See **54 34 101 Removing And Installing Complete Convertible Top** .

Detach retainers (1).

Press out pin (2).

Remove gas spring strut (3).



G03298217

Fig. 16: Removing Gas Spring Strut

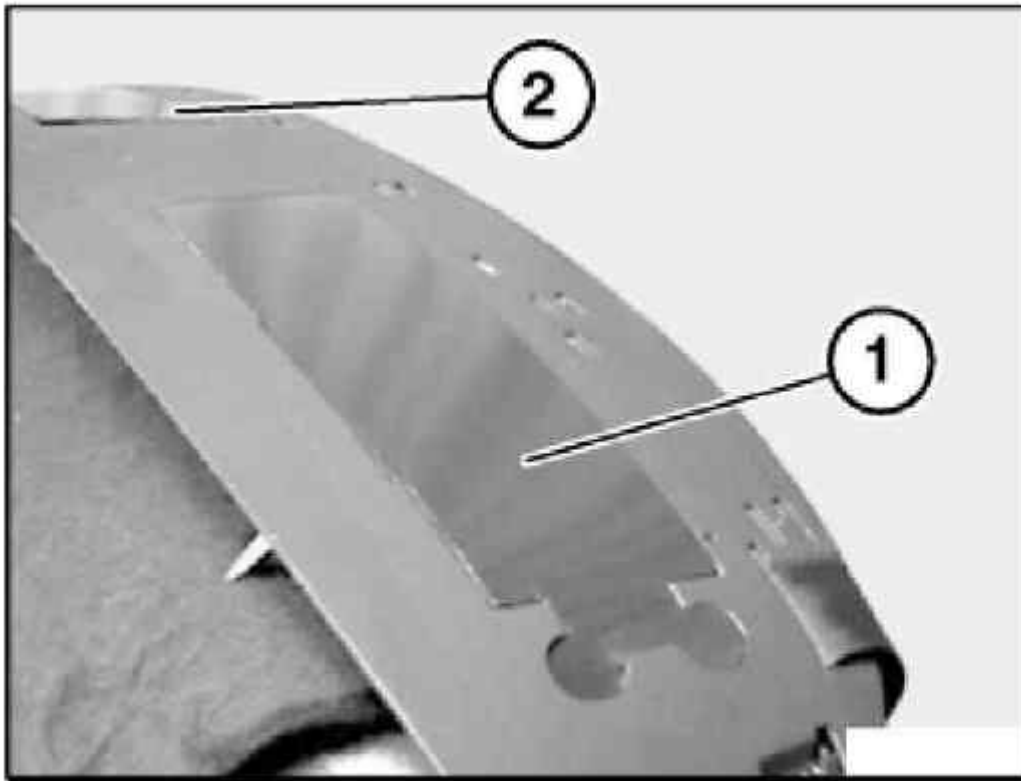
Courtesy of BMW OF NORTH AMERICA, INC.

54 31 060 REMOVING AND INSTALLING/REPLACING LEFT OR RIGHT CONVERTIBLE TOP CATCH (MECHANICAL)

Necessary preliminary tasks:

- Remove convertible top fabric from 1st bow. See **54 34 120 Replacing convertible top fabric** .

Remove cover (1 or 2) upwards.



G03298218

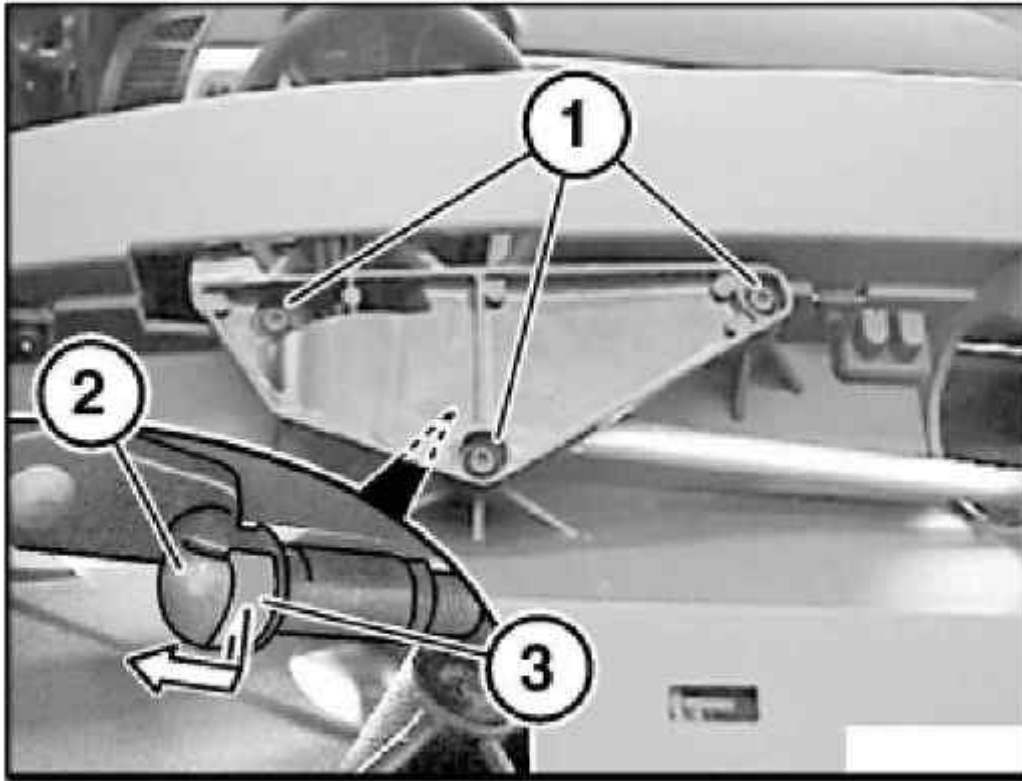
Fig. 17: Removing Cover Upwards
Courtesy of BMW OF NORTH AMERICA, INC.

Loosen screws (1).

Tightening torque, see 54 31 15AZ in **SLIDE/TILT ROOF AND CONVERTIBLE TOP - TIGHTENING TORQUES** .

Releasing actuating rod (2):

- Slide retainer spring (3) to end of rod.
- Detach actuating rod from ball end.



G03298219

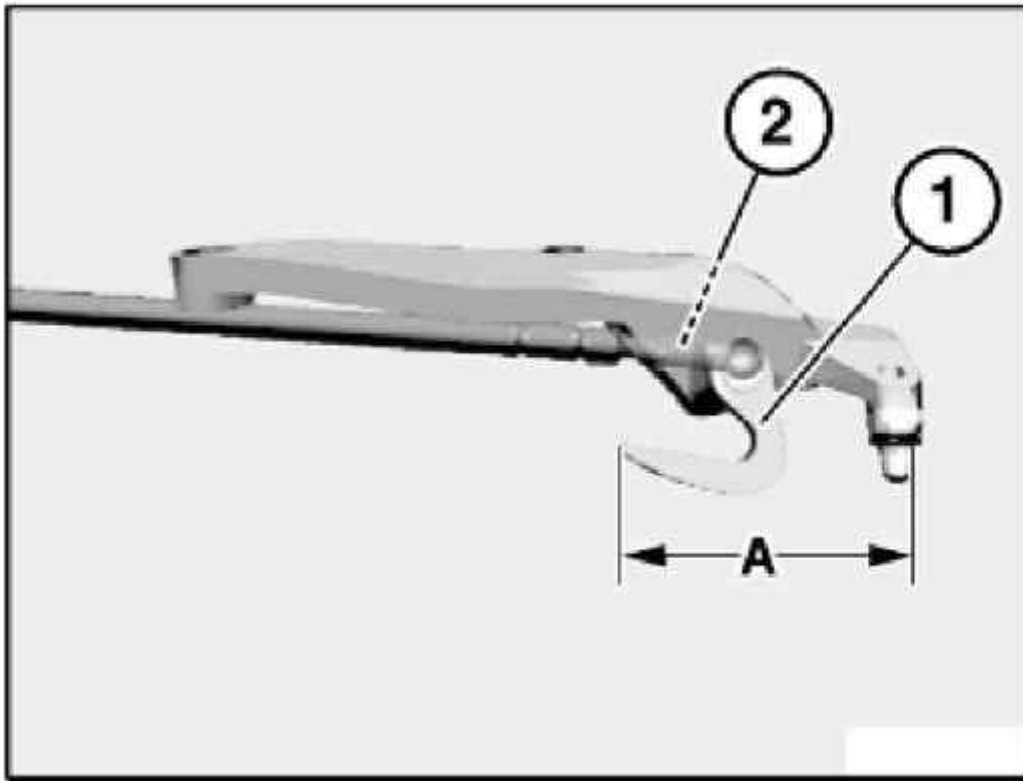
Fig. 18: Releasing Actuating Rod

Courtesy of BMW OF NORTH AMERICA, INC.

Installation:

Basic adjustment is necessary in event of replacement:

- Install both catches and turn cross.
- Move safety catch (1) into closed position.
- Check dimension A = 78.5+/-0.5 mm.
- The dimension can be altered by turning the ball socket (2):
 - Screw in = dimension A is reduced
 - Screw out = dimension A is increased



G03298220

Fig. 19: Checking Dimension

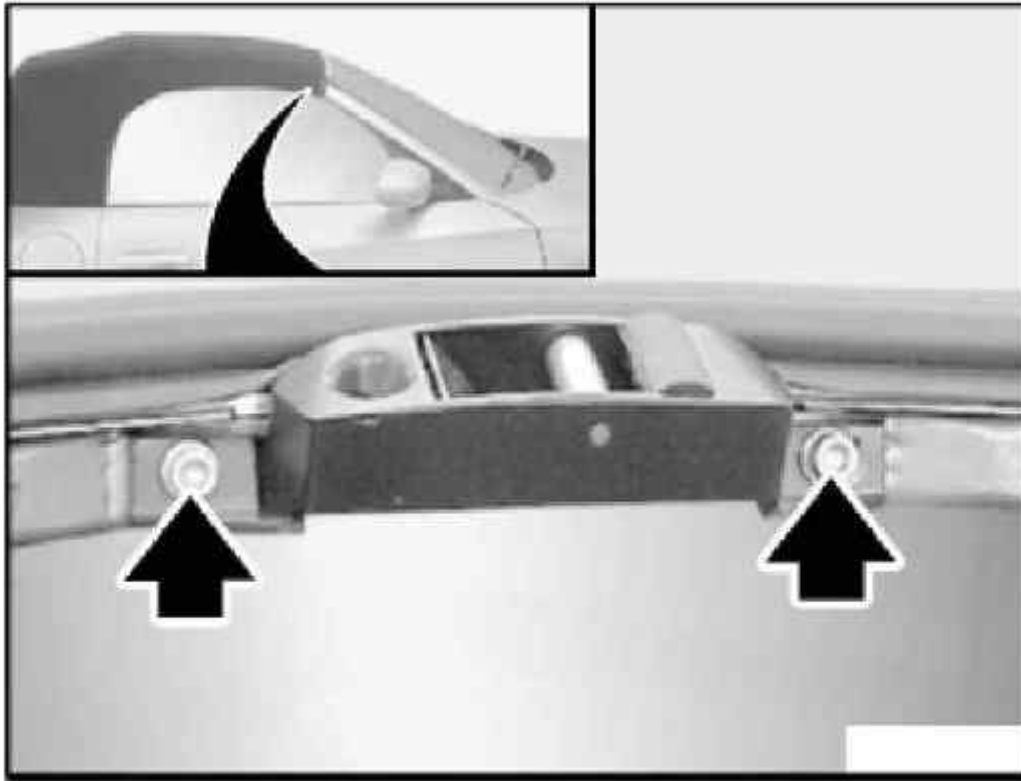
Courtesy of BMW OF NORTH AMERICA, INC.

54 31 070 REMOVING AND INSTALLING OR REPLACING THE BASE PLATE ON LEFT OR RIGHT

Necessary preliminary tasks:

- Remove trim on cowl panel. See **51 44 150 REPLACING TRIM FOR FRONT ROOFLINER** .

Unfasten screws.



G03298221

Fig. 20: Locating Screws

Courtesy of BMW OF NORTH AMERICA, INC.

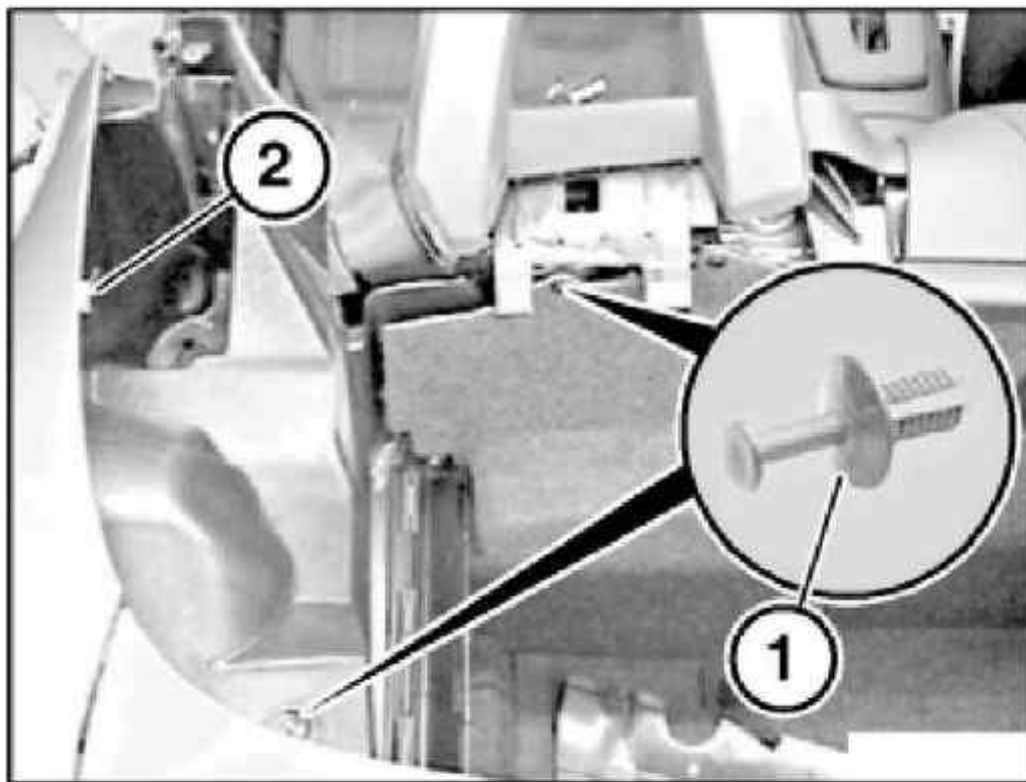
54 31 130 REMOVING AND INSTALLING/REPLACING ONE FUNNEL

Necessary preliminary tasks:

- Remove convertible top . See **54 34 101 Removing And Installing Complete Convertible Top** .
- Remove mounting for convertible top compartment middle. See **54 31 180 Removing And Installing/Replacing A Mounting For Convertible Top Compartment Floor** .
- Remove rear trim from rollover protection system. See **51 43... REMOVING AND INSTALLING/REPLACING TRIM COVER FOR ROLLOVER PROTECTION** .
- Remove wheel arch splash guard . See **51 71 038 REMOVING AND INSTALLING/REPLACING FRONT SPLASH GUARD** .

Remove expansion rivets (1).

Remove clamp (2).

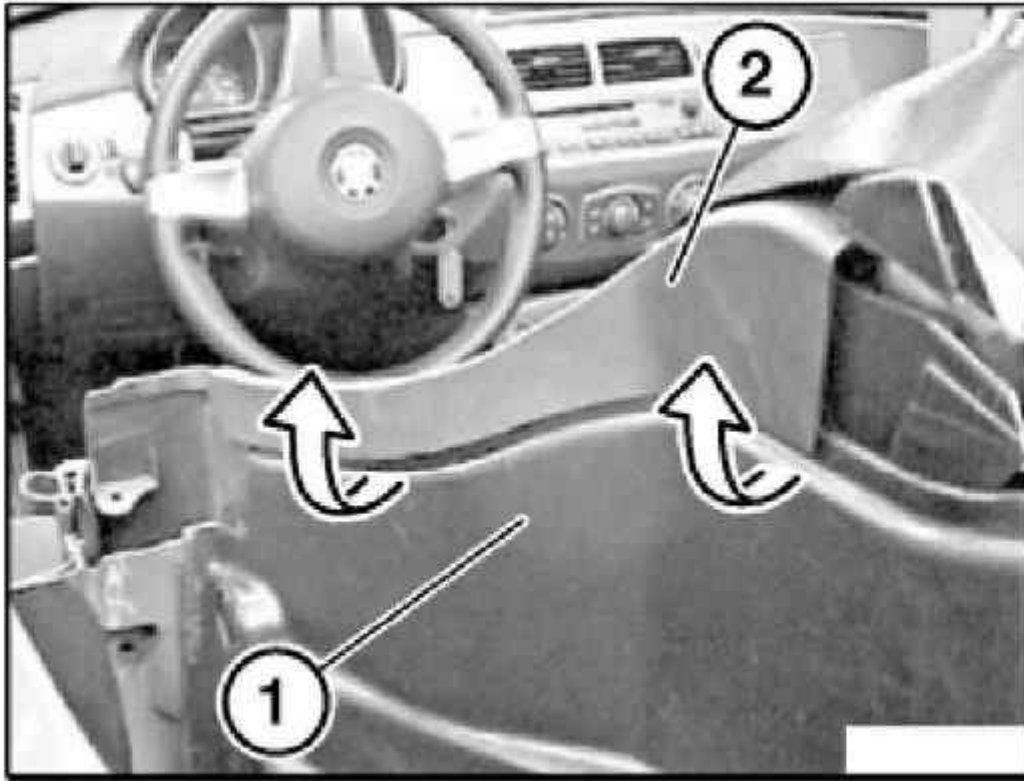


G03298222

Fig. 21: Removing Expansion Rivets
Courtesy of BMW OF NORTH AMERICA, INC.

Raise cover (2) slightly and feed out funnel (1).

Lever out funnel (1) towards top.



G03298223

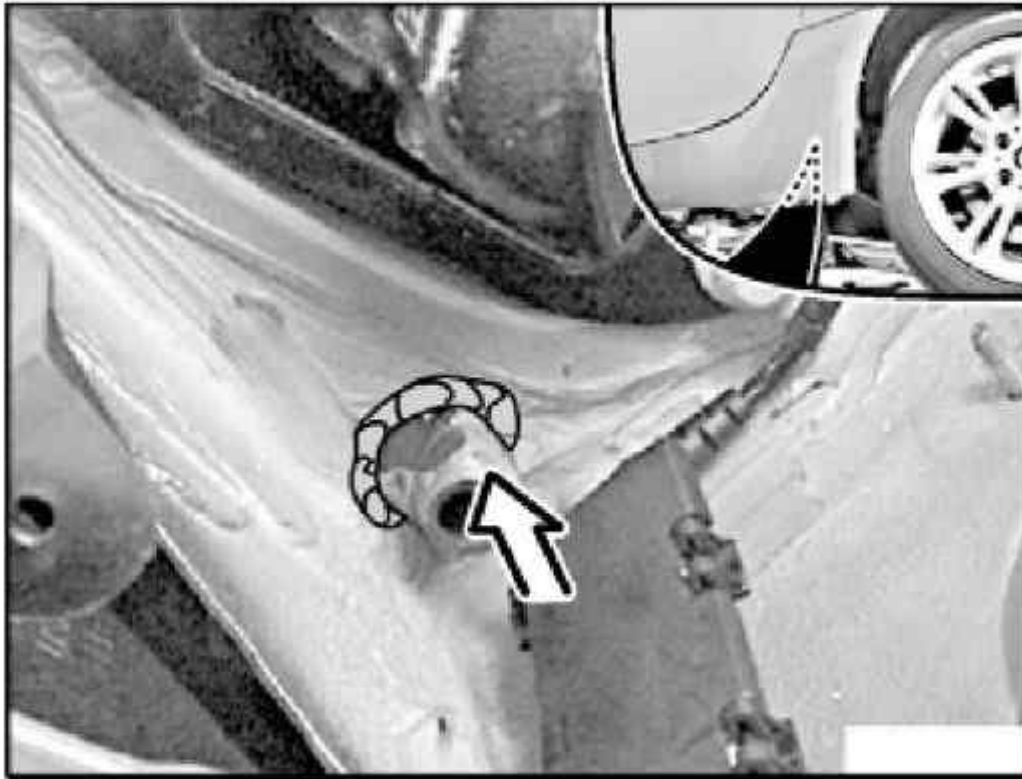
Fig. 22: Removing Funnel Towards Top
Courtesy of BMW OF NORTH AMERICA, INC.

Expose water drain hose at bottom of wheel arch (remove underbody protection) and feed out towards top.

Installation:

Install water drain hose with aid of a wire and install feed at bottom into sheet metal. Ensure correct seating.

Seal water drain hose with extrudable seam seal or underbody protection at bottom.



G03298224

Fig. 23: Locating Water Drain Hose

Courtesy of BMW OF NORTH AMERICA, INC.

54 31 140 REMOVING AND INSTALLING/REPLACING CONVERTIBLE TOP CATCH TURN CROSS

Necessary preliminary tasks:

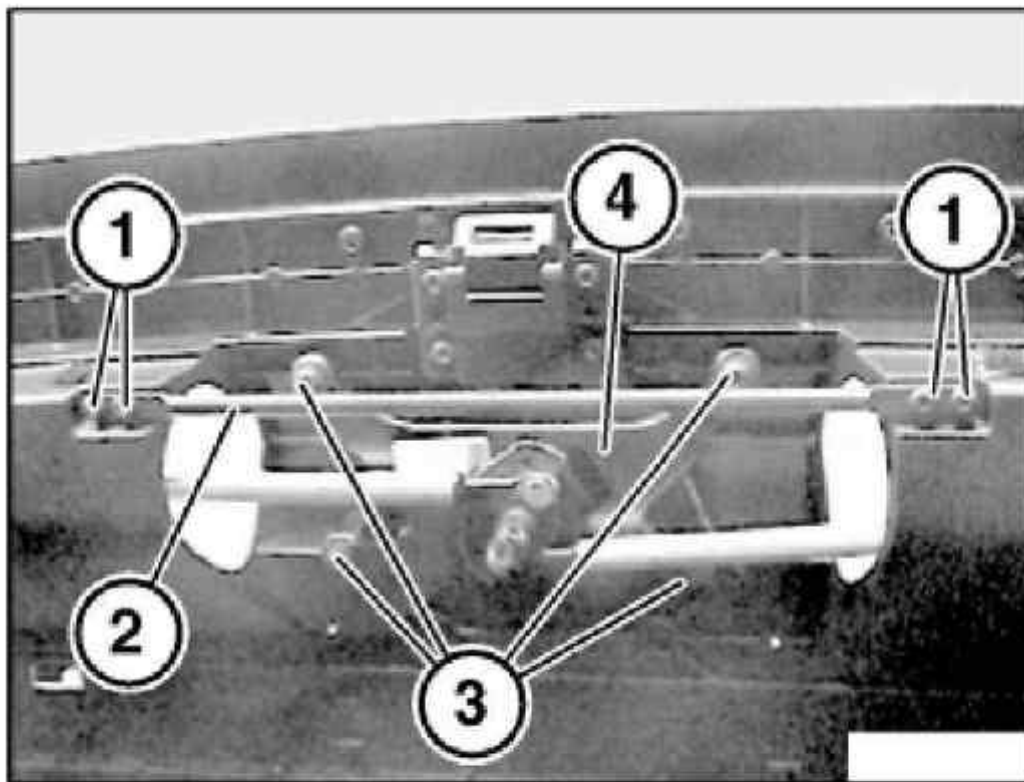
- Do not remove convertible top.
- Remove actuating rods on catch (remove convertible top catch). See **54 31 060 Removing And Installing/Replacing Left Or Right Convertible Top Catch (Mechanical)** .

Loosen screws (1).

Tightening torque, see 54 31 15AZ in **SLIDE/TILT ROOF AND CONVERTIBLE TOP - TIGHTENING TORQUES** .

Remove reinforcement brace (2).

Release screws (3) from turn cross (4).



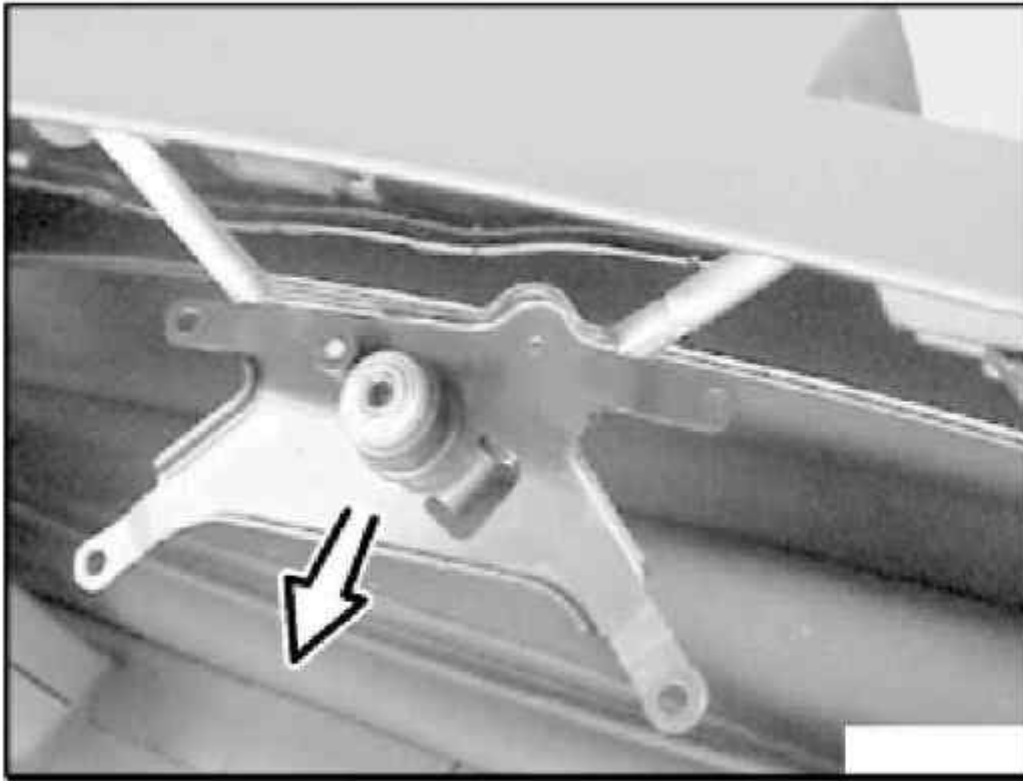
G03298225

Fig. 24: Releasing Screws From Turn Cross
Courtesy of BMW OF NORTH AMERICA, INC.

Remove turn cross towards bottom front.

Installation:

Basic adjustment is necessary in event of replacement.



G03298226

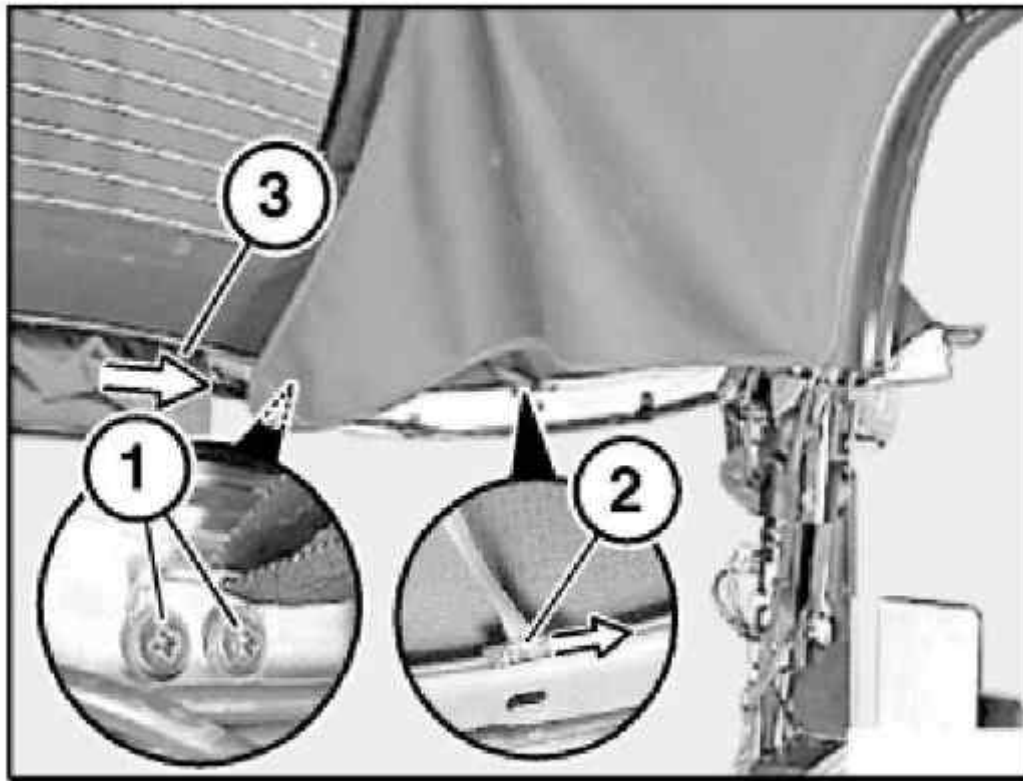
Fig. 25: Removing Turn Cross Towards Bottom Front
Courtesy of BMW OF NORTH AMERICA, INC.

54 31 145 REPLACING COVER

Necessary preliminary tasks:

- Remove convertible top . See **54 34 101 Removing And Installing Complete Convertible Top** .

NOTE: **This operation can be carried out from the right or left side.**



G03298227

Fig. 26: Releasing Screws Of Front Strap On Convertible Top Strip
Courtesy of BMW OF NORTH AMERICA, INC.

Release screws (1) of front strap on convertible top strip.

Feed front strap (2) and cover (3) out of convertible top strip.

54 31 150 REMOVING AND INSTALLING/REPLACING TENSION BELTS

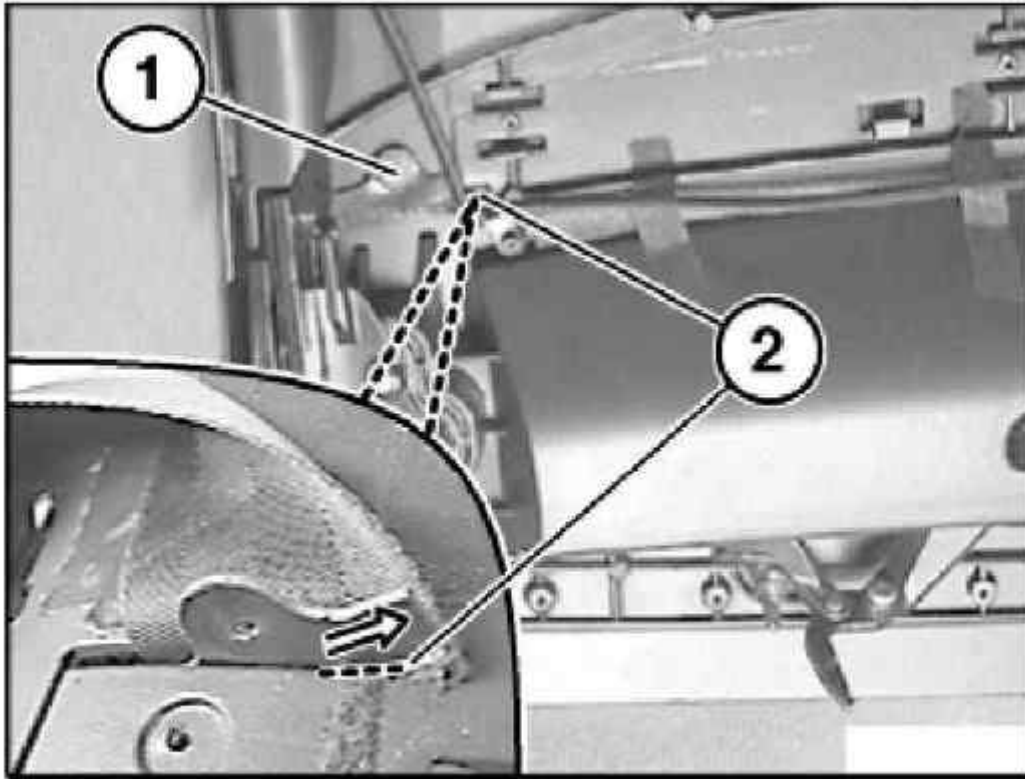
Necessary preliminary tasks:

- Remove convertible top . See **54 34 101 Removing And Installing Complete Convertible Top** .
- Partially remove convertible top fabric (without main support and without last bow). See **54 34 120 Replacing Convertible Top Fabric** .

Feeding out belt at bow 1:

- Release screws (1) on left/right on inside

- Retract convertible top a little
- Pull belt slightly and retract fastening clip
- Feed out start of belt to center over opening (2) towards top



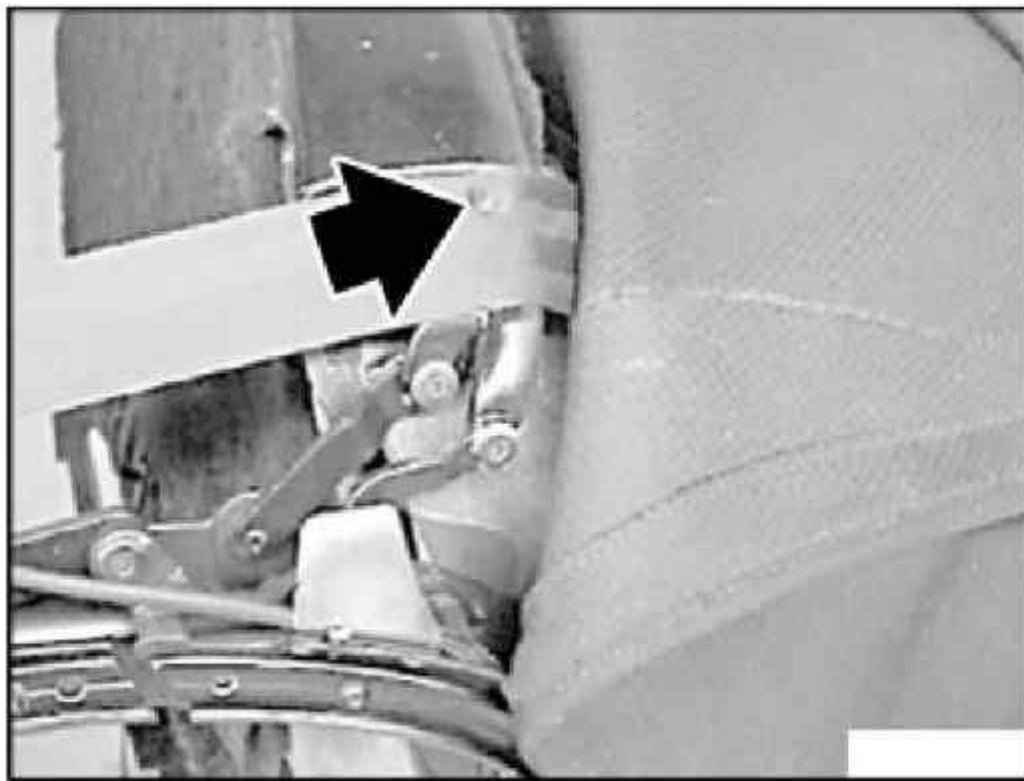
G03298228

Fig. 27: Feeding Out Start Of Belt To Center Over Opening Towards Top
Courtesy of BMW OF NORTH AMERICA, INC.

Unfasten screws on left/right side.

Installation:

Fit belt first at bow 1 to obtain tension. Then insert screw here.



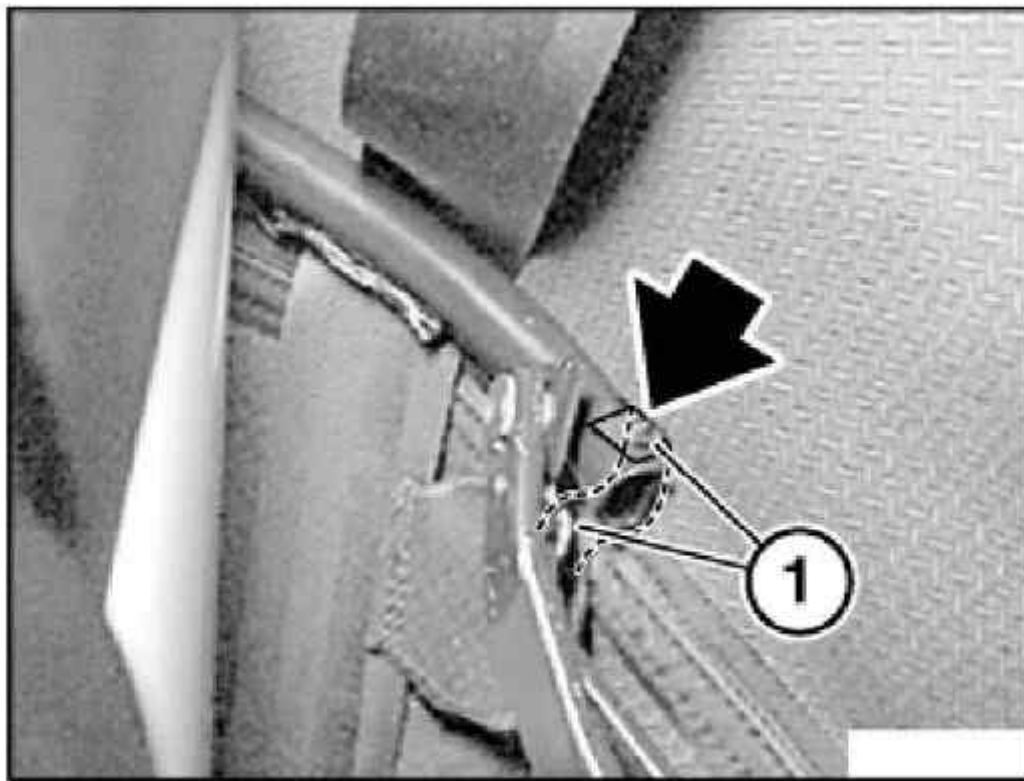
G03298229

Fig. 28: Installing Belt First At Bow To Obtain Tension
Courtesy of BMW OF NORTH AMERICA, INC.

Unfasten screws on left/right side.

Installation:

Guide belt clip from rear over last bow.



G03298230

Fig. 29: Installing Guide Belt Clip From Rear Over Last Bow
Courtesy of BMW OF NORTH AMERICA, INC.

Feeding belt out of convertible top strip:

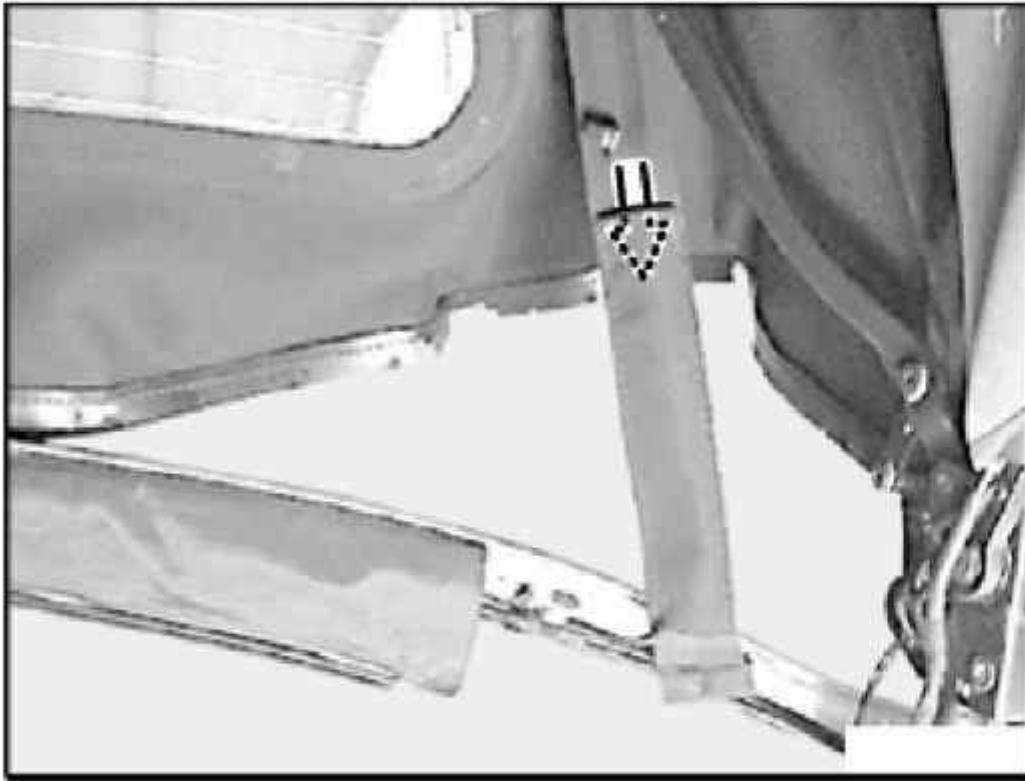
- Raise welt
- Remove welt towards rear bottom



G03298231

Fig. 30: Removing Welt Towards Rear Bottom
Courtesy of BMW OF NORTH AMERICA, INC.

Feed out cable towards bottom.

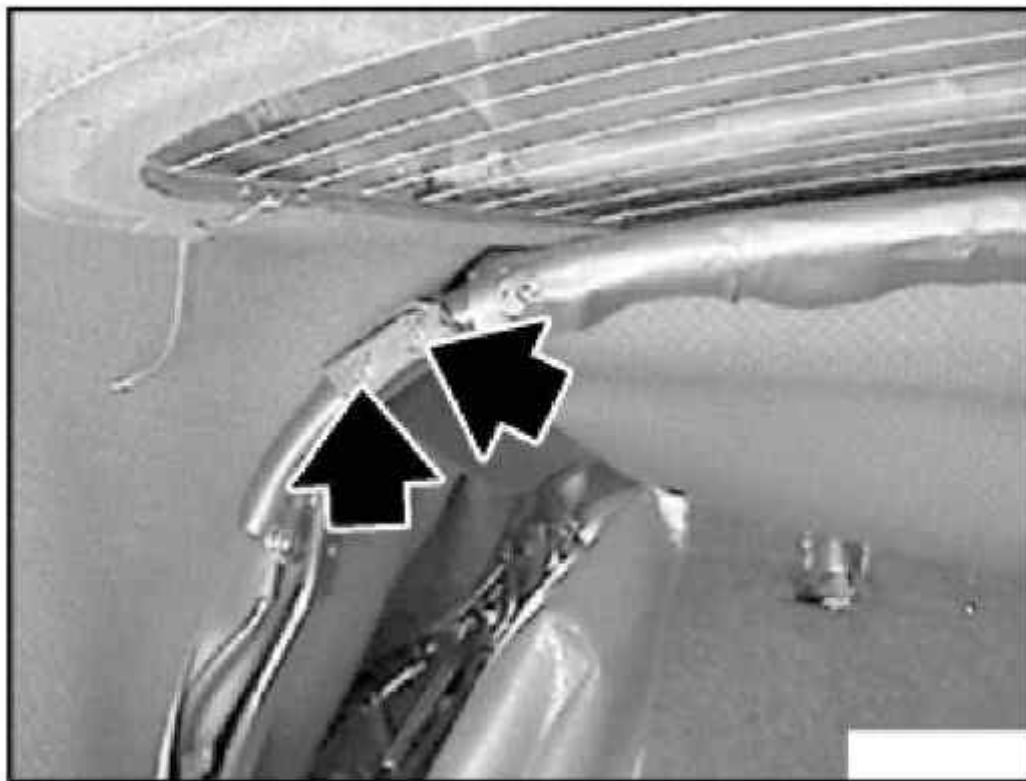


G03298232

Fig. 31: Feeding Out Cable Towards Bottom
Courtesy of BMW OF NORTH AMERICA, INC.

Unfasten screws.

Feed out belt.



G03298233

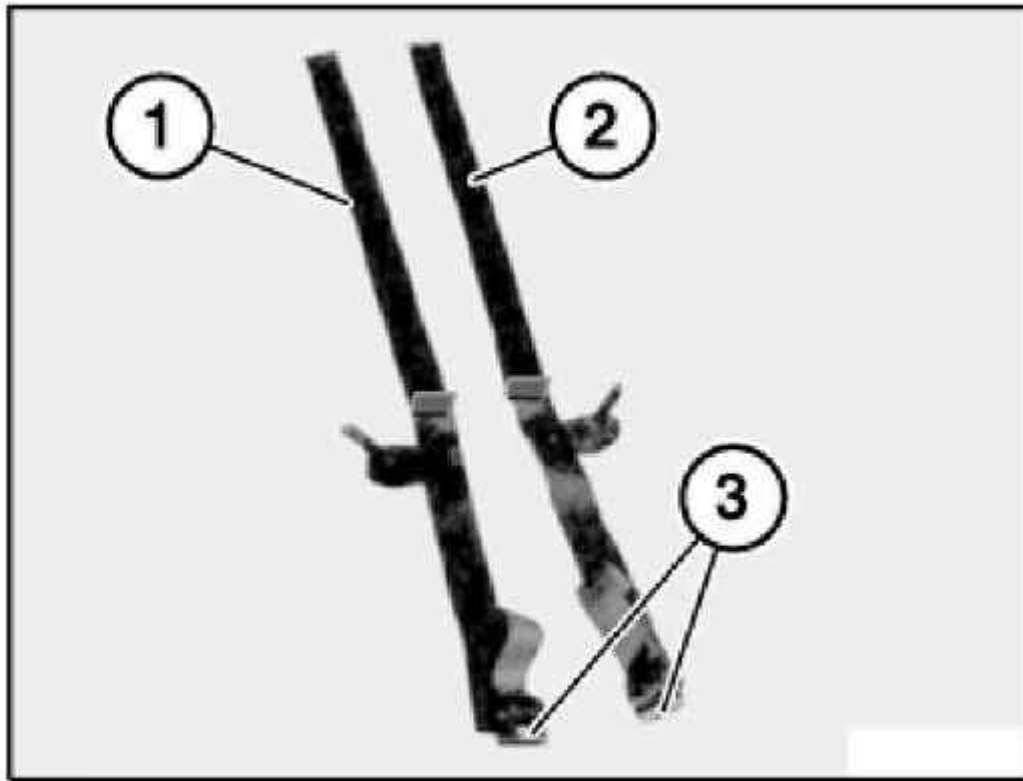
Fig. 32: Locating Screws

Courtesy of BMW OF NORTH AMERICA, INC.

Installation:

Pay attention to right (1) and left (2) version.

3 = Rear



G03298234

Fig. 33: Paying Attention To Right And Left Version

Courtesy of BMW OF NORTH AMERICA, INC.

54 31 155 REMOVING AND INSTALLING/REPLACING ALL WINDOW GUIDES ON RIGHT AND LEFT OF CONVERTIBLE TOP

Open convertible top slightly.

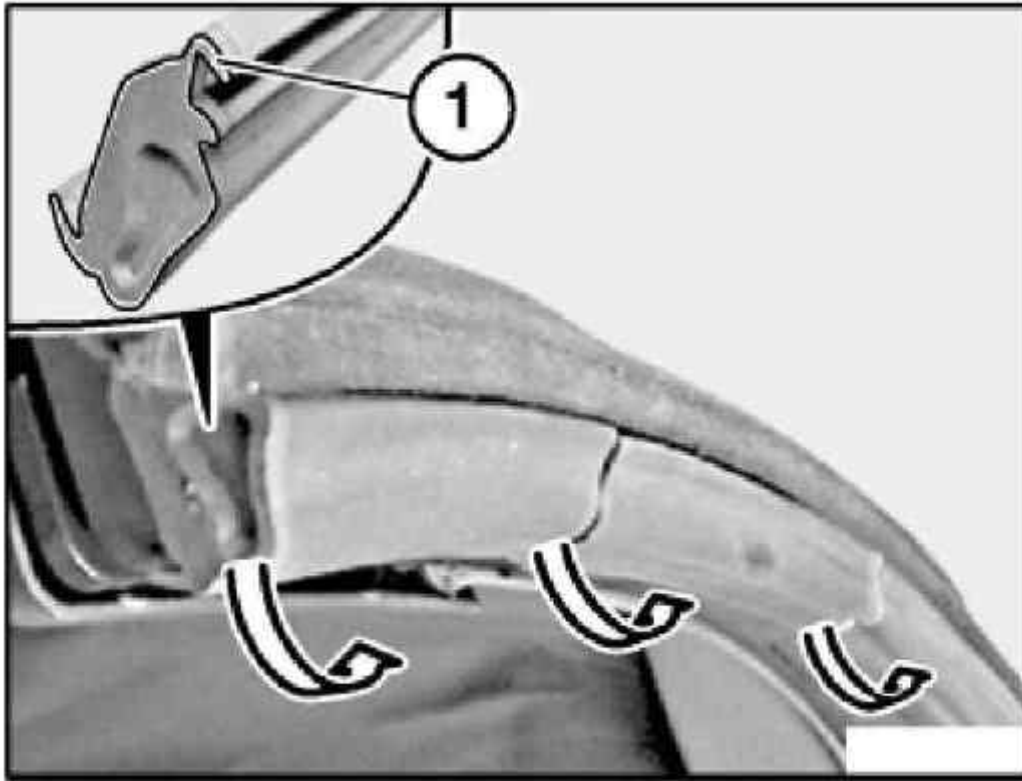
Pull window guides/convertible cover seals out of securing rail.

NOTE: When removing on both sides, mark seals as right and left.

Installation:

Install sealing lip (1) towards top.

If the seals (above all the middle seal) can be moved too easily, secure them at one point with fast-action adhesive (sourcing reference: BMW Parts Service).



G03298235

Fig. 34: Installing Sealing Lip Towards Top
Courtesy of BMW OF NORTH AMERICA, INC.

Unfasten screws.

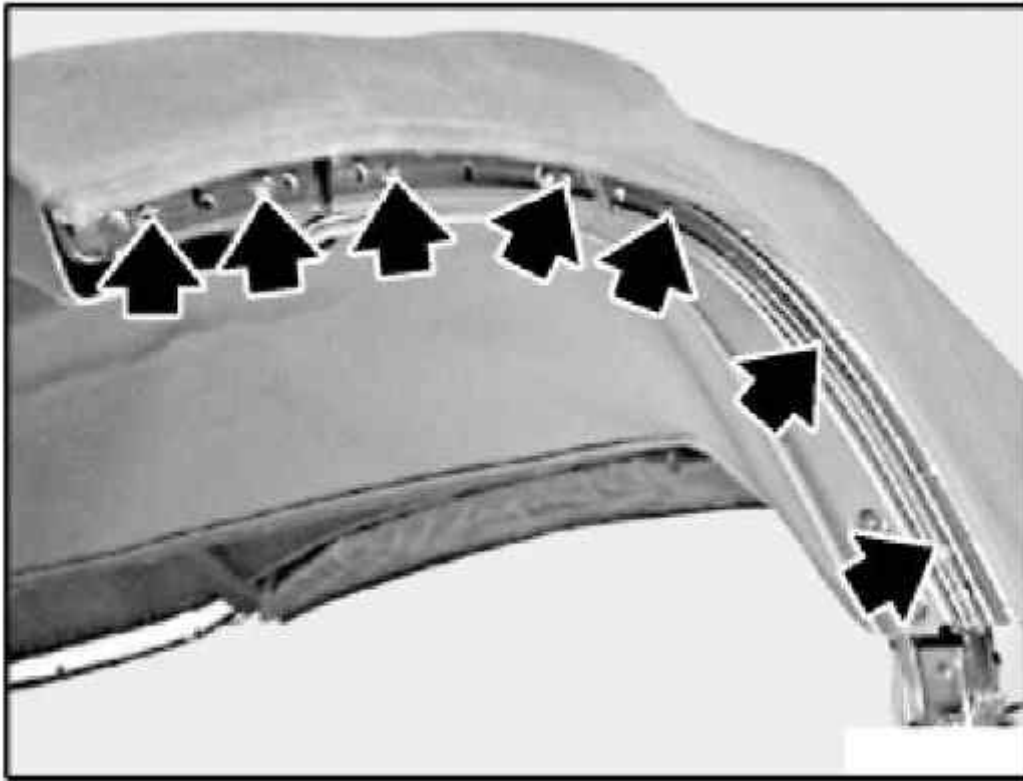
Tightening torque, see 54 31 16AZ in **SLIDE/TILT ROOF AND CONVERTIBLE TOP - TIGHTENING TORQUES** .

Carefully remove securing rail of window guide and note number of shims.

NOTE: When removing on both sides, mark securing rails as right and left.

Installation:

Reinstall same number of shims in same position (wind noises, leakage).



G03298236

Fig. 35: Removing Securing Rail Of Window Guide And Noting Number Of Shims
Courtesy of BMW OF NORTH AMERICA, INC.

54 31 160 REPLACING CONVERTIBLE TOP STRIP

Necessary preliminary tasks:

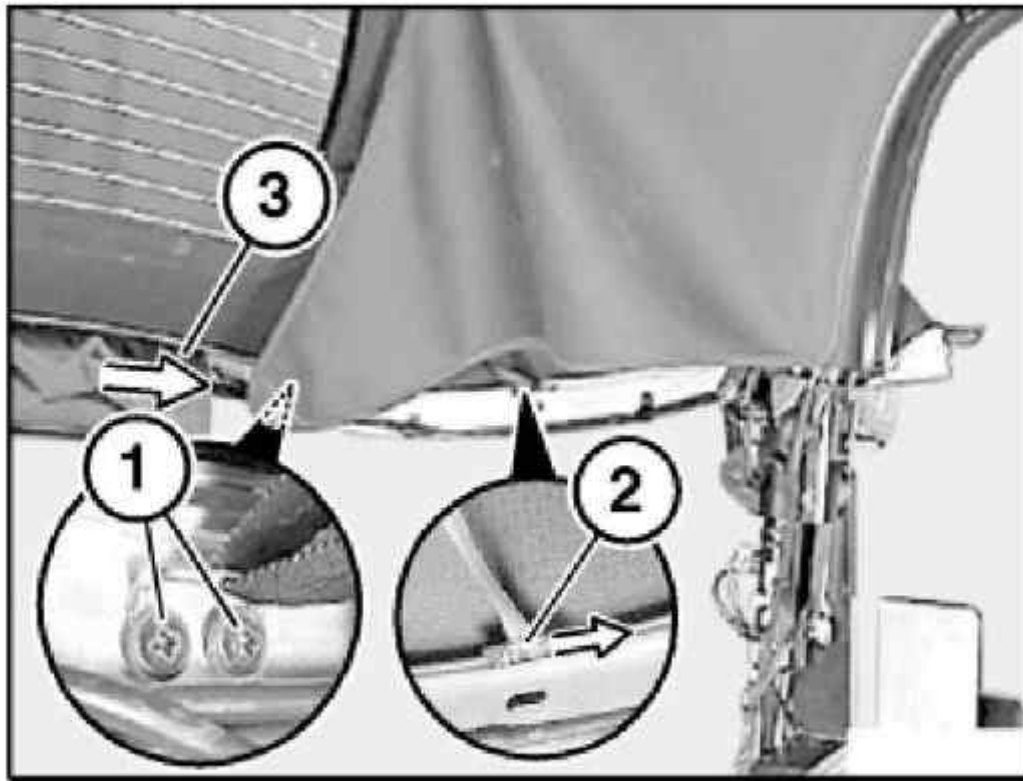
- Remove convertible top . See **54 34 101 Removing And Installing Complete Convertible Top** .

Release screws (1) of front strap on convertible top strip.

Feed front strap (2) out of convertible top strip.

Replacement only:

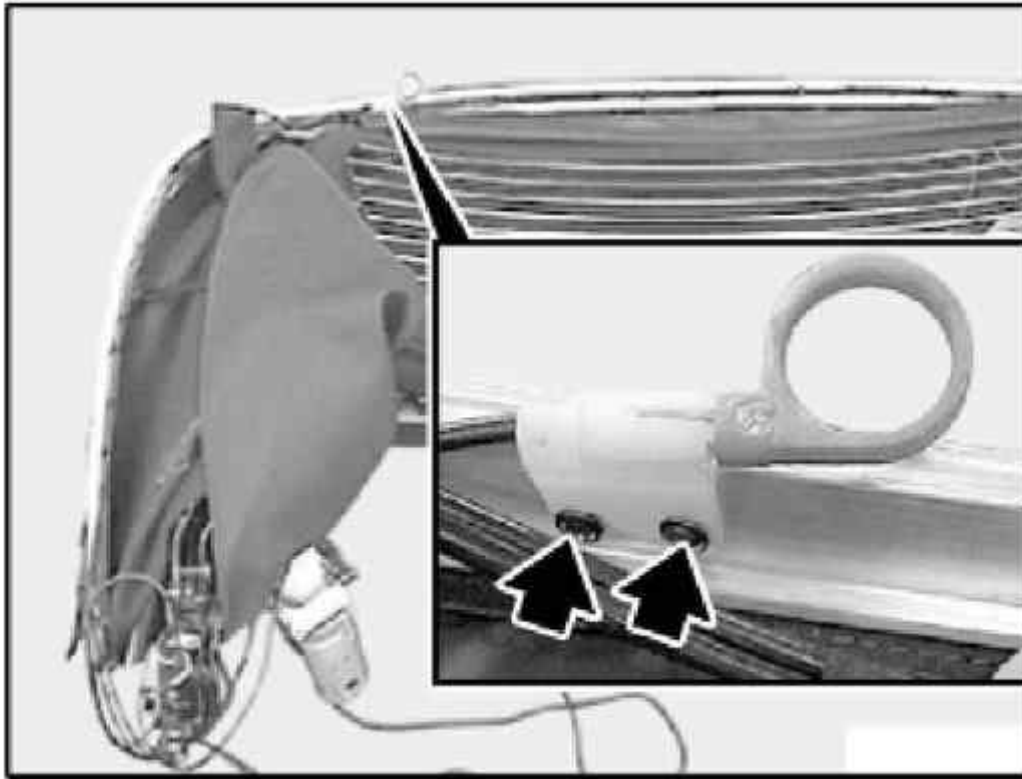
Feed cover (3) out of convertible top strip.



G03298237

Fig. 36: Releasing Screws Of Front Strap On Convertible Top Strip
Courtesy of BMW OF NORTH AMERICA, INC.

Unfasten screws.

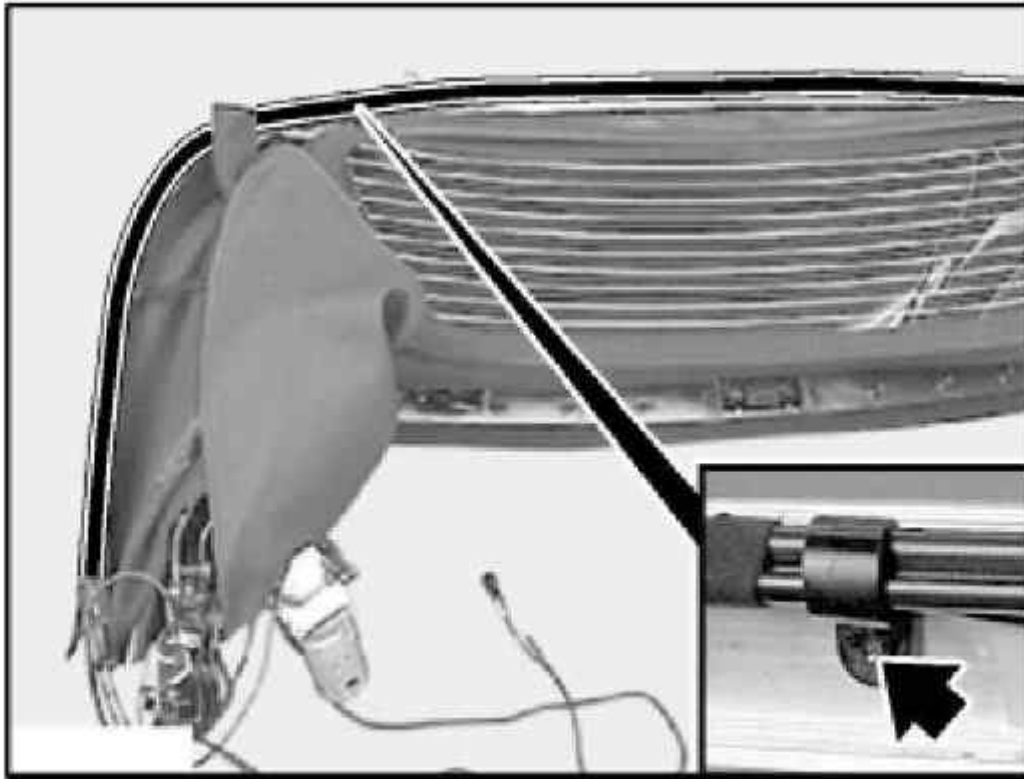


G03298238

Fig. 37: Unfastening Screws

Courtesy of BMW OF NORTH AMERICA, INC.

If necessary, release holder of hydraulic lines and emergency release Bowden cable.

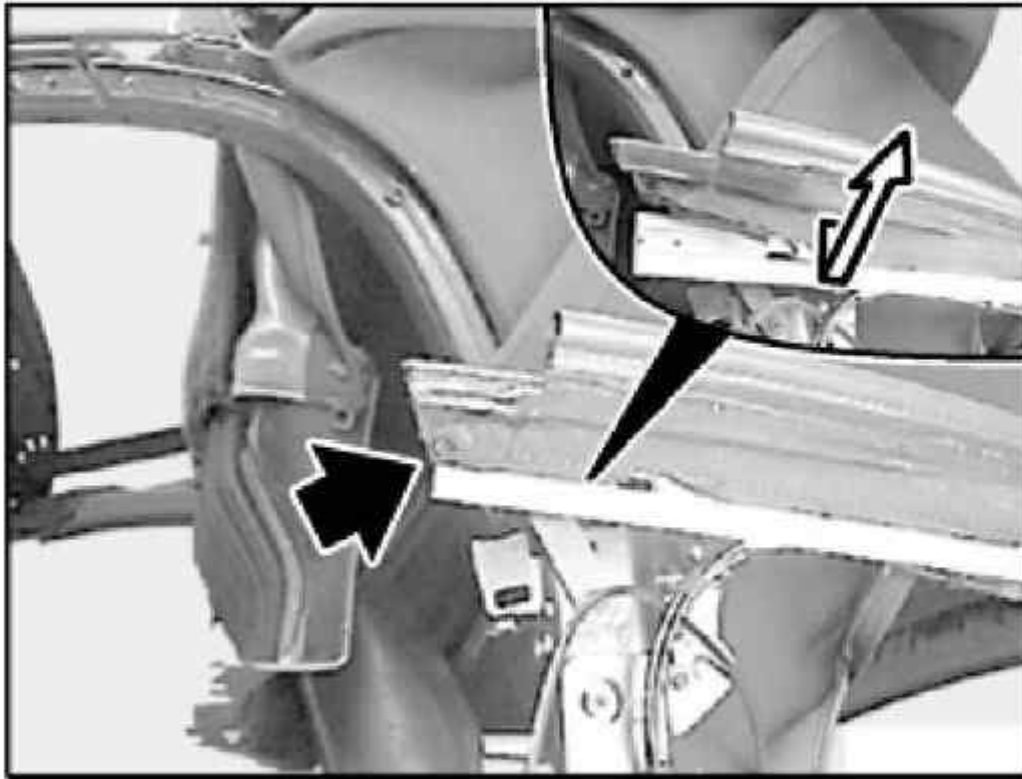


G03298239

Fig. 38: Releasing Holder Of Hydraulic Lines
Courtesy of BMW OF NORTH AMERICA, INC.

Unfasten screws on left/right side.

Feed fabric welt out of clamp.

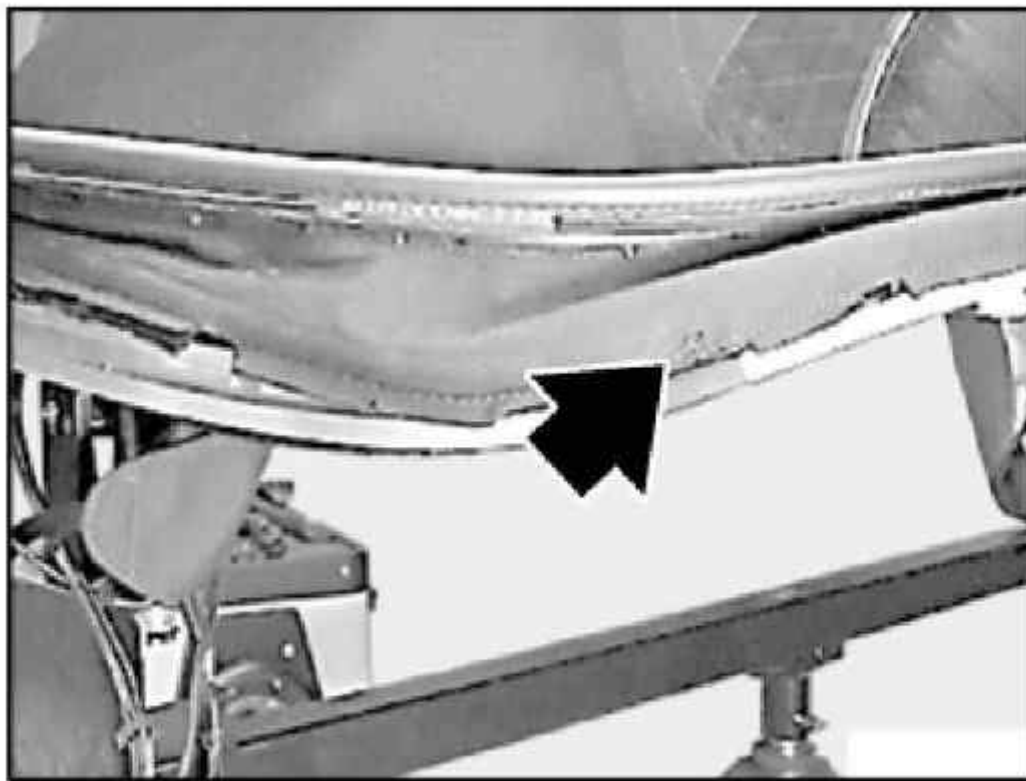


G03298240

Fig. 39: Feeding Fabric Welt Out Of Clamp
Courtesy of BMW OF NORTH AMERICA, INC.

Unfasten screws on left/right side.

Feed out fabric welt further.



G03298241

Fig. 40: Feeding Out Fabric Welt Further
Courtesy of BMW OF NORTH AMERICA, INC.

Feeding belt out of convertible top strip:

- Raise welt
- Remove welt towards rear bottom



G03298242

Fig. 41: Removing Welt Towards Rear Bottom
Courtesy of BMW OF NORTH AMERICA, INC.

54 31 165 REPLACING CONVERTIBLE TOP LOCK (STOWAGE LOCK)

Necessary preliminary tasks:

- Remove storage box . See **51 16 240 REMOVING AND INSTALLING REAR STORAGE COMPARTMENT** .

Unfasten screws.

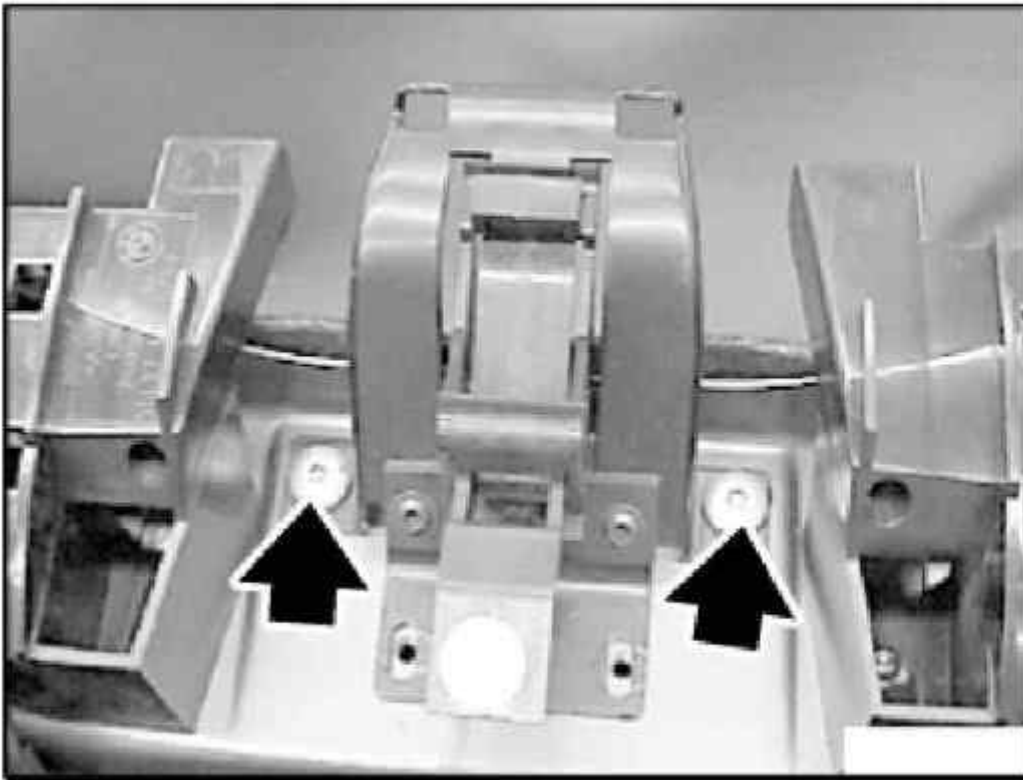
Installation:

- Install lock loose.
- Move lock in elongated holes in direction of convertible top.
- Stow convertible top until it engages exactly.

- Pull lock approx. 2 mm towards front and tighten down screws.

Tightening torque, see 54 31 1AZ in **SLIDE/TILT ROOF AND CONVERTIBLE TOP - TIGHTENING TORQUES**.

- Carry out function check, listening out for grinding noises.



G03298243

Fig. 42: Installing Lock Loose

Courtesy of BMW OF NORTH AMERICA, INC.

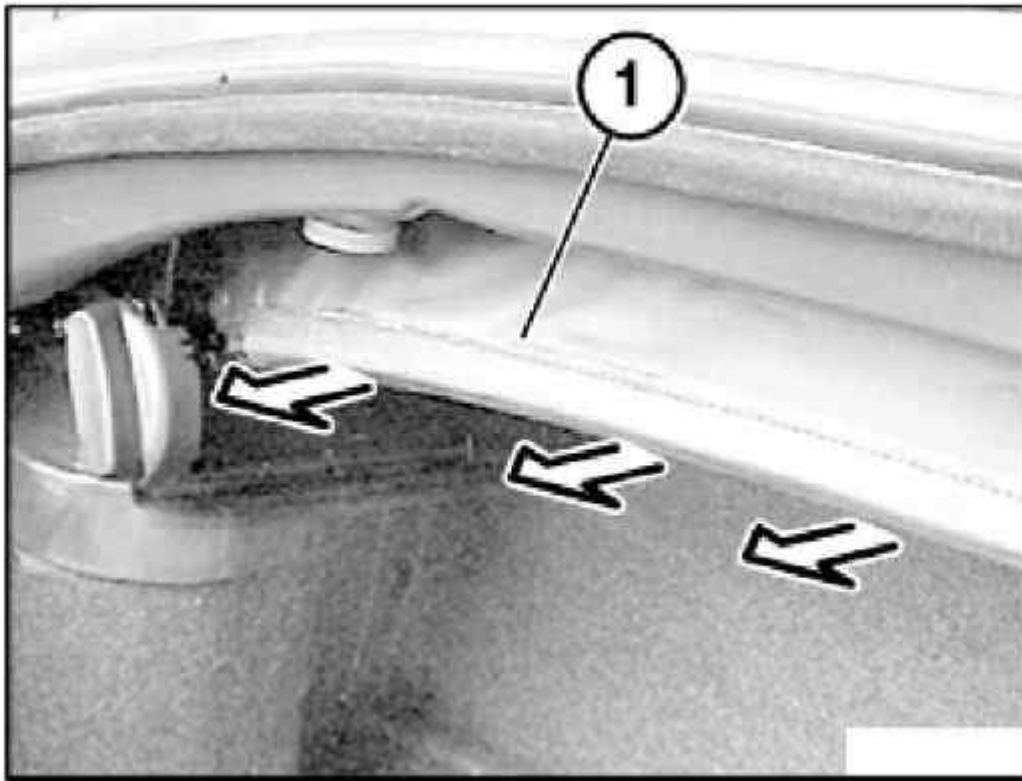
54 31 170 REMOVING AND INSTALLING/REPLACING CONVERTIBLE TOP COMPARTMENT FLOOR

Necessary preliminary tasks:

- Close convertible top
- Open rear lid.

Move convertible top compartment floor downwards.

Feed cover (1) out of convertible top compartment floor towards rear.



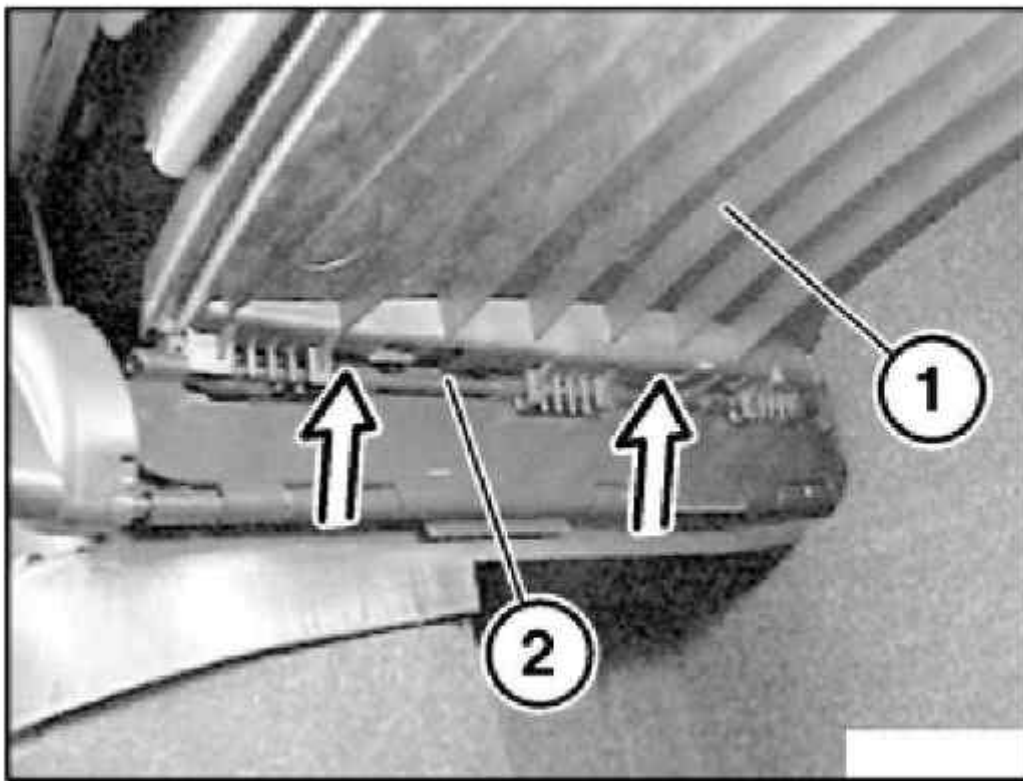
G03298244

Fig. 43: Feeding Cover Out Of Convertible Top Compartment Floor Towards Rear
Courtesy of BMW OF NORTH AMERICA, INC.

Unclip convertible top compartment floor (1) upwards out of mounting (2).

Installation:

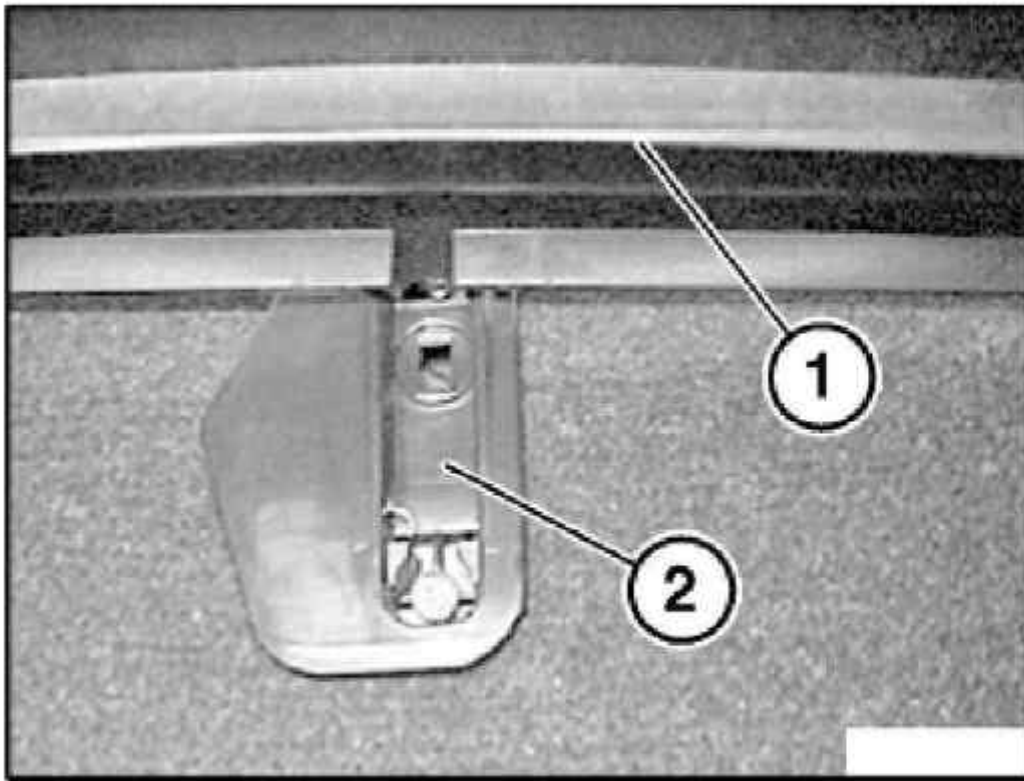
- Move mounting (2) downwards
- Position convertible top compartment floor (1)
- Move mounting (2) upwards
- Clip in convertible top compartment floor (1) (press from passenger compartment)



G03298245

Fig. 44: Positioning Convertible Top Compartment Floor
Courtesy of BMW OF NORTH AMERICA, INC.

Feed convertible top compartment floor (1) out of center mount (2) towards rear and rear.



G03298246

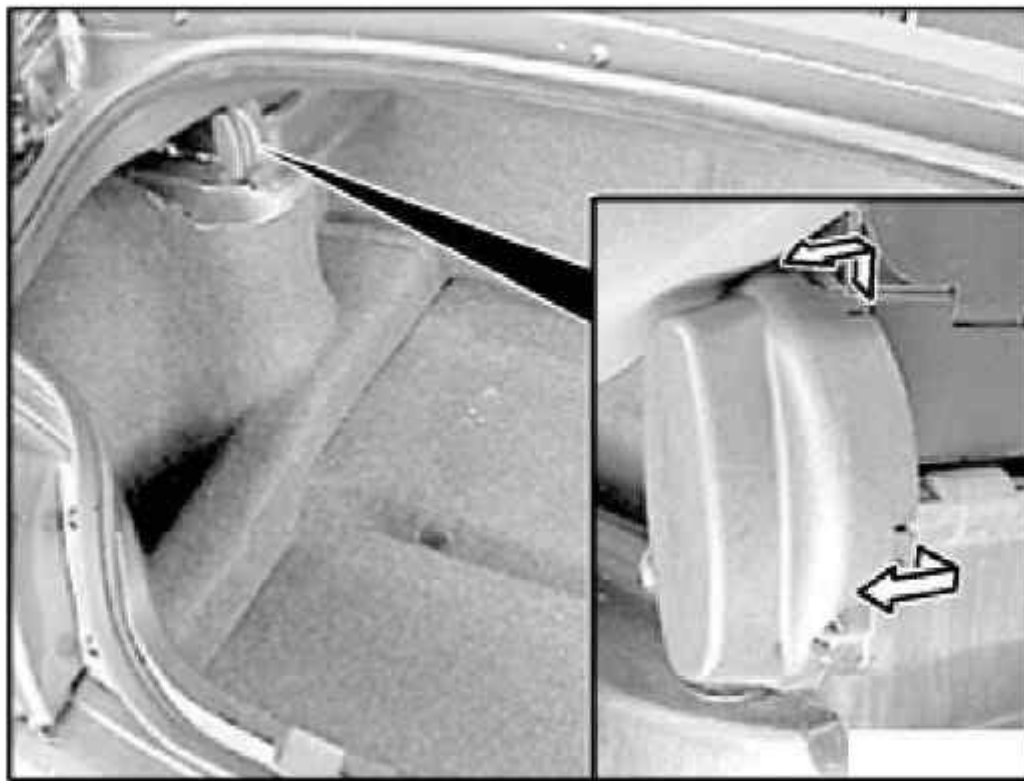
Fig. 45: Feeding Convertible Top Compartment Floor Out Of Center Mount
Courtesy of BMW OF NORTH AMERICA, INC.

54 31 175 REMOVING AND INSTALLING/REPLACING DAMPER FOR VARIABLE CONVERTIBLE TOP COMPARTMENT

Necessary preliminary tasks:

- Close convertible top
- Open rear lid.

Unclip handle cover towards rear.

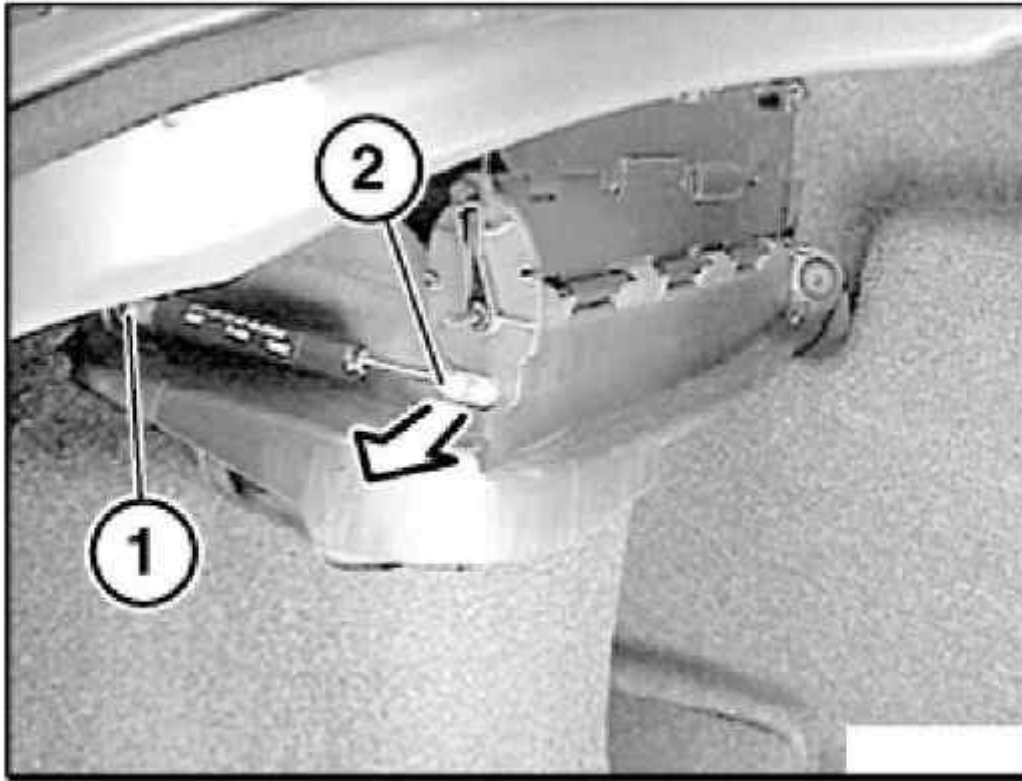


G03298247

Fig. 46: Unclipping Handle Cover Towards Rear
Courtesy of BMW OF NORTH AMERICA, INC.

Remove expansion rivet (1).

Remove damper (2) from shaft towards rear.



G03298248

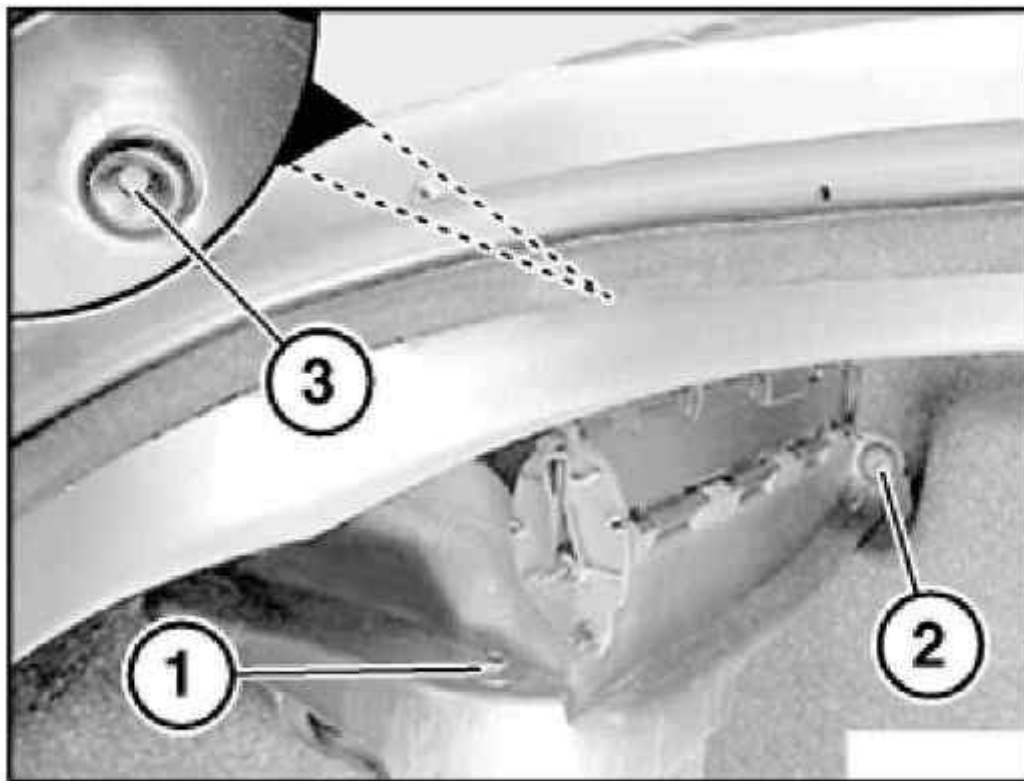
Fig. 47: Removing Damper From Shaft Towards Rear
Courtesy of BMW OF NORTH AMERICA, INC.

54 31 180 REMOVING AND INSTALLING/REPLACING A MOUNTING FOR CONVERTIBLE TOP COMPARTMENT FLOOR

Necessary preliminary tasks:

- Open rear lid.
- Remove convertible top compartment base . See **54 31 170 Removing And Installing/Replacing Convertible Top Compartment Floor** .

Release screws (1 and 2) and remove expansion rivet (3).



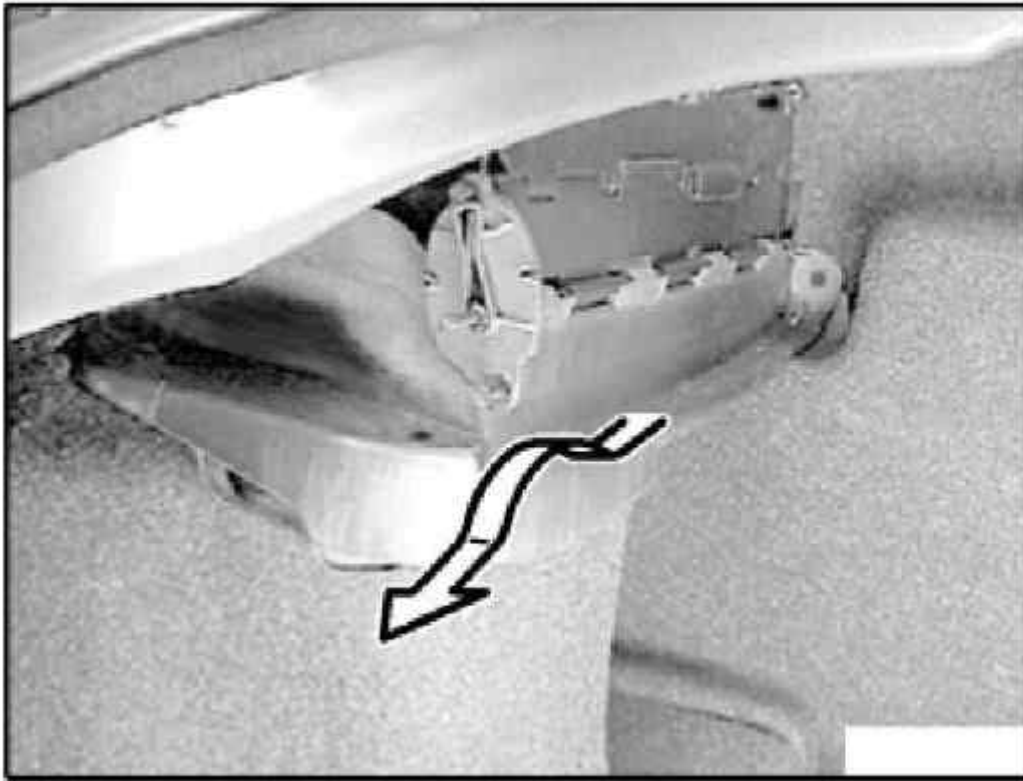
G03298249

Fig. 48: Releasing Screws And Removing Expansion Rivet
Courtesy of BMW OF NORTH AMERICA, INC.

Feed out mounting towards rear top over spring strut cap.

Installation:

Feed in mounting under funnel.



G03298250

Fig. 49: Feeding In Mounting Under Funnel
Courtesy of BMW OF NORTH AMERICA, INC.

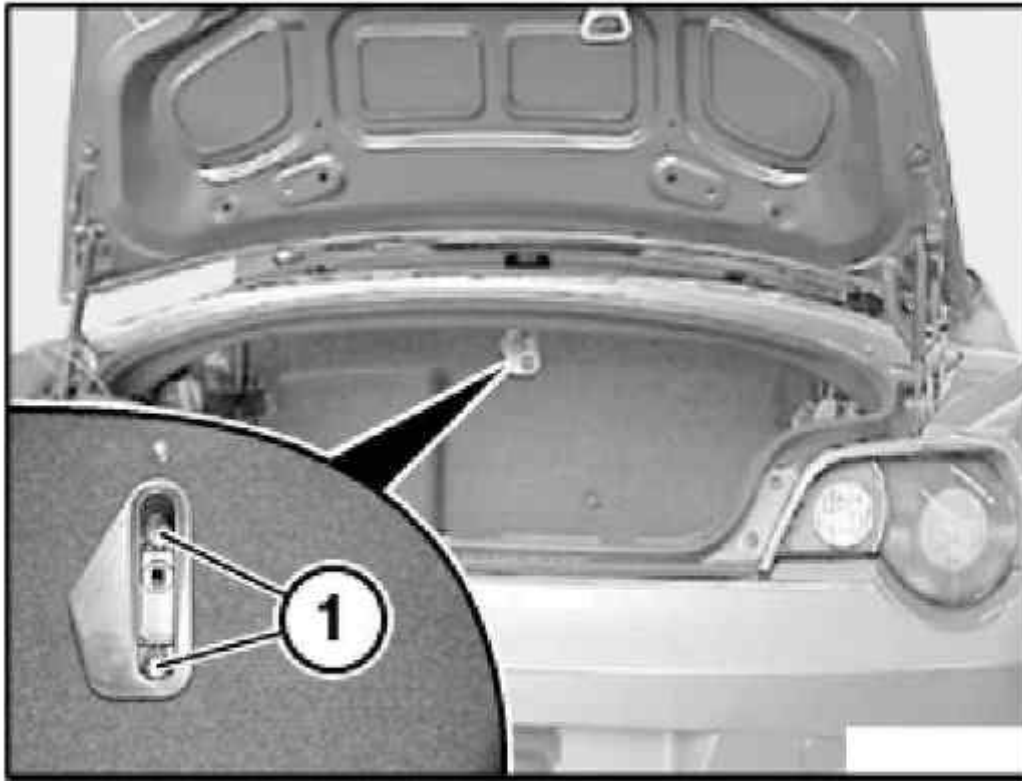
54 31 185 REMOVING AND INSTALLING/REPLACING CENTER MOUNT FOR CONVERTIBLE TOP COMPARTMENT FLOOR

Necessary preliminary tasks:

- Remove convertible top compartment base . See **54 31 170 Removing And Installing/Replacing Convertible Top Compartment Floor** .

Loosen screws (1).

Carefully remove center mount towards rear and disconnect plug connection.



G03298251

Fig. 50: Removing Center Mount Towards Rear
Courtesy of BMW OF NORTH AMERICA, INC.

For replacement only:

- Remove microswitch . See **61 31 799 REMOVING AND INSTALLING/REPLACING MICROSWITCH** .

54 31 190 REPLACING CONVERTIBLE TOP CENTER LOCK (MECHANICAL)

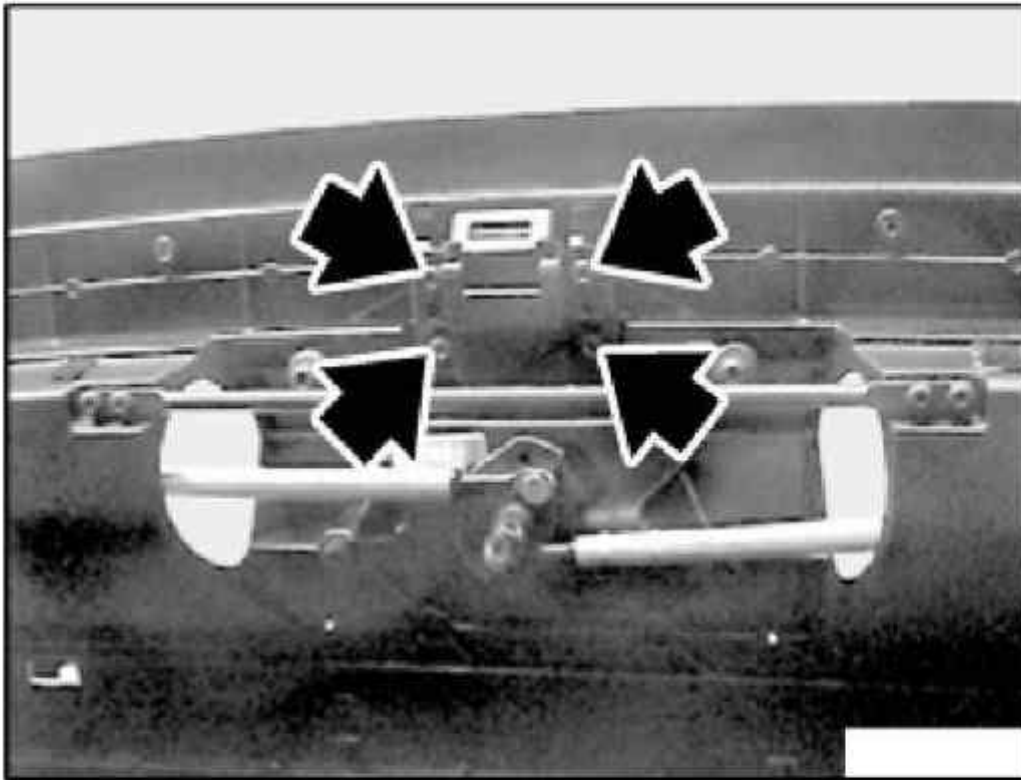
Necessary preliminary tasks:

- Remove trim on convertible top compartment lid lock. See **54 34 125 Removing And Installing/Replacing Trim On Convertible Top Lock** .

Release screws, remove holder and lock.

Tightening torque, see 54 31 17AZ in **SLIDE/TILT ROOF AND CONVERTIBLE TOP - TIGHTENING**

TORQUES .



G03298252

Fig. 51: Releasing Screws, Removing Holder And Lock
Courtesy of BMW OF NORTH AMERICA, INC.

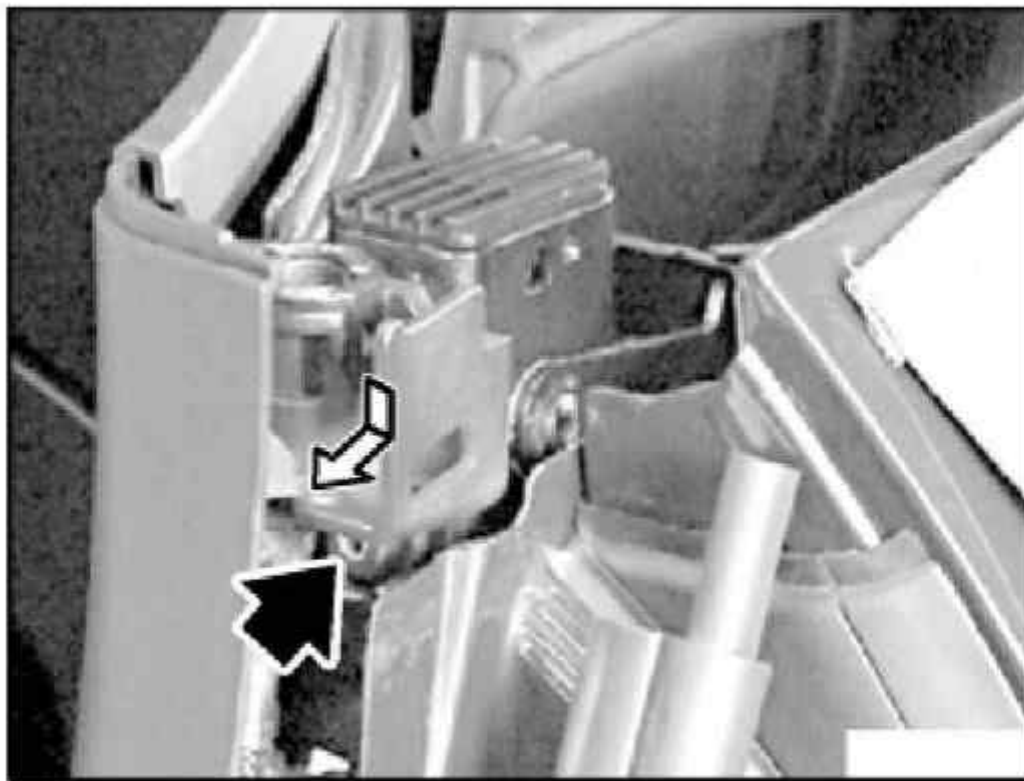
54 31 200 REMOVING AND INSTALLING/REPLACING HARD TOP MOUNTING

Necessary preliminary tasks:

- Release rear side trim panel upper section on B-pillar. See **51 43 010 REMOVING AND INSTALLING/REPLACING REAR SECTION** .

Release screw.

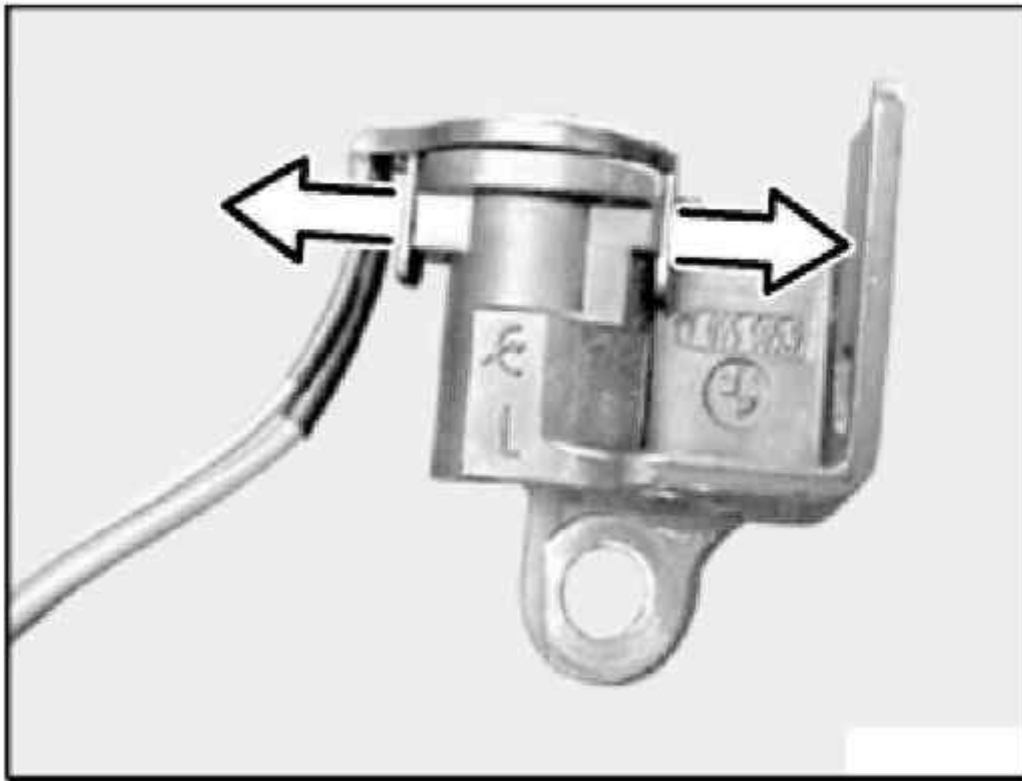
If necessary, press mounting downwards a little and remove towards front top from main support.



G03298253

Fig. 52: Pressing Mounting Downwards And Removing Towards Front Top From Main Support
Courtesy of BMW OF NORTH AMERICA, INC.

Unclip contact tube and lay to one side.



G03298254

Fig. 53: Unclipping Contact Tube And Lay To One Side
Courtesy of BMW OF NORTH AMERICA, INC.

With contact tube replacement only:

- Remove rear storage cover . See **51 16 240 REMOVING AND INSTALLING REAR STORAGE COMPARTMENT** .
- Disconnect plug connection.
- Disconnect cable



G03298255

Fig. 54: Disconnecting Cable

Courtesy of BMW OF NORTH AMERICA, INC.

54 34... OPENING/CLOSING CONVERTIBLE TOP IN EVENT OF A TECHNICAL FAULT**Opening convertible top:**

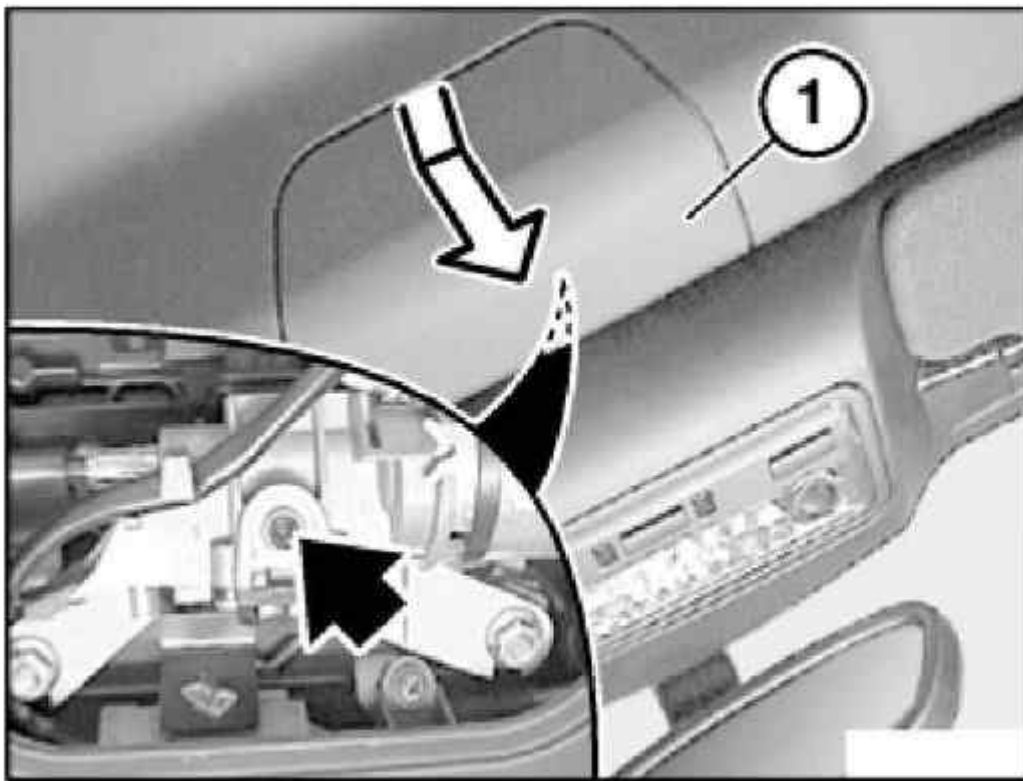
Depending on the nature of the technical fault, perform one of the following tasks before opening the convertible top.

All the tasks may be necessary in a few cases.

- Open side windows

Automatic convertible top catch:

- Press in cover (1) at top slightly and lever out towards bottom.
- Turn screw with double offset hexagon socket key (onboard tool kit).

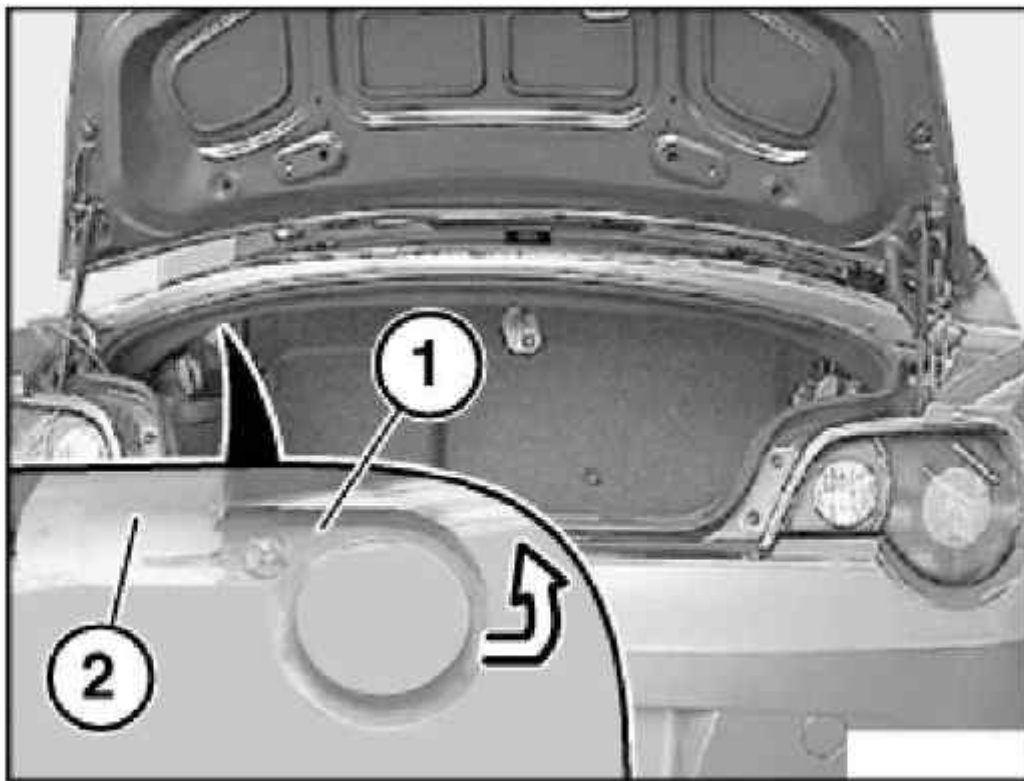


G03298256

Fig. 55: Pressing In Cover At Top Slightly And Lever Out Towards Bottom
Courtesy of BMW OF NORTH AMERICA, INC.

Convertible top hydraulics:

- Open rear lid.
- On left side, pull ring (1) to center and turn through 90°.
- Place ring on holder (2).



G03298257

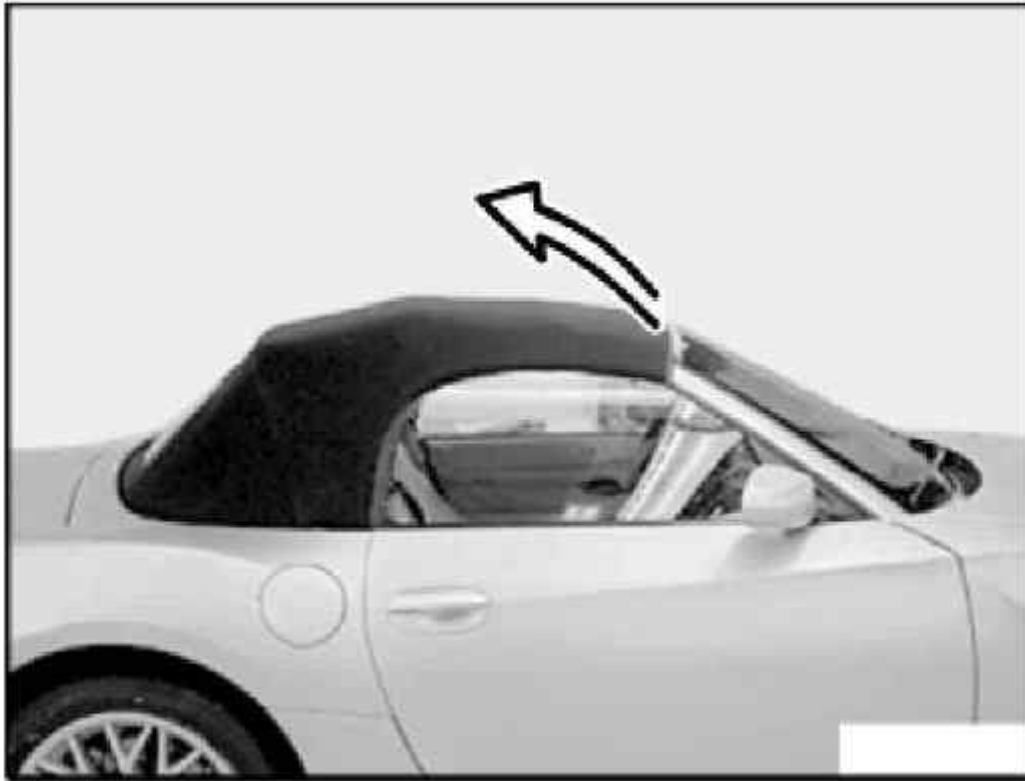
Fig. 56: Pulling Ring To Center

Courtesy of BMW OF NORTH AMERICA, INC.

Opening convertible top:

- If necessary, open convertible top by hand.

When opening the convertible top by hand, only grip in the middle of the front edge of the front bow.



G03298258

Fig. 57: Identifying Convertible Top

Courtesy of BMW OF NORTH AMERICA, INC.

Closing convertible top:

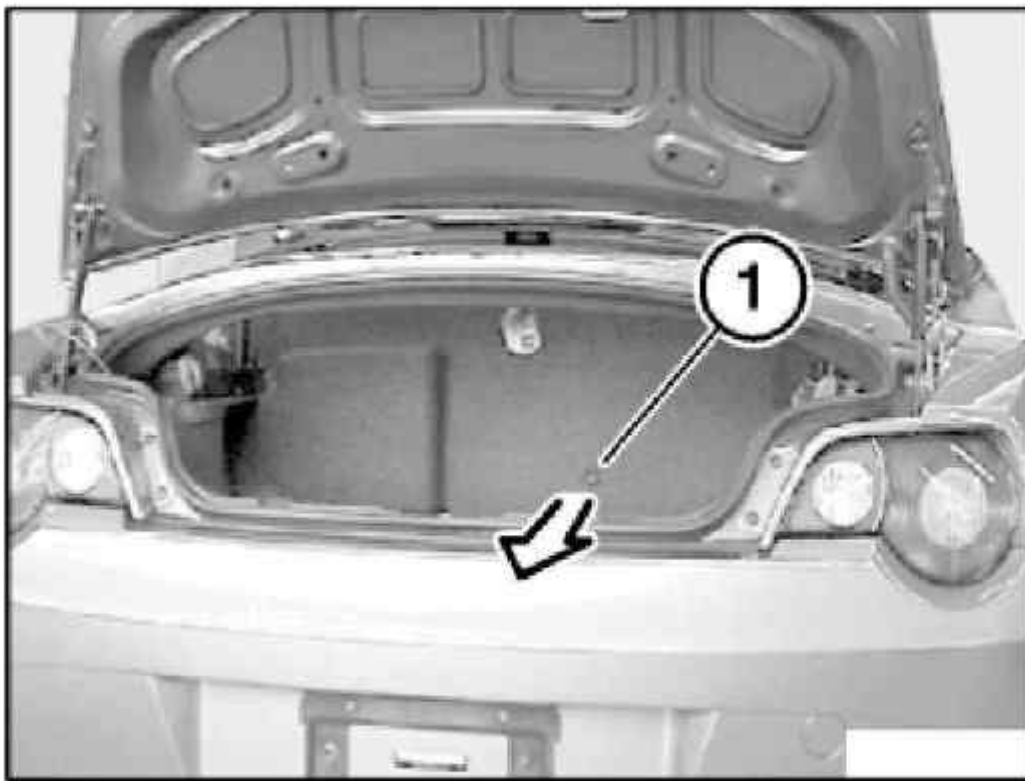
Depending on the nature of the technical fault, perform one of the following tasks before closing the convertible top.

All the tasks may be necessary in a few cases.

- Open side windows

Stowage lock:

- Open rear lid.
- Pull knob (1) towards rear on luggage compartment panel.



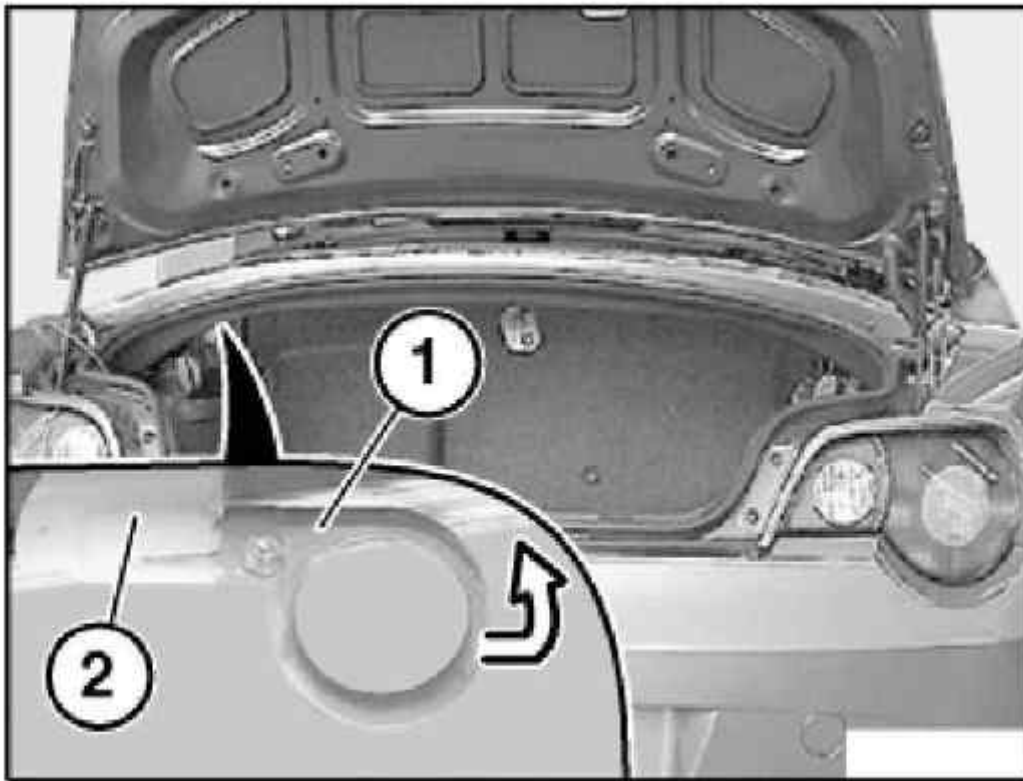
G03298259

Fig. 58: Opening Rear Lid

Courtesy of BMW OF NORTH AMERICA, INC.

Convertible top hydraulics:

- Open rear lid.
- On left side, pull ring (1) to center and turn through 90°.
- Place ring on holder (2).



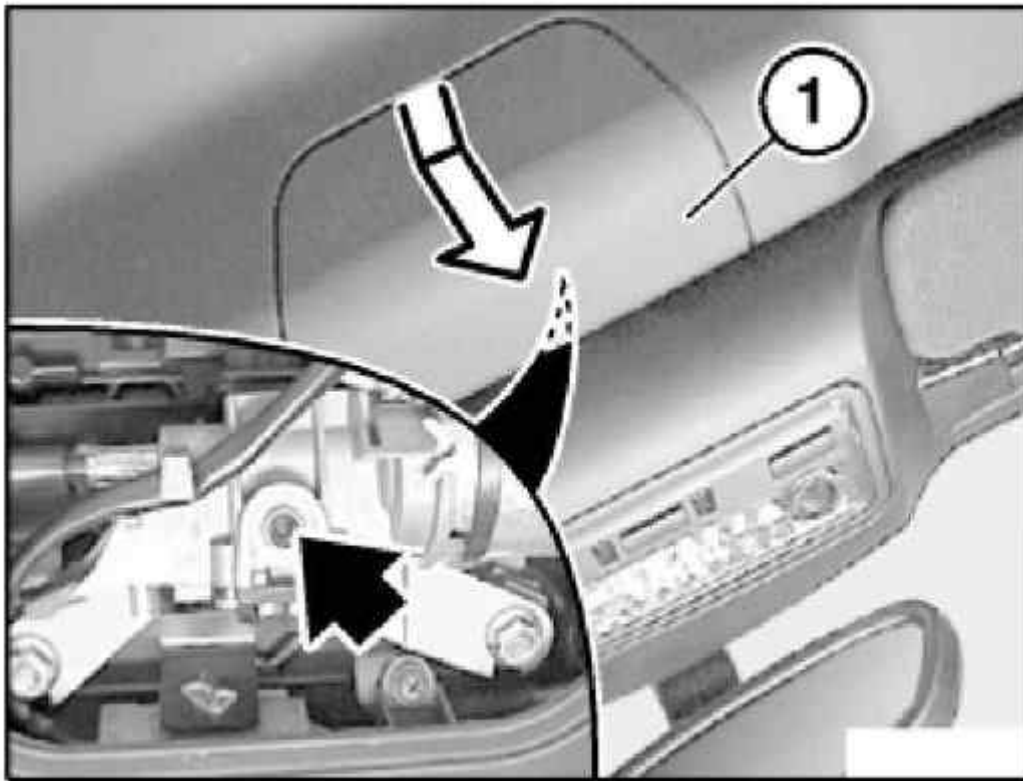
G03298260

Fig. 59: Placing Ring On Holder

Courtesy of BMW OF NORTH AMERICA, INC.

Automatic convertible top catch:

- Press in cover (1) at top slightly and lever out towards bottom.
- Turn screw with double offset hexagon socket key (onboard tool kit).



G03298261

Fig. 60: Pressing In Cover At Top Slightly And Lever Out Towards Bottom
Courtesy of BMW OF NORTH AMERICA, INC.

Closing convertible top:

- If necessary, close convertible top by hand.

When closing the convertible top by hand, only grip in the middle of the front edge of the front bow.



G03298262

Fig. 61: Closing Convertible Top

Courtesy of BMW OF NORTH AMERICA, INC.

54 34 120 REPLACING CONVERTIBLE TOP FABRIC

Special tools required:

- 00 9 321

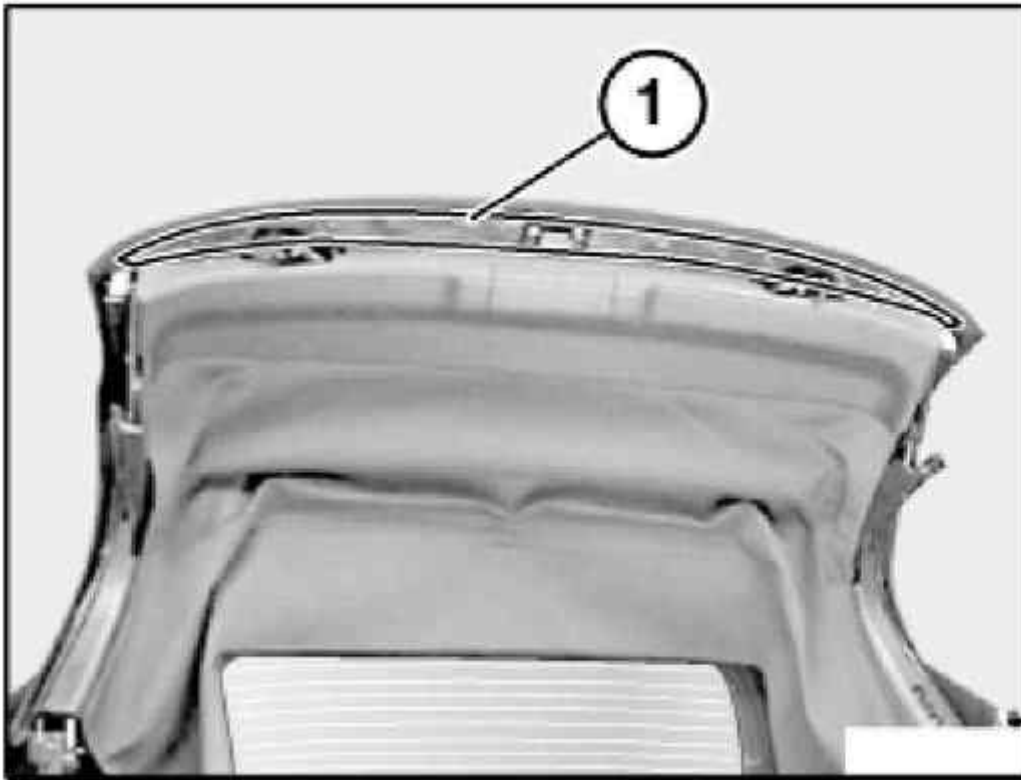
Necessary preliminary tasks:

- Remove convertible top . See **54 34 101 Removing And Installing Complete Convertible Top** .
- Remove front window guide . See **54 31 155 Removing And Installing/Replacing All Window Guides On Right And Left Of Convertible Top** .
- Remove rear window seal
- Remove trim on convertible top catch. See **54 34 125 Removing And Installing/Replacing Trim On Convertible Top Lock** .

EH convertible top only:

- Partially remove roofliner (1st bow/cowl panel and last bow)

Release screws in area (1).



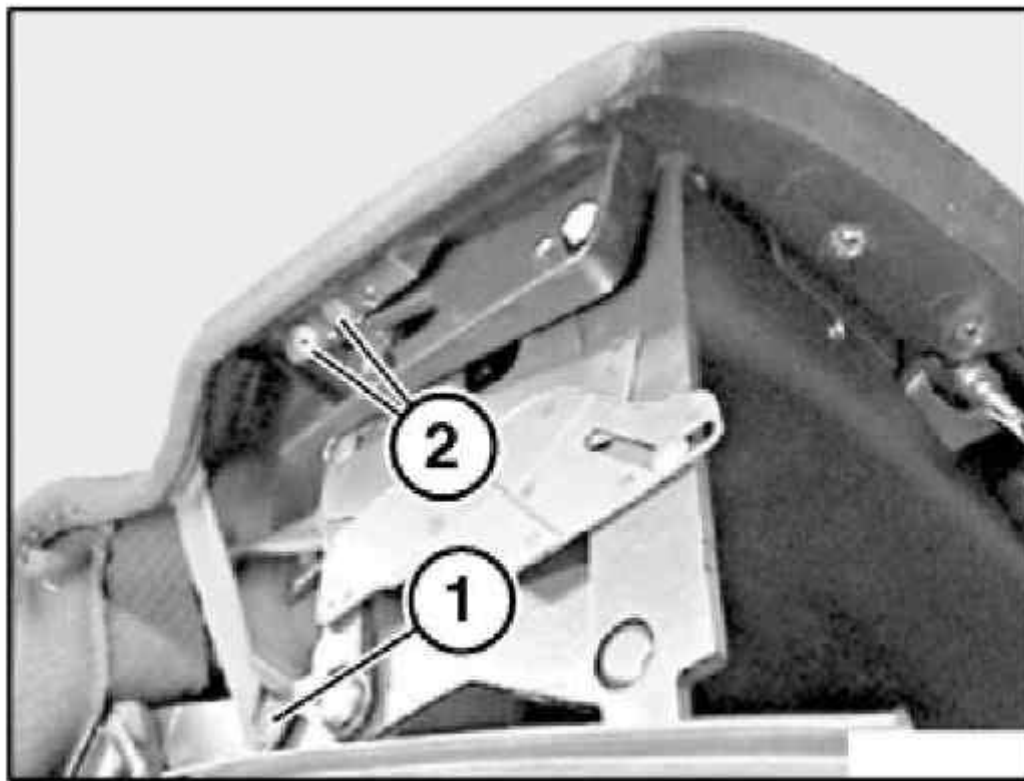
G03298263

Fig. 62: Releasing Screws In Area
Courtesy of BMW OF NORTH AMERICA, INC.

Release front strap (1) on left/right.

Drill out blind rivets (2) on left/right.

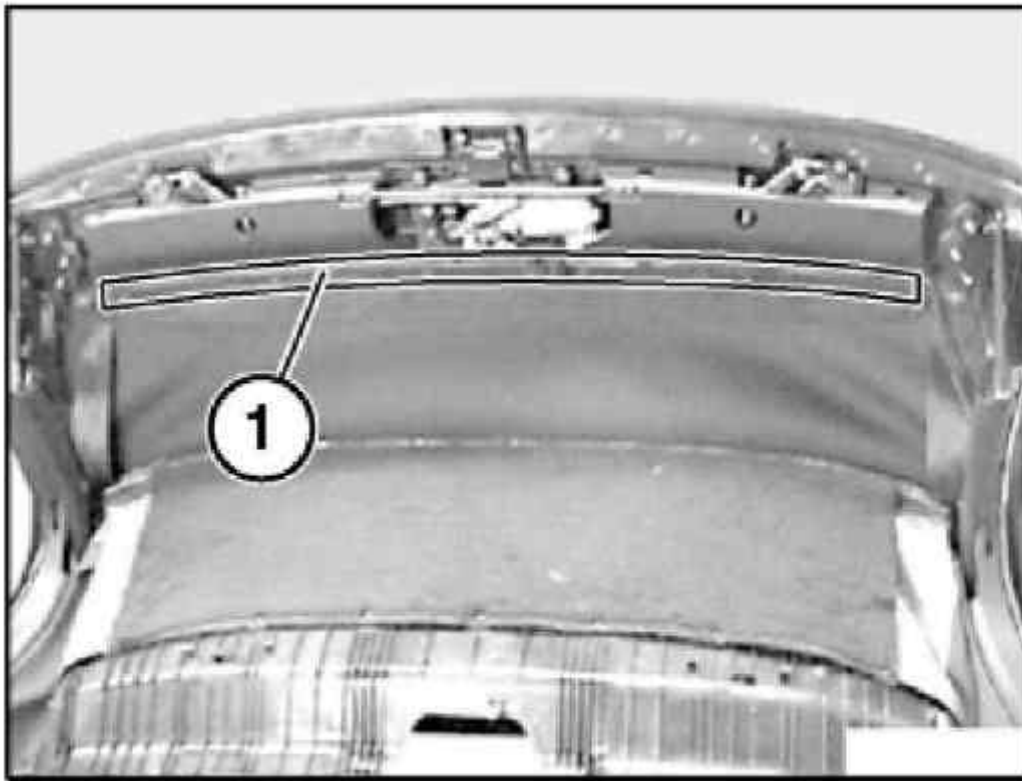
Remove trim, if necessary suspend from roofliner.



G03298264

Fig. 63: Releasing Front Strap On Left/Right
Courtesy of BMW OF NORTH AMERICA, INC.

Release screws in area (1).



G03298265

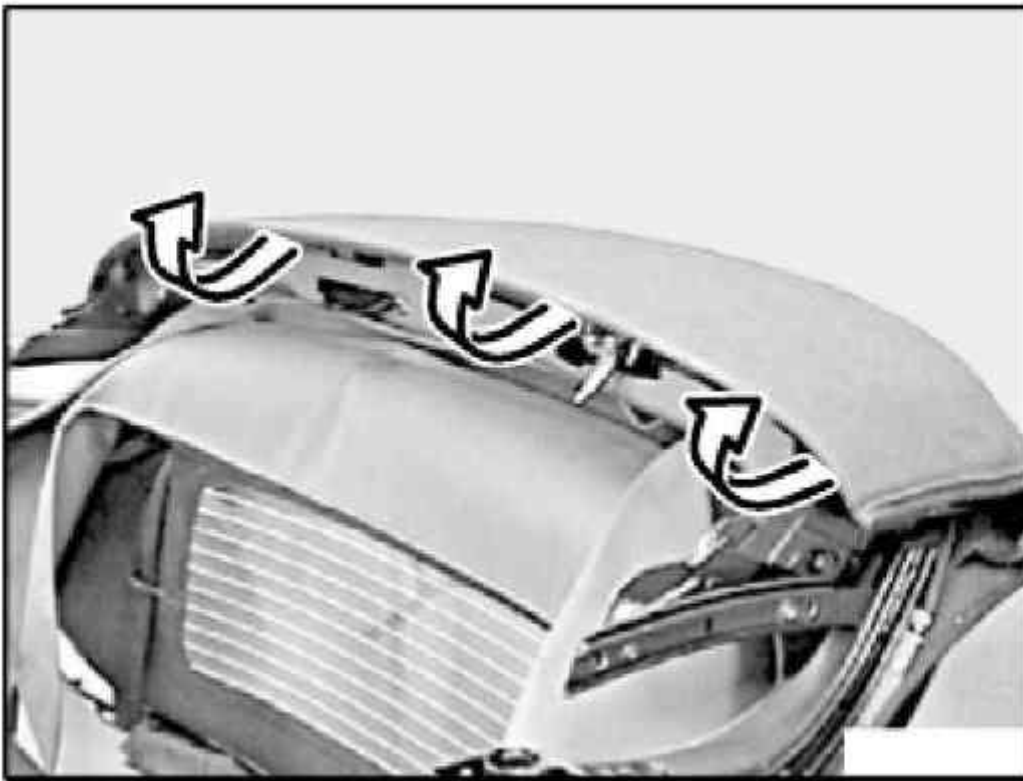
Fig. 64: Releasing Screws In Area
Courtesy of BMW OF NORTH AMERICA, INC.

Detaching fabric from bow 1:

- Pull fabric in middle towards front and fold upwards at rear.
- Pull fabric over a corner towards front and fold upwards at rear.

If necessary, use special tool 00 9 321.

- Pull off fabric over other corner.



G03298266

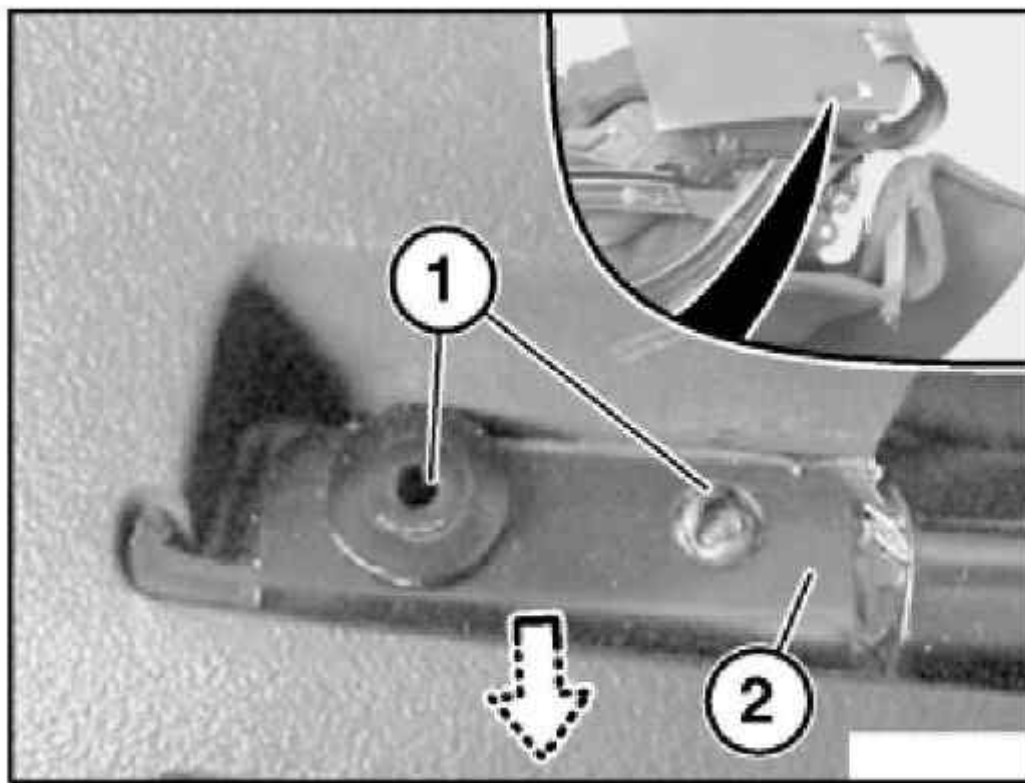
Fig. 65: Detaching Fabric From Bow
Courtesy of BMW OF NORTH AMERICA, INC.

Drill out rivet joint (1) on left/right.

Feed out tension cable bearing (2) to one side.

Installation:

Replace shims.

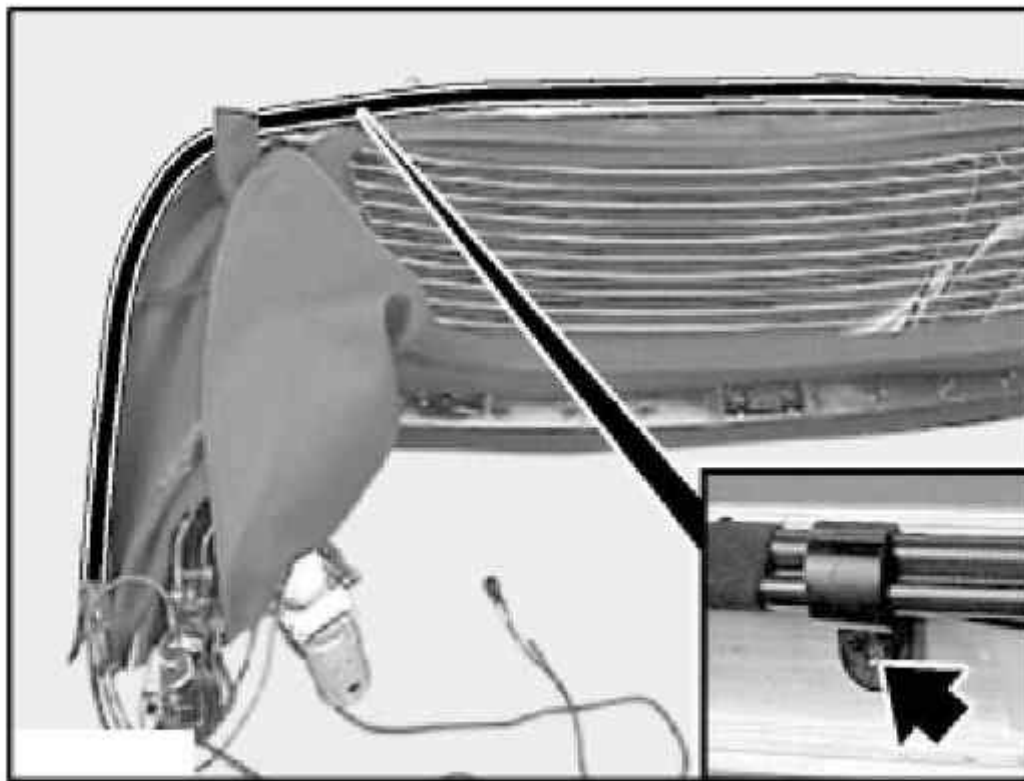


G03298267

Fig. 66: Locating Rivet Joint On Left/Right
Courtesy of BMW OF NORTH AMERICA, INC.

EH convertible top only:

If necessary, release holder of hydraulic lines.

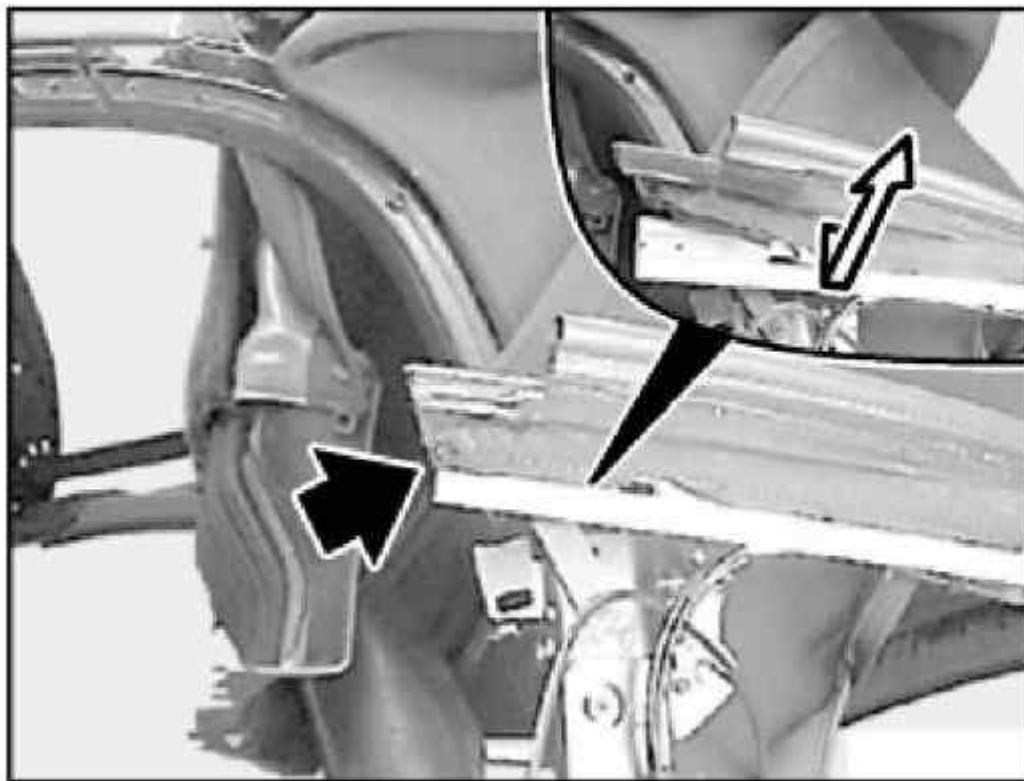


G03298268

Fig. 67: Releasing Holder Of Hydraulic Lines
Courtesy of BMW OF NORTH AMERICA, INC.

Release screw on left/right on convertible top strip.

Feed fabric welt out of clamp.

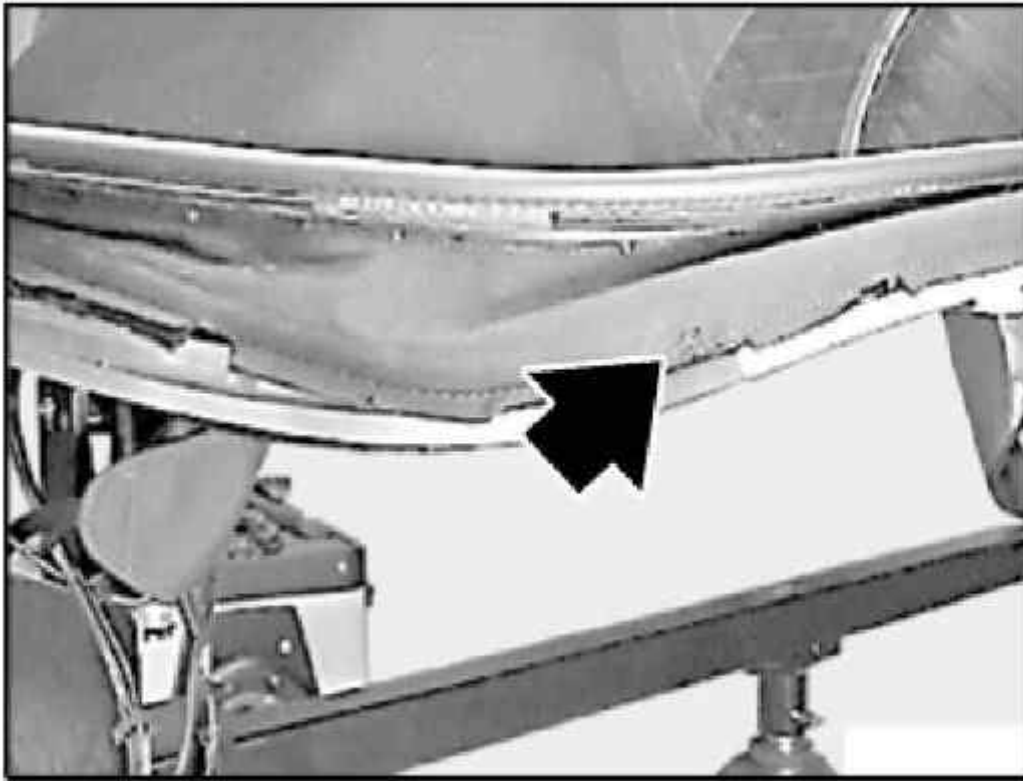


G03298269

Fig. 68: Feeding Fabric Welt Out Of Clamp
Courtesy of BMW OF NORTH AMERICA, INC.

Unfasten screws on left/right side.

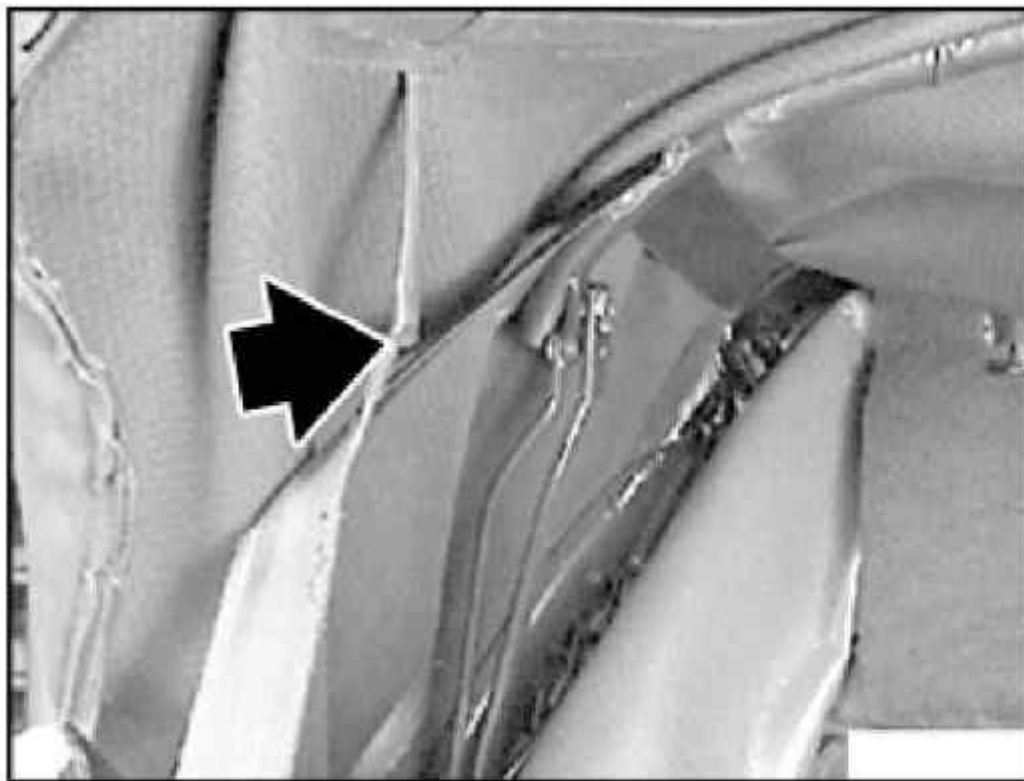
Feed out fabric welt further.



G03298270

Fig. 69: Feeding Out Fabric Welt Further
Courtesy of BMW OF NORTH AMERICA, INC.

Disconnect plug connection for heated rear window.



G03298271

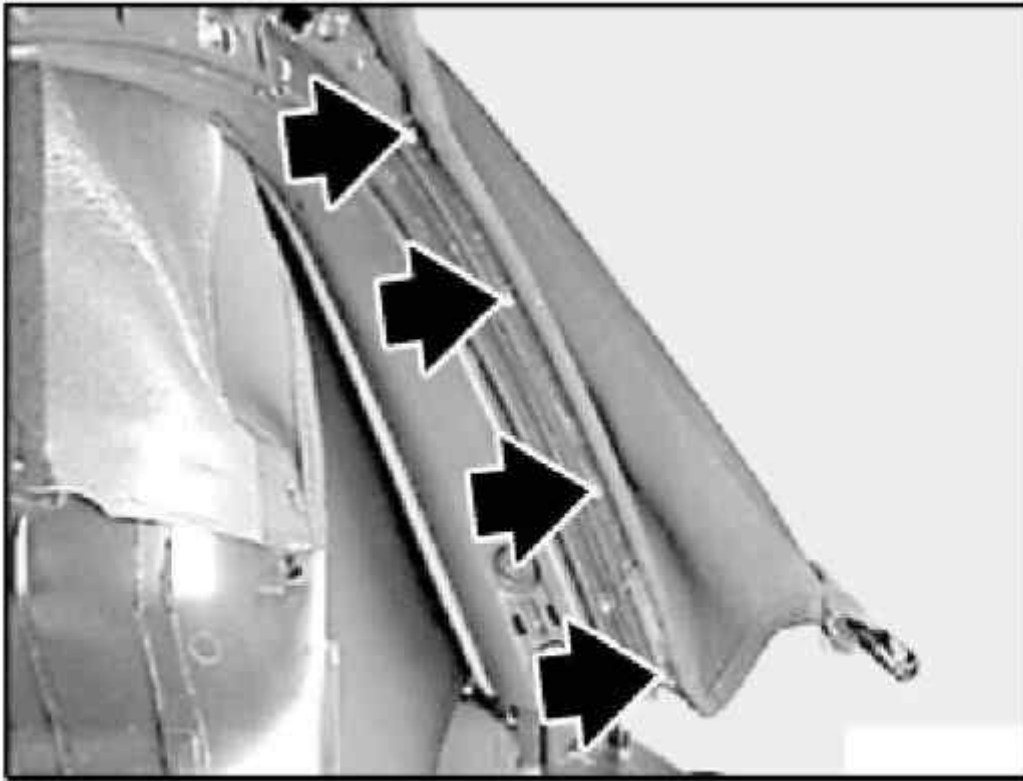
Fig. 70: Disconnecting Plug Connection For Heated Rear Window
Courtesy of BMW OF NORTH AMERICA, INC.

Drill out rivet joint on B-pillar on left/right.

Pull off fabric towards top.

Installation:

Replace shims.



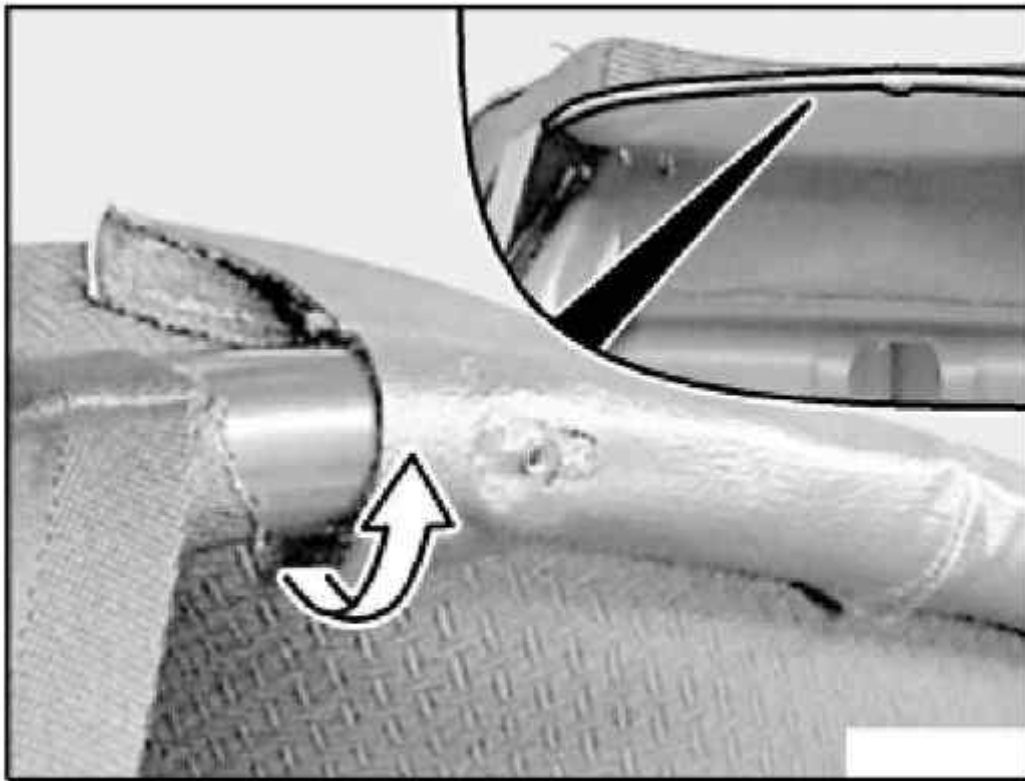
G03298272

Fig. 71: Pulling Off Fabric Towards Top
Courtesy of BMW OF NORTH AMERICA, INC.

Detach fabric from bow at rear.

Installation:

- If necessary, remove double-sided adhesive tape.
- Before installing, fit convertible top fabric on 1st bow so as to obtain the correct tension.
- Bring holes of fabric link and bow in line.



G03298273

Fig. 72: Detaching Fabric From Bow At Rear
Courtesy of BMW OF NORTH AMERICA, INC.

Drill out rivet joint (1) from rear tension cable bearing on left/right.

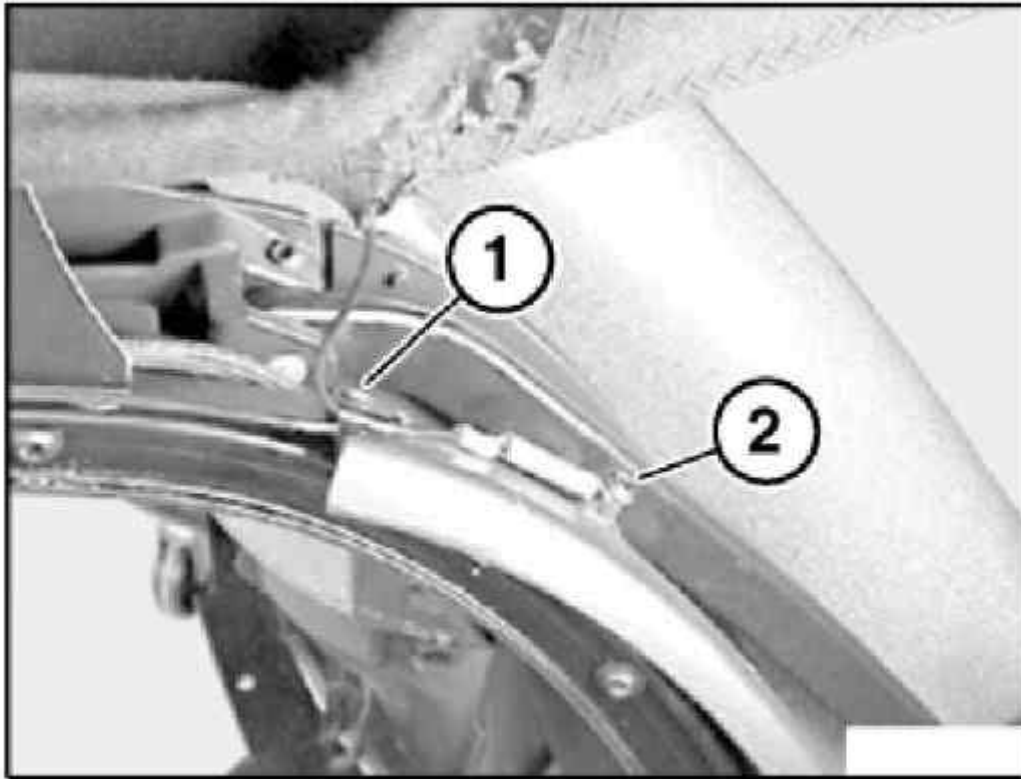
Release screw (2).

Remove fabric.

Feed out tension cables towards front.

Installation:

Replace shims.



G03298274

Fig. 73: Drilling Out Rivet Joint From Rear Tension Cable Bearing On Left/Right
Courtesy of BMW OF NORTH AMERICA, INC.

NOTE: The dimensions and tolerances of the convertible top frame and the convertible top fabric are designed so that it is not necessary to correct the tension. When fitted, new convertible top fabric is always a little "taut" in the initial stages. If the vehicle remains idle with the convertible top closed for some time (e.g. overnight) the fabric "settles" so that the closing forces are then normal again.

IMPORTANT: Excessive convertible top tension not only increases the closing forces but also gives the convertible top the characteristics of a "drum". The acting wind forces and falling raindrops during driving will literally "drum" on the fabric resulting in significant impairment of the interior acoustics. On the other hand, if the convertible top is not tense enough, it droops "and, at higher roadspeeds, it starts to make a flapping noise".

Necessary preliminary tasks:

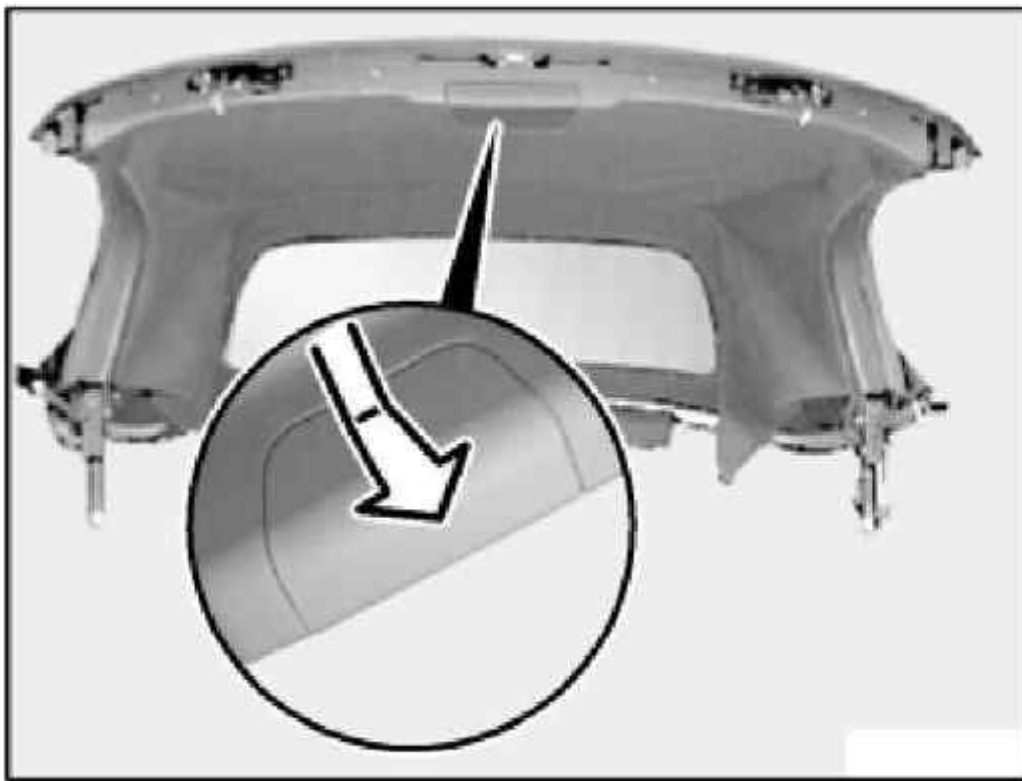
- Open convertible top slightly.

Mechanical convertible top only:

- Remove handle . See **54 31 024 Removing And Installing Or Replacing Handle For Convertible Top Cover Lock** .

NOTE: Work is shown on the removed convertible top.

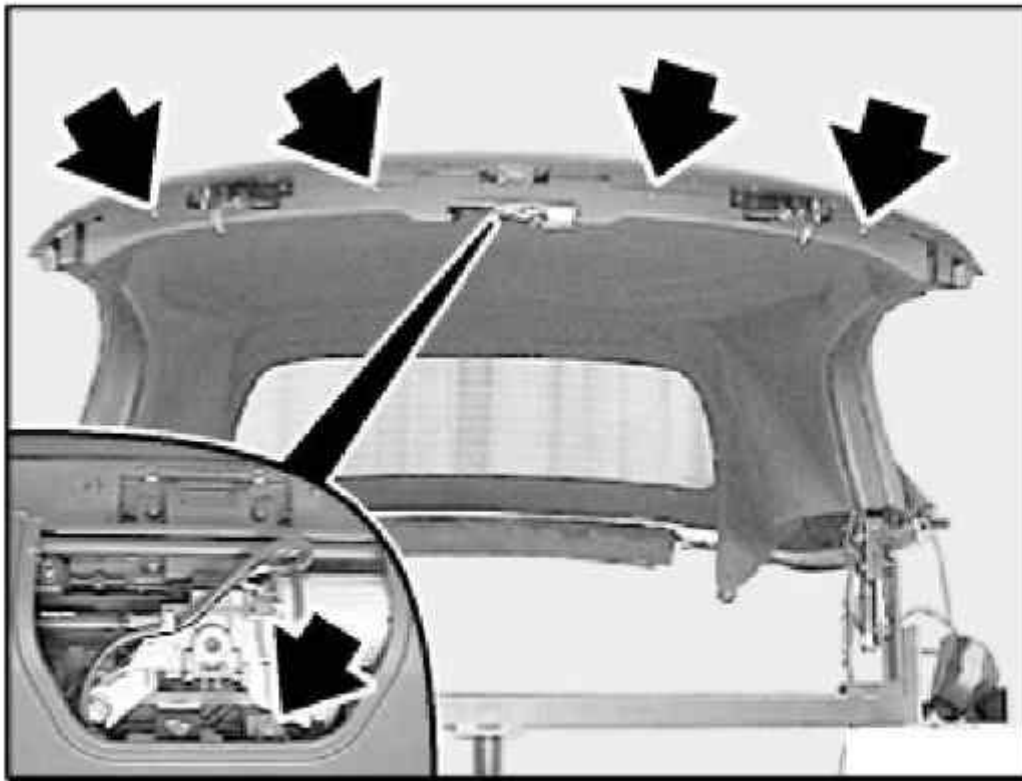
Press in cover from rear slightly and remove towards bottom.



G03298275

Fig. 74: Pressing In Cover From Rear Slightly And Removing Towards Bottom
Courtesy of BMW OF NORTH AMERICA, INC.

Unfasten screws.



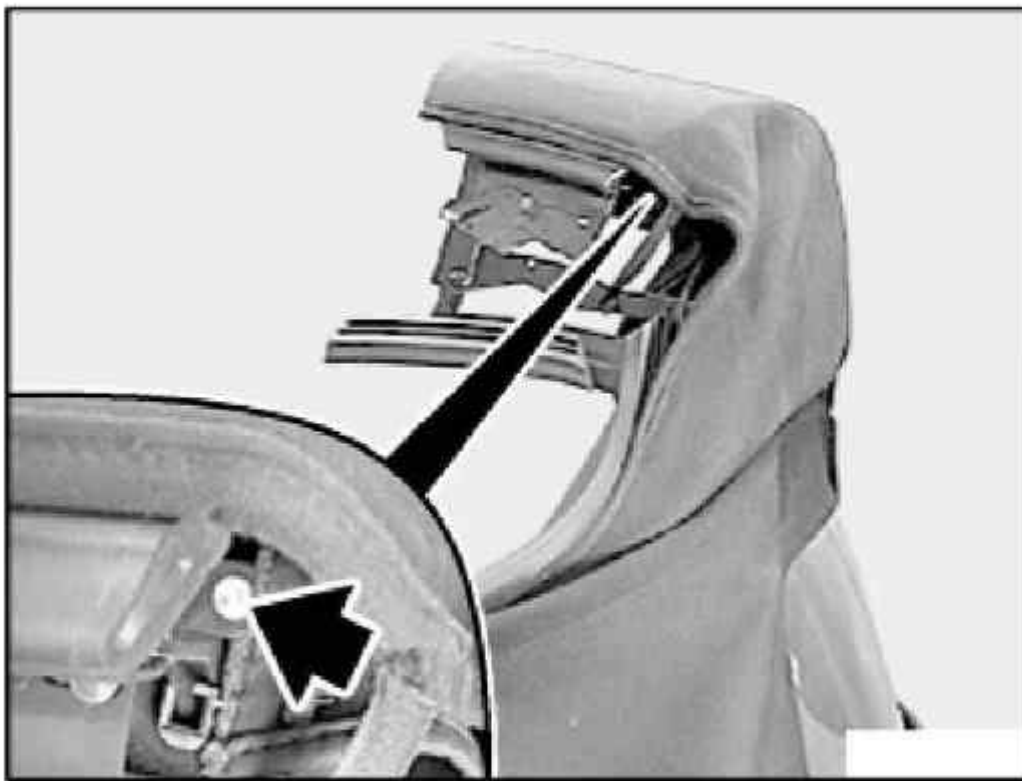
G03298276

Fig. 75: Locating Unfasten Screws

Courtesy of BMW OF NORTH AMERICA, INC.

Open convertible top halfway.

Unscrew left and right bolts.

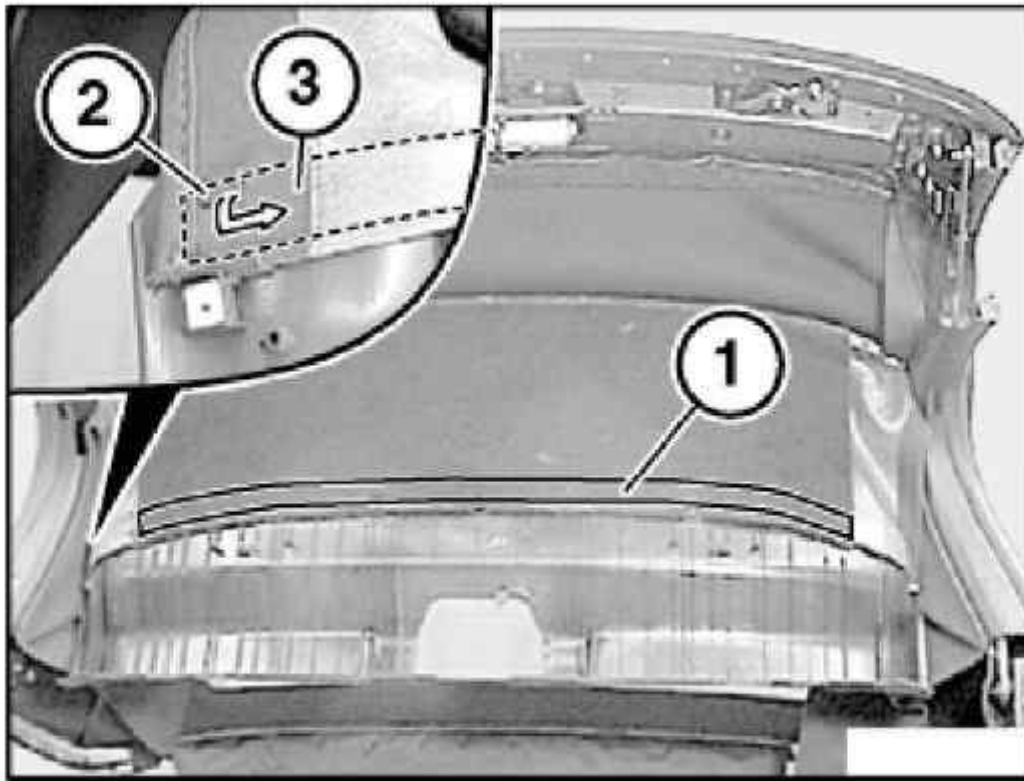


G03298277

Fig. 76: Opening Convertible Top Halfway
Courtesy of BMW OF NORTH AMERICA, INC.

For replacing EH convertible top only:

- Release screws in area (1).
- Unhook cover on right and left from guide (2) and pull with flat welt (3) to center from guide (2).
- Remove trim.



G03298278

Fig. 77: Pulling Flat Welt To Center From Guide
Courtesy of BMW OF NORTH AMERICA, INC.

54 34 130 REMOVING AND INSTALLING OR REPLACING HEADLINING IN CONVERTIBLE TOP

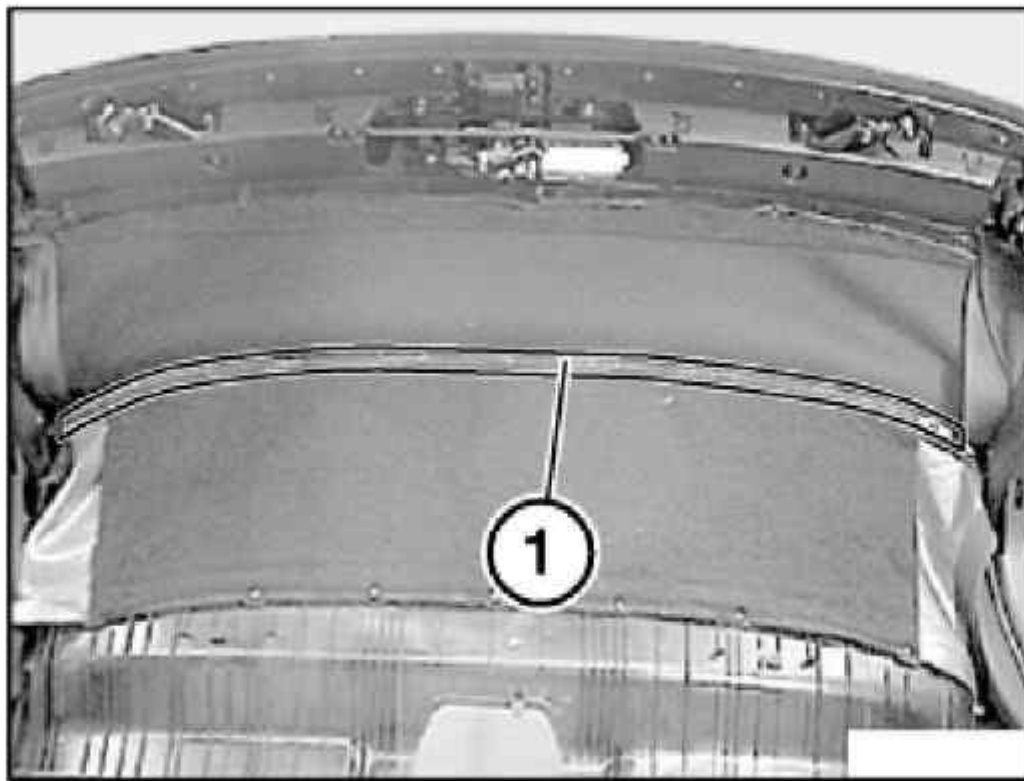
Necessary preliminary tasks:

- Remove convertible top . See **54 34 101 Removing And Installing Complete Convertible Top** .
- Release trim on convertible top catch. See **54 34 125 Removing And Installing/Replacing Trim On Convertible Top Lock** .

When replacing (EH convertible top):

- Remove trim . See **54 34 125 Removing And Installing/Replacing Trim On Convertible Top Lock** .

Release screws in area (1).



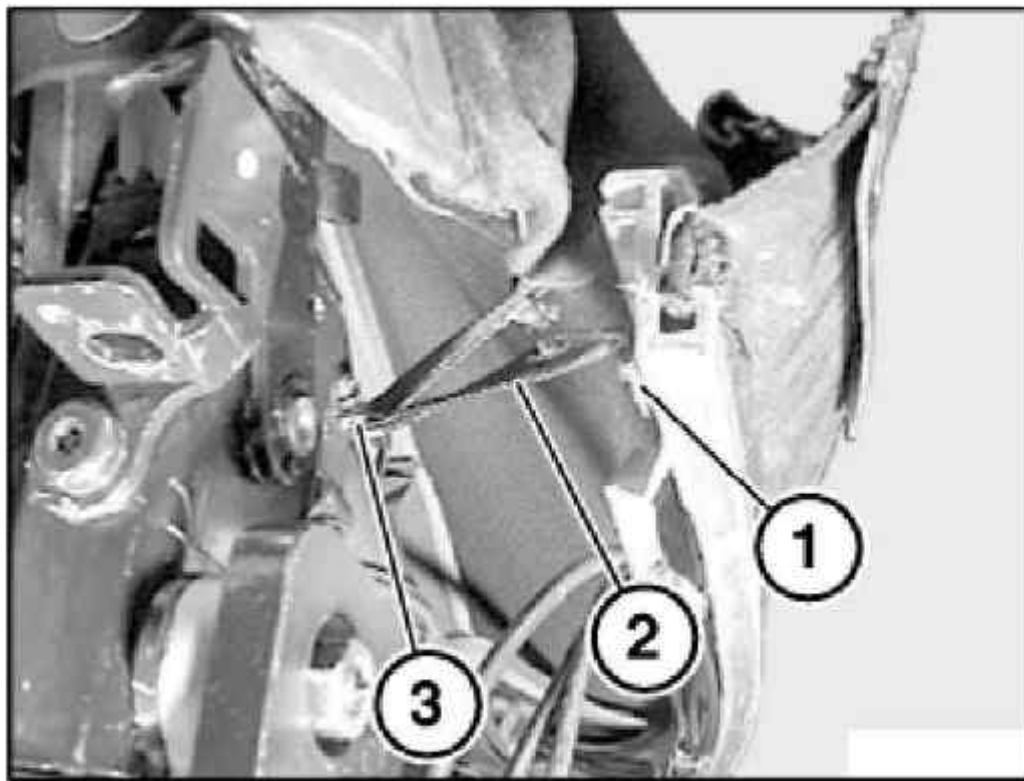
G03298279

Fig. 78: Releasing Screws In Area

Courtesy of BMW OF NORTH AMERICA, INC.

Release screws (1) of front strap on convertible top strip on right and left.

Feed front strap (2) on right and left out of eyelet (3).

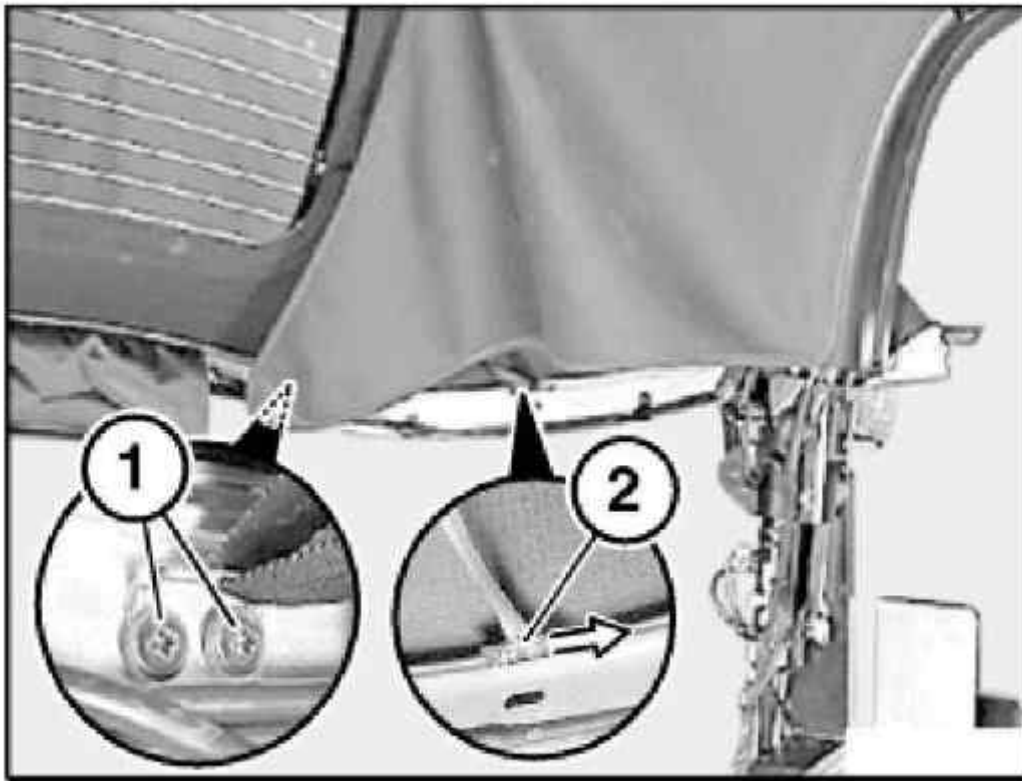


G03298280

Fig. 79: Feeding Front Strap On Right And Left Out Of Eyelet
Courtesy of BMW OF NORTH AMERICA, INC.

Release screws (1) of front strap on convertible top strip on right and left.

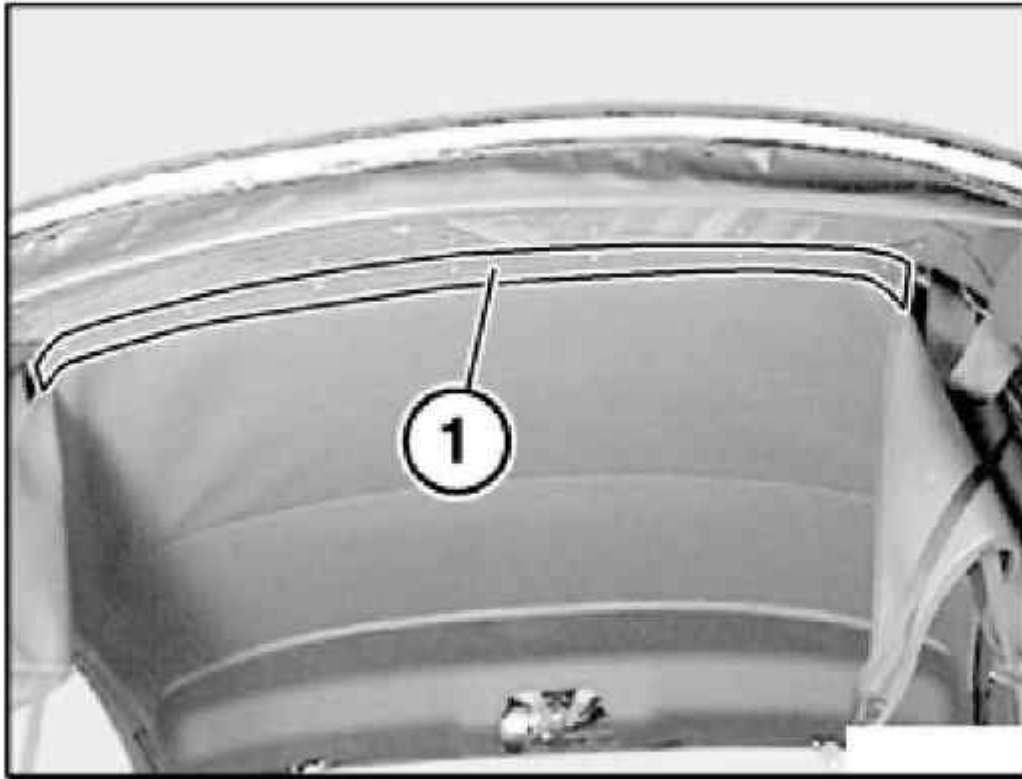
Feed front strap (2) on right and left out of convertible top strip.



G03298281

Fig. 80: Releasing Screws Of Front Strap On Convertible Top Strip Right And Left
Courtesy of BMW OF NORTH AMERICA, INC.

Release screws in area (1) on lower bow.



G03298282

Fig. 81: Releasing Lower Bow Screws
Courtesy of BMW OF NORTH AMERICA, INC.

Release screws of front straps.

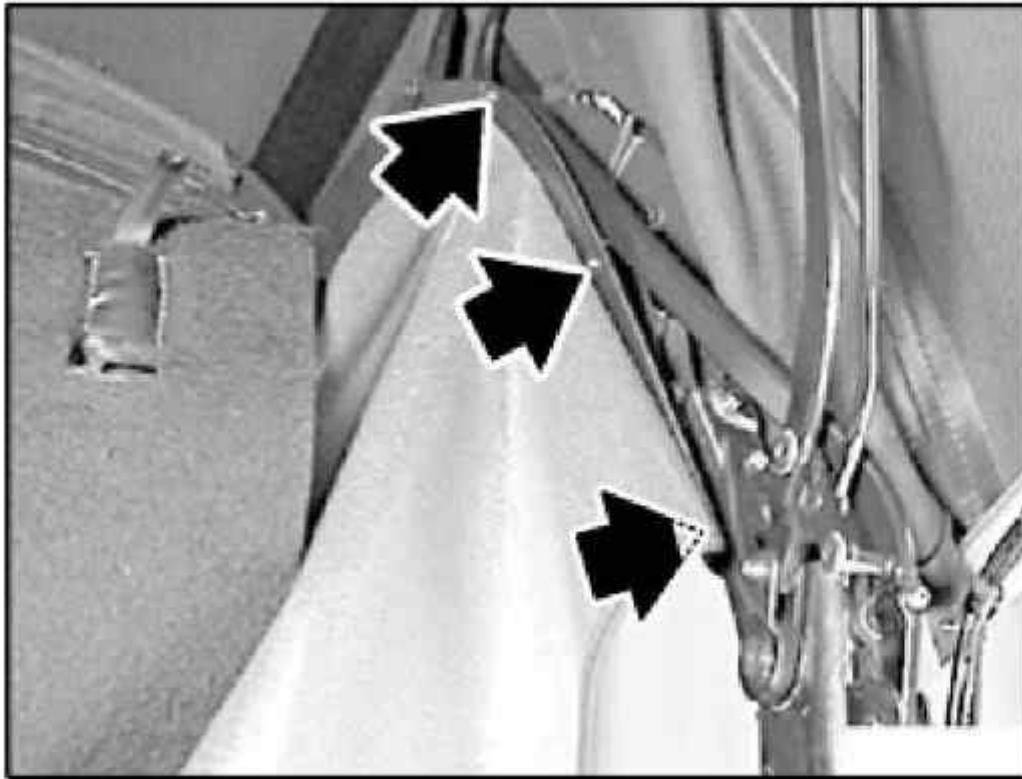


G03298283

Fig. 82: Releasing Screws Of Front Straps
Courtesy of BMW OF NORTH AMERICA, INC.

Drill out rivet joints right and left.

Remove roofliner.



G03298284

Fig. 83: Removing Roofliner

Courtesy of BMW OF NORTH AMERICA, INC.

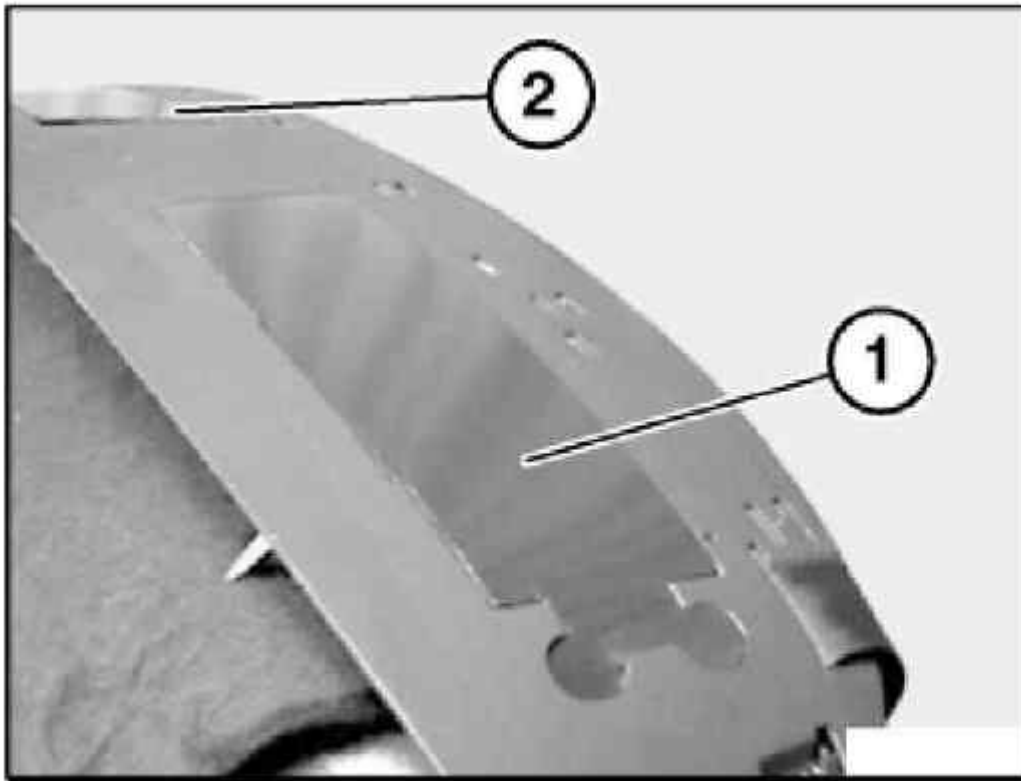
54 34 159 REMOVING AND INSTALLING/REPLACING LEFT CONVERTIBLE TOP CATCH (AUTOMATIC)

Necessary preliminary tasks:

- Remove front convertible top fabric . See **54 34 120 Replacing Convertible Top Fabric** .

Remove cover (1).

2 = Right cover



G03298285

Fig. 84: Removing Cover

Courtesy of BMW OF NORTH AMERICA, INC.

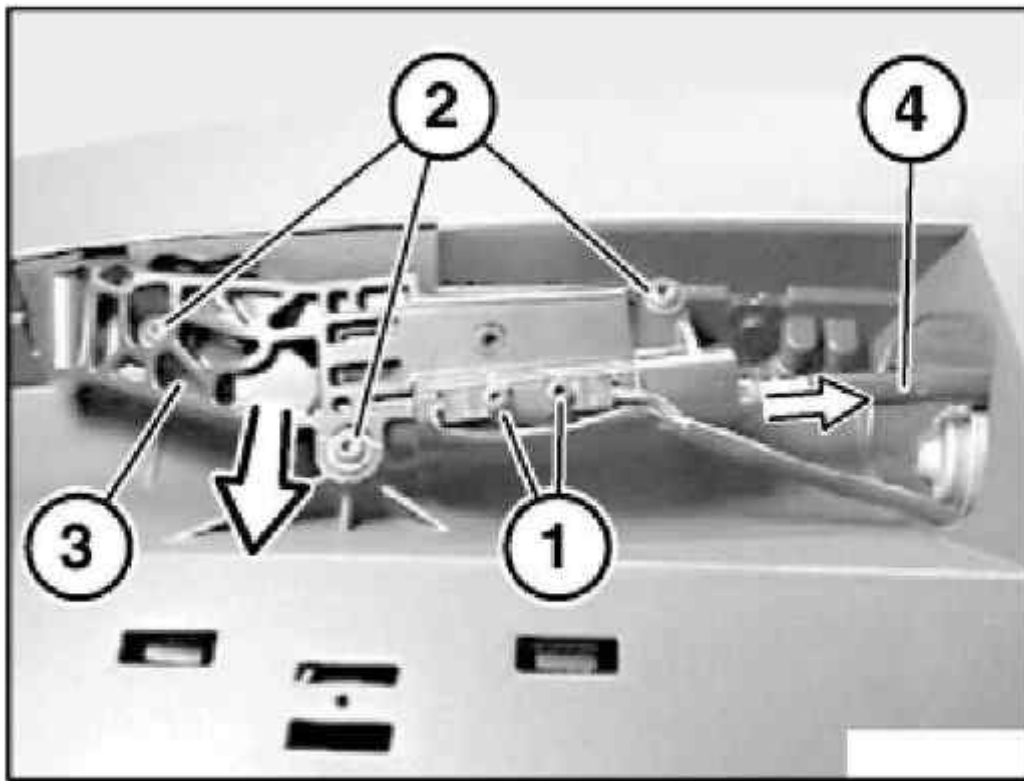
Release screws (1) and remove Hall sensor . See **61 31 798 REMOVING AND INSTALLING/REPLACING SENSOR ON CONVERTIBLE TOP LATCH** .

Loosen screws (2).

Feed out catch (3) towards rear top, detach flexible shaft (4) from catch in so doing.

Installation:

- Catch must be set to "open" before flexible shaft is pushed on. If necessary, turn accordingly by means of drive pinion.
- Replace screws (2).



G03298286

Fig. 85: Feeding Out Catch Towards Rear Top
Courtesy of BMW OF NORTH AMERICA, INC.

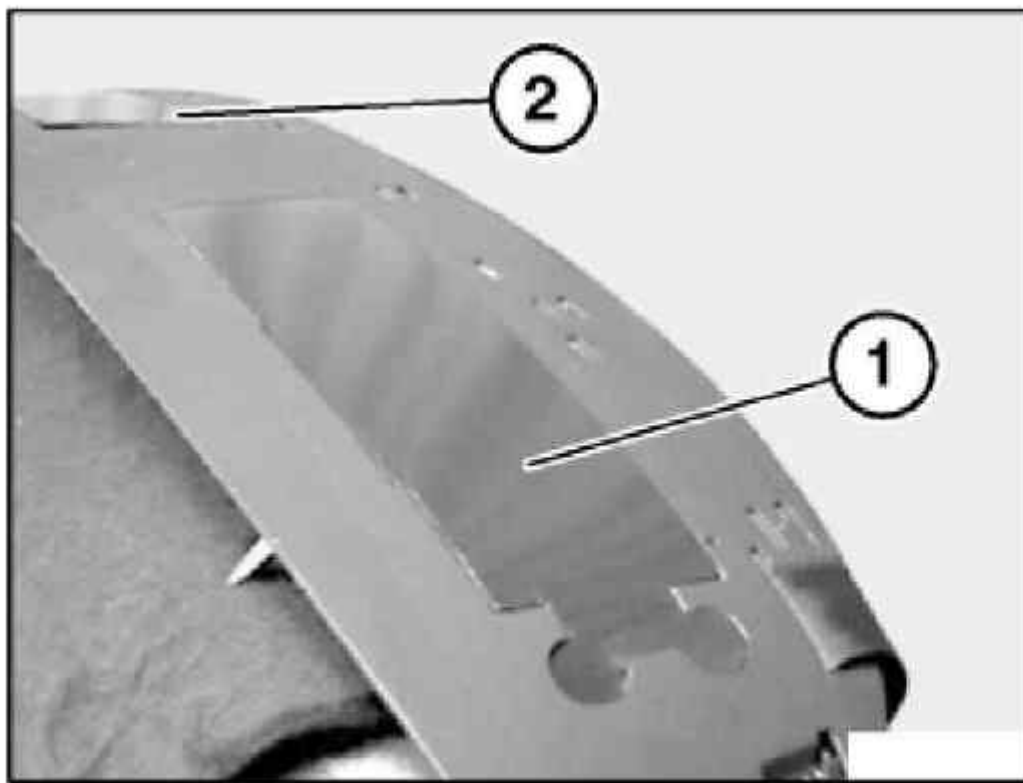
54 34 160 REMOVING AND INSTALLING/REPLACING RIGHT CONVERTIBLE TOP CATCH (AUTOMATIC)

Necessary preliminary tasks:

- Remove front convertible top fabric . See **54 34 120 Replacing Convertible Top Fabric** .

Remove cover (2).

1 = Left cover



G03298287

Fig. 86: Removing Left Cover

Courtesy of BMW OF NORTH AMERICA, INC.

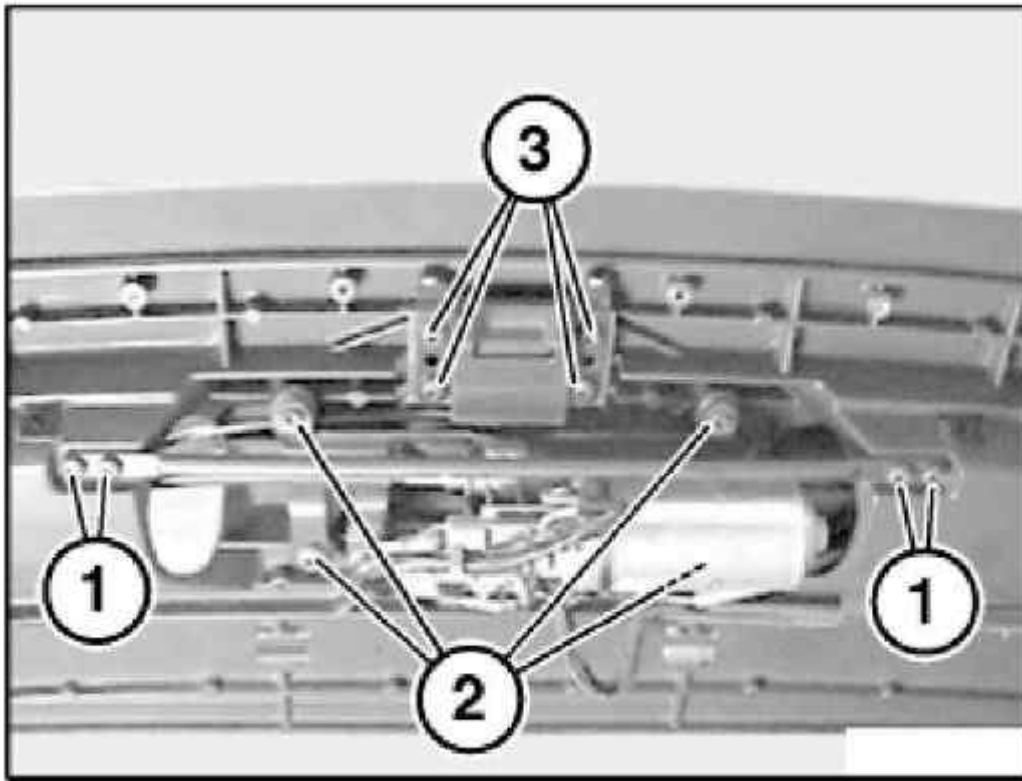
Release screws (1), turn reinforcement to one side.

Release screws (2), press engine frame downwards slightly.

Release screws (3), remove holder and lock.

Installation:

Replace screws (2).



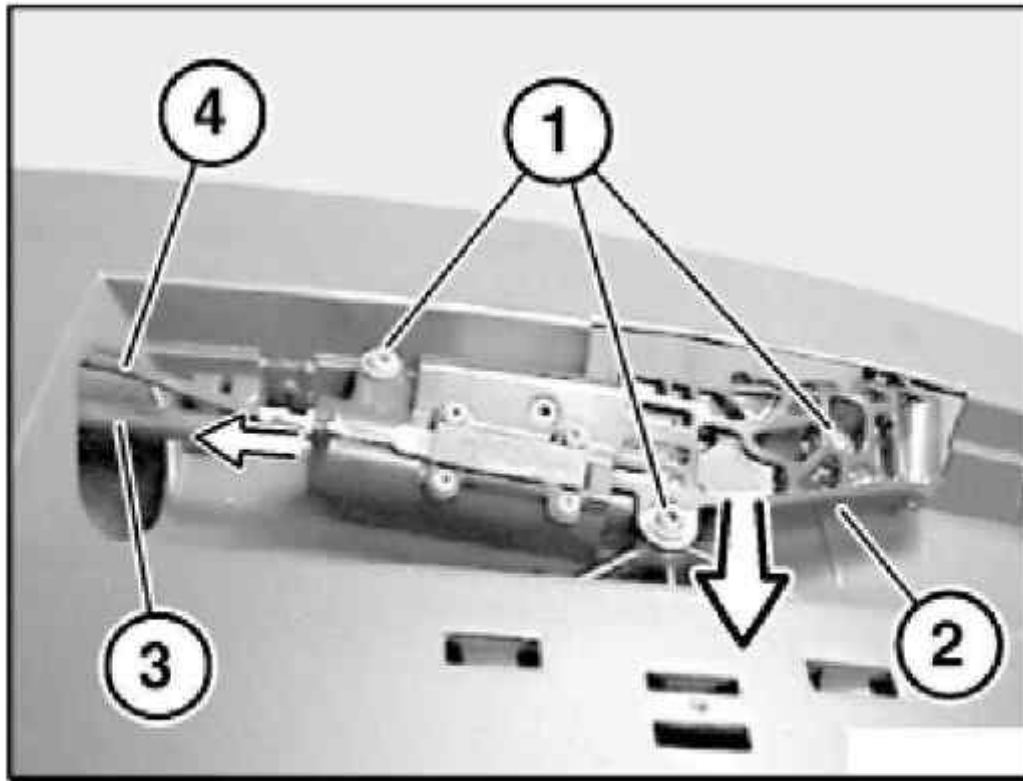
G03298288

Fig. 87: Releasing Screws And Removing Holder And Lock
Courtesy of BMW OF NORTH AMERICA, INC.

Loosen screws (1).

Tightening torque, see 54 31 15AZ (replace screws) in **SLIDE/TILT ROOF AND CONVERTIBLE TOP - TIGHTENING TORQUES** .

Feed out catch (2) with Bowden cable towards rear top, detaching drive shaft (3) from catch and feeding out Bowden cable (4) with sensor.



G03298289

Fig. 88: Detaching Drive Shaft From Catch And Feeding Out Bowden Cable With Sensor
Courtesy of BMW OF NORTH AMERICA, INC.

54 34 210 REMOVING AND INSTALLING/REPLACING TENSION CABLE

Necessary preliminary tasks:

- Remove convertible top fabric at front up to main support (without last bow) (without convertible top removal). See **54 34 120 Replacing Convertible Top Fabric** .

Drill out rivet joint (1) from rear tension cable bearing on left/right.

Release screw (2).

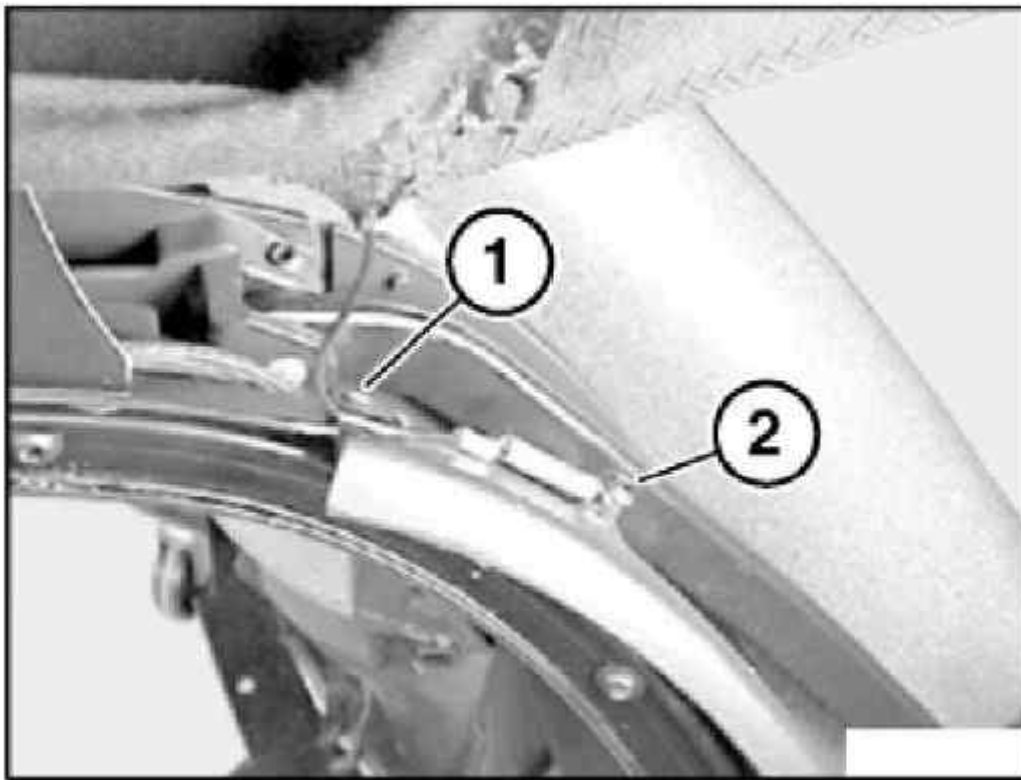
Remove tension cable from cable.

Feed tension cable out of fabric towards front.

Installation:

Use a pull-in aid (e.g. welding wire).

Replace shims.

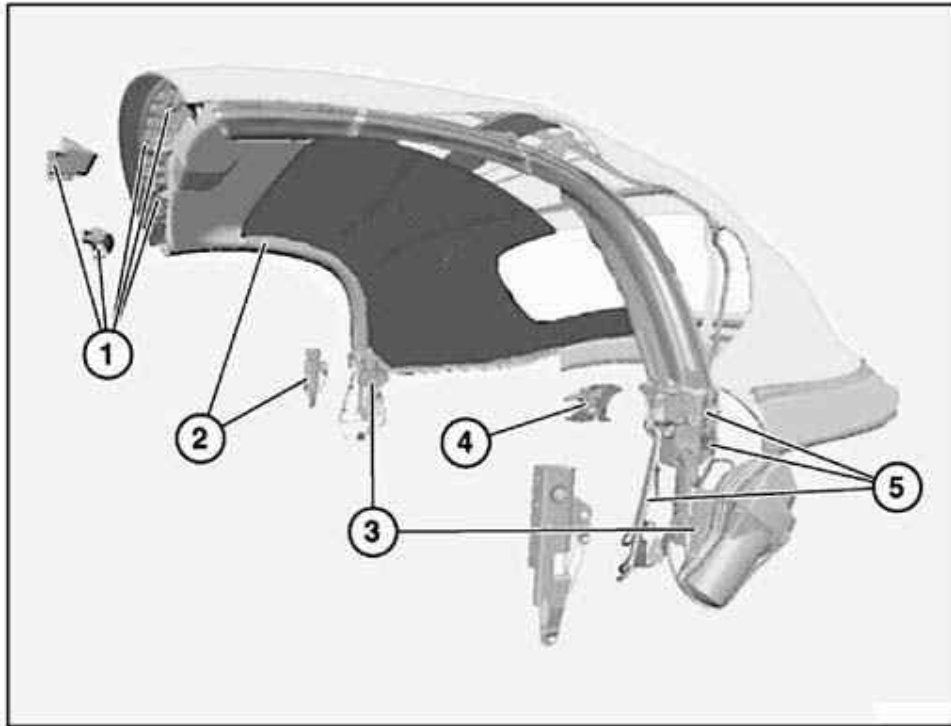


G03298290

Fig. 89: Releasing Screw And Removing Tension Cable From Cable
Courtesy of BMW OF NORTH AMERICA, INC.

MOTOR OPERATED CONVERTIBLE TOP

54 31... OVERVIEW OF CONVERTIBLE TOP

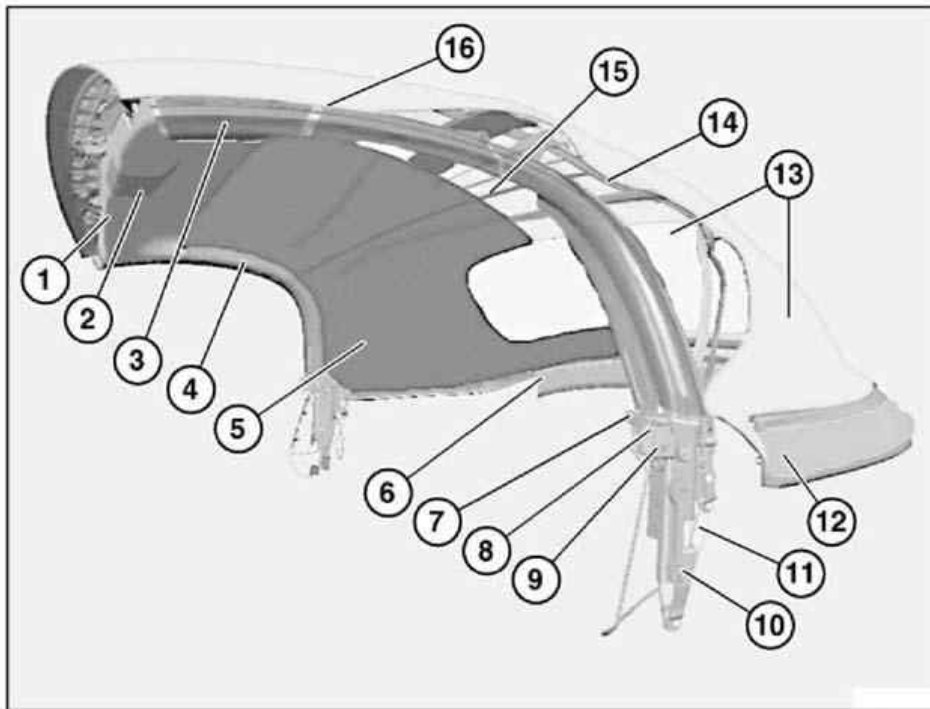


- | | | | |
|---|--|---|---|
| 0 | <u>General information and notes</u> | 3 | <u>Hydraulic system (EH convertible top only)</u> |
| 1 | <u>Convertible top catch, mechanical (mechanical convertible top only)</u> | 4 | <u>Stowage lock</u> |
| | <u>Convertible top catch, automatic (EH convertible top only)</u> | 5 | <u>Sensors, switches and wiring harness</u> |
| 2 | <u>Convertible top and add-on parts</u> | | |

G03298291

Fig. 90: Overview Of Convertible Top
 Courtesy of BMW OF NORTH AMERICA, INC.

54 31... OVERVIEW OF CONVERTIBLE TOP AND ADD-ON PARTS



- | | |
|---|---|
| 0 <u>Convertible top complete (removal and installation)</u> | 9 <u>Mounting hardtop (only with SE hardtop mounting only)</u> |
| 1 <u>Trim, cowl panel</u> | 10 <u>Main support, mechanical</u>
<u>Main support, automatic</u> |
| 2 <u>Recessed handle (cover middle)</u> | 11 <u>Gas pressure spring (mechanical convertible top only)</u> |
| 3 <u>Window guide (seal with rail)</u> | 12 <u>Convertible top strip</u> |
| 4 <u>Convertible top frame (partly magnesium)</u> | 13 <u>Fabric with rear window</u> |
| 5 <u>Roof liner</u> | 14 <u>Tensioning belt</u> |
| 6 <u>Cover, convertible top compartment</u> | 15 <u>Wire bar (only for mechanical convertible top in roofliner)</u> |
| 7 <u>Covers main support (described in Convertible top removal)</u> | 16 <u>Tension cable</u> |
| 8 <u>Contact jack hardtop (only with SE hardtop mounting only)</u> | |

G03298292

Fig. 91: Overview Of Convertible Top And Add-On Parts
Courtesy of BMW OF NORTH AMERICA, INC.

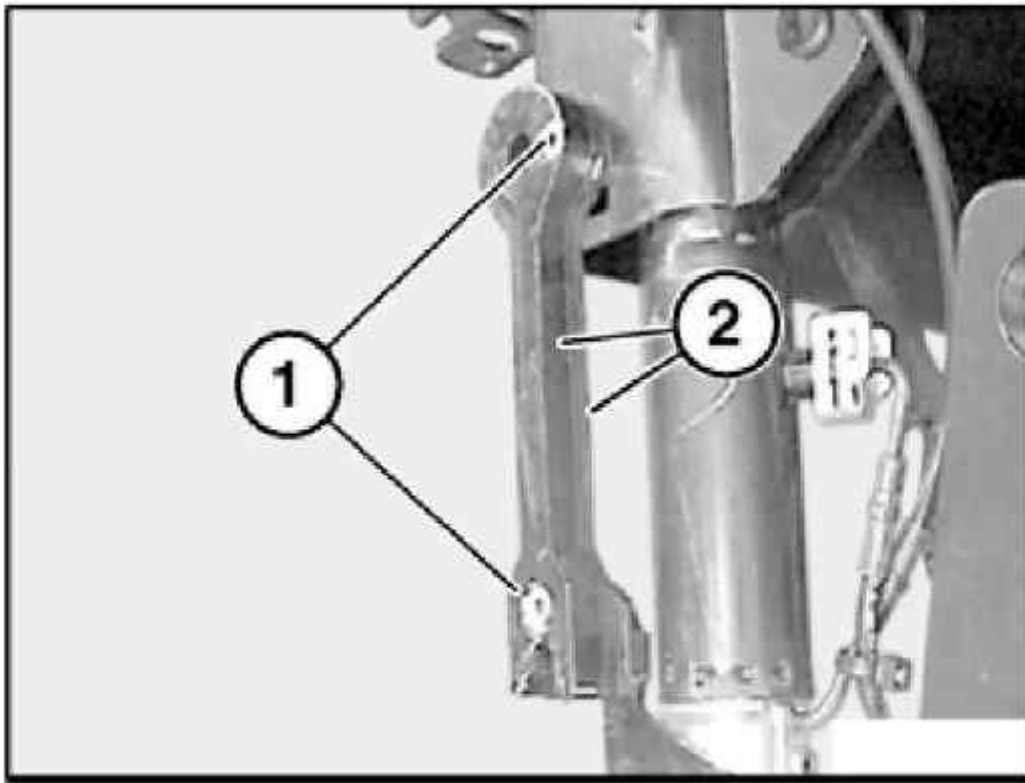
54 31 000 ADJUSTING CONVERTIBLE TOP

Necessary preliminary tasks:

- Remove convertible top . See **54 34 101 Removing And Installing Complete Convertible Top** .

If the convertible top or the B-pillar is replaced, it may be necessary to adjust the convertible top width:

- Measure internal distance between right and left B-pillars (convertible top fastening point).
- Measure external distance between shims on main support from right to left.
- In event of discrepancies of +/- 3 mm, release screws (1) and remove or install shims (2).
- Shims are 1 mm thick.



G03298293

Fig. 92: Removing And Installing Shims
Courtesy of BMW OF NORTH AMERICA, INC.

Further adjustments are not possible.

54 31 145 REPLACING COVER

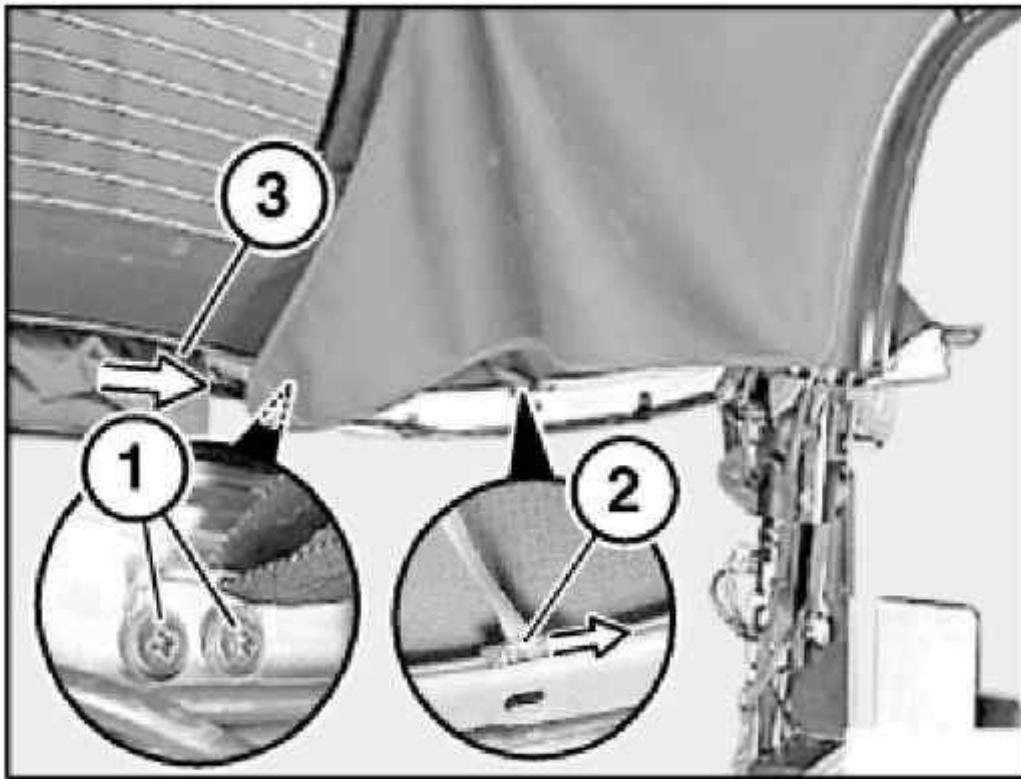
Necessary preliminary tasks:

- Remove convertible top . See **54 34 101 Removing And Installing Complete Convertible Top** .

NOTE: This operation can be carried out from the right or left side.

Release screws (1) of front strap on convertible top strip.

Feed front strap (2) and cover (3) out of convertible top strip.



G03298294

Fig. 93: Feeding Front Strap And Cover Out Of Convertible Top Strip

Courtesy of BMW OF NORTH AMERICA, INC.

54 31 150 REMOVING AND INSTALLING/REPLACING TENSION BELTS

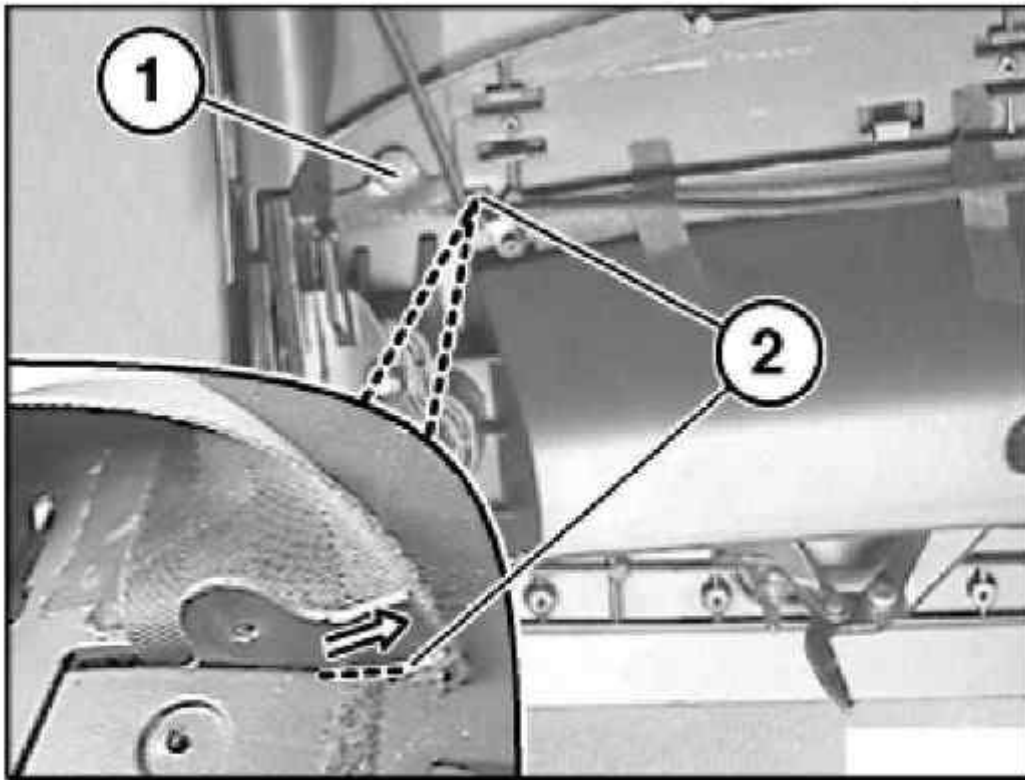
Necessary preliminary tasks:

- Remove convertible top . See **54 34 101 Removing And Installing Complete Convertible Top** .
- Partially remove convertible top fabric . See **54 34 120 Replacing Convertible Top Fabric** . (Without main support and without last bow).

Feeding out belt at bow 1:

- Release screws (1) on left/right on inside

- Retract convertible top a little
- Pull belt slightly and retract fastening clip
- Feed out start of belt to center over opening (2) towards top



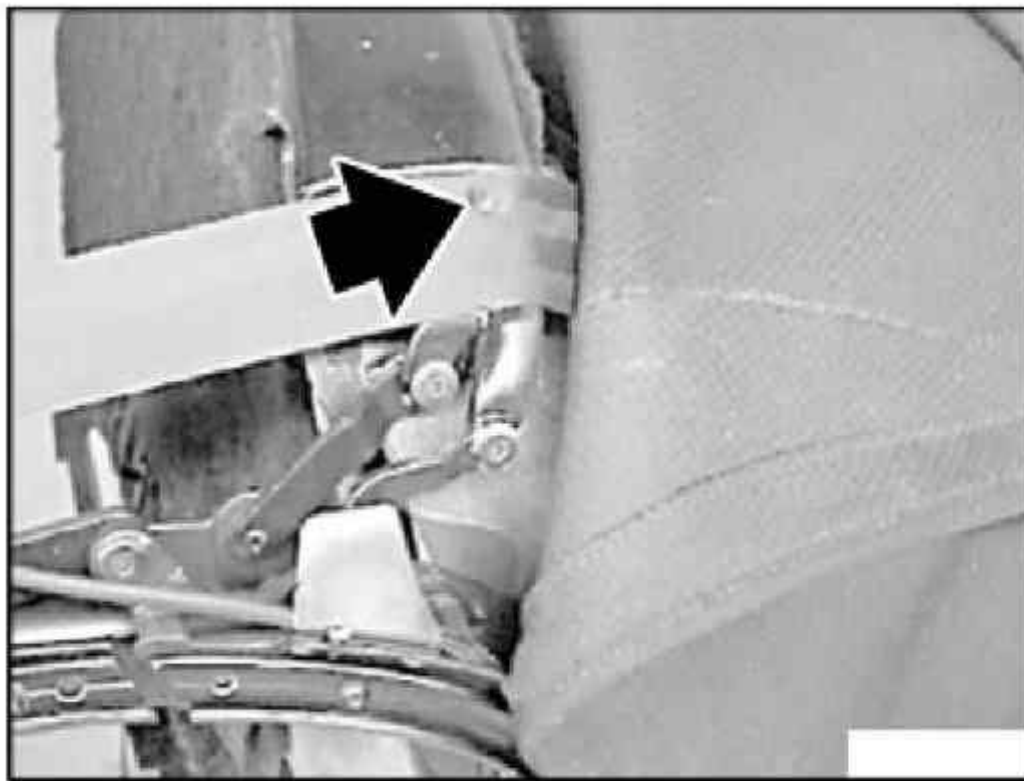
G03298295

Fig. 94: Feeding Out Start Of Belt To Center Over Opening Towards Top
Courtesy of BMW OF NORTH AMERICA, INC.

Unfasten screws on left/right side.

Installation:

Fit belt first at bow 1 to obtain tension. Then insert screw here.



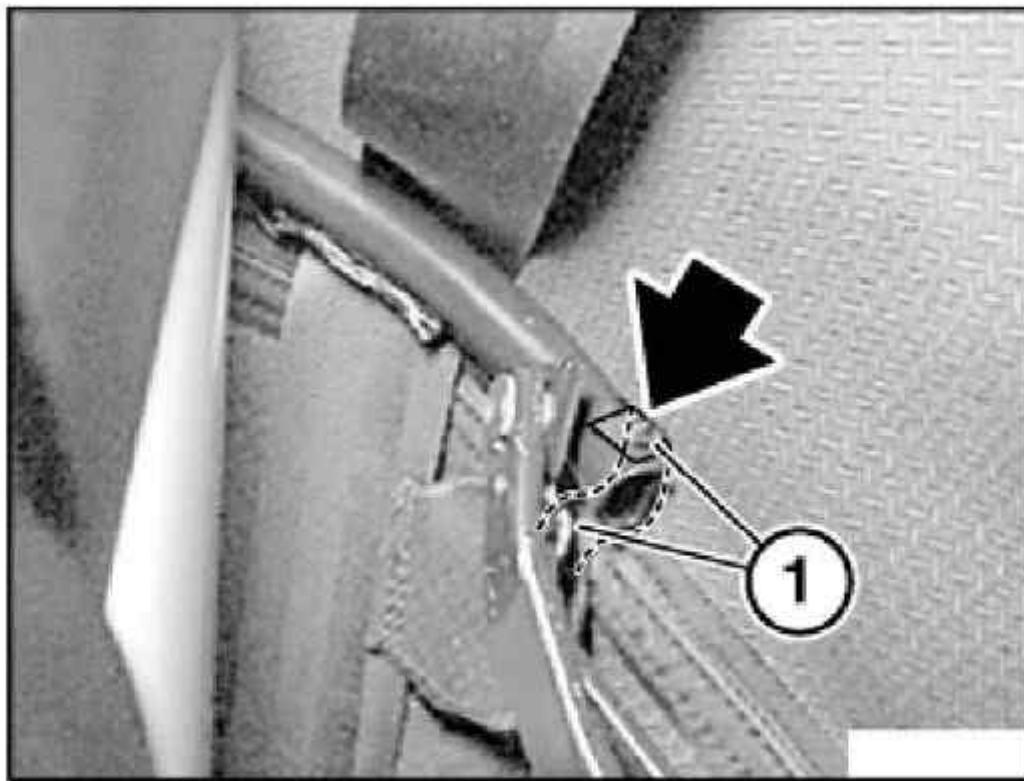
G03298296

Fig. 95: Fitting Belt First At Bow To Obtain Tension
Courtesy of BMW OF NORTH AMERICA, INC.

Unfasten screws on left/right side.

Installation:

Guide belt clip from rear over last bow.



G03298297

Fig. 96: Installing Guide Belt Clip From Rear Over Last Bow
Courtesy of BMW OF NORTH AMERICA, INC.

Feeding belt out of convertible top strip:

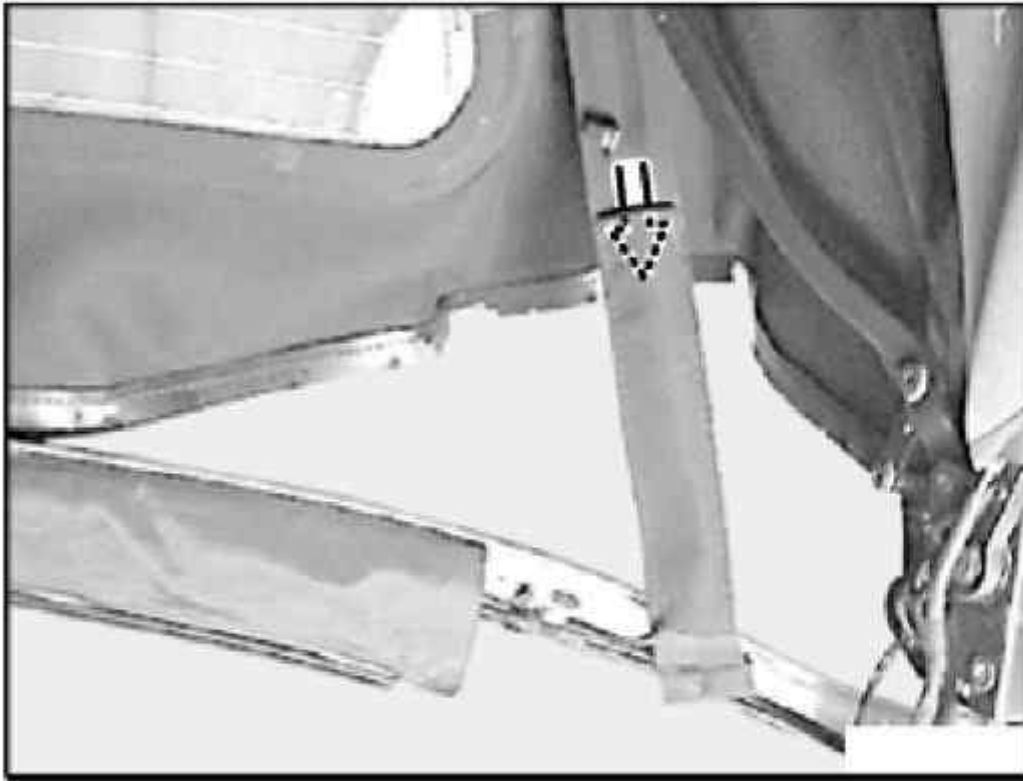
- Raise welt
- Remove welt towards rear bottom



G03298298

Fig. 97: Removing Welt Towards Rear Bottom
Courtesy of BMW OF NORTH AMERICA, INC.

Feed out cable towards bottom.

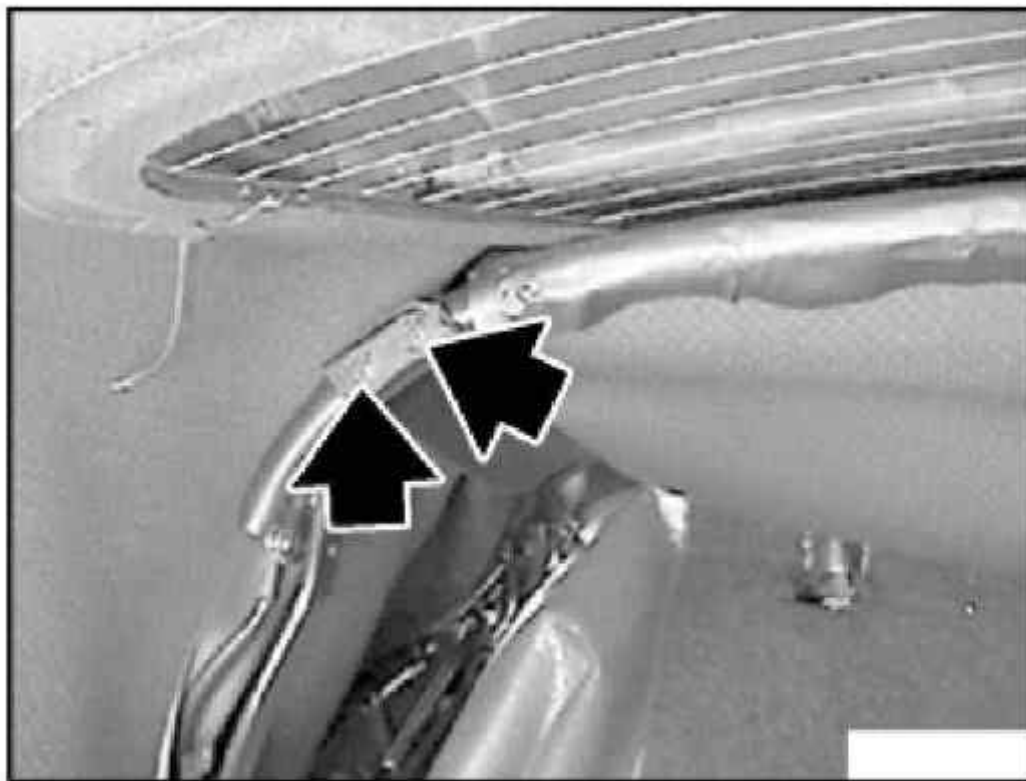


G03298299

Fig. 98: Feeding Out Cable Towards Bottom
Courtesy of BMW OF NORTH AMERICA, INC.

Unfasten screws.

Feed out belt.



G03298300

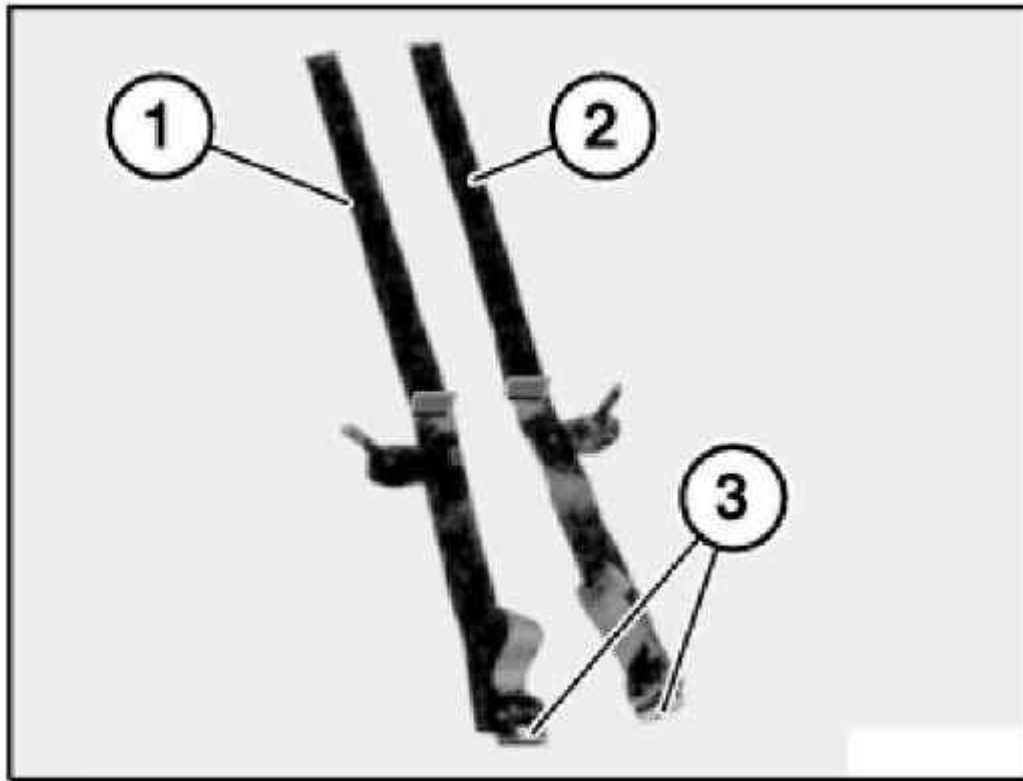
Fig. 99: Feeding Out Belt

Courtesy of BMW OF NORTH AMERICA, INC.

Installation:

Pay attention to right (1) and left (2) version.

3 = Rear



G03298301

Fig. 100: Noting Right And Left Version
Courtesy of BMW OF NORTH AMERICA, INC.

54 31 155 REMOVING AND INSTALLING/REPLACING ALL WINDOW GUIDES ON RIGHT AND LEFT OF CONVERTIBLE TOP

Open convertible top slightly.

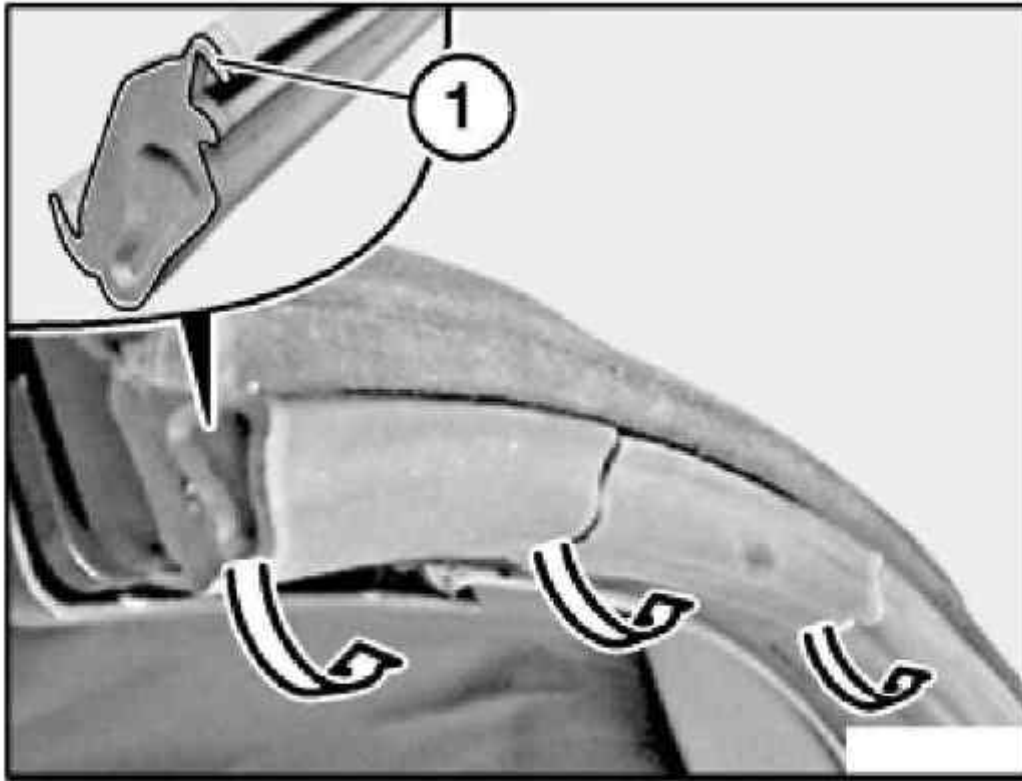
Pull window guides/convertible cover seals out of securing rail.

NOTE: When removing on both sides, mark seals as right and left.

Installation:

Install sealing lip (1) towards top.

If the seals (above all the middle seal) can be moved too easily, secure them at one point with fast-action adhesive (sourcing reference: BMW Parts Service).



G03298302

Fig. 101: Installing Sealing Lip Towards Top
Courtesy of BMW OF NORTH AMERICA, INC.

Unfasten screws.

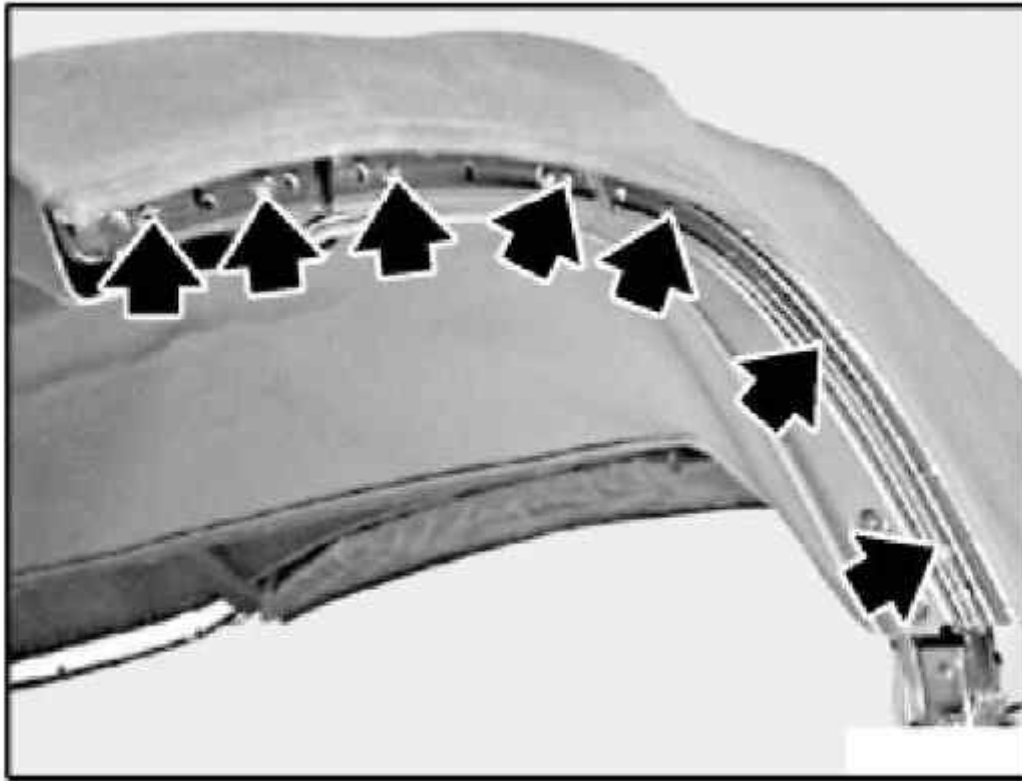
Tightening torque, see 54 31 16AZ in **SLIDE/TILT ROOF AND CONVERTIBLE TOP - TIGHTENING TORQUES** .

Carefully remove securing rail of window guide and note number of shims.

NOTE: When removing on both sides, mark securing rails as right and left.

Installation:

Reinstall same number of shims in same position (wind noises, leakage).



G03298303

Fig. 102: Removing Securing Rail Of Window Guide
Courtesy of BMW OF NORTH AMERICA, INC.

54 31 160 REPLACING CONVERTIBLE TOP STRIP

Necessary preliminary tasks:

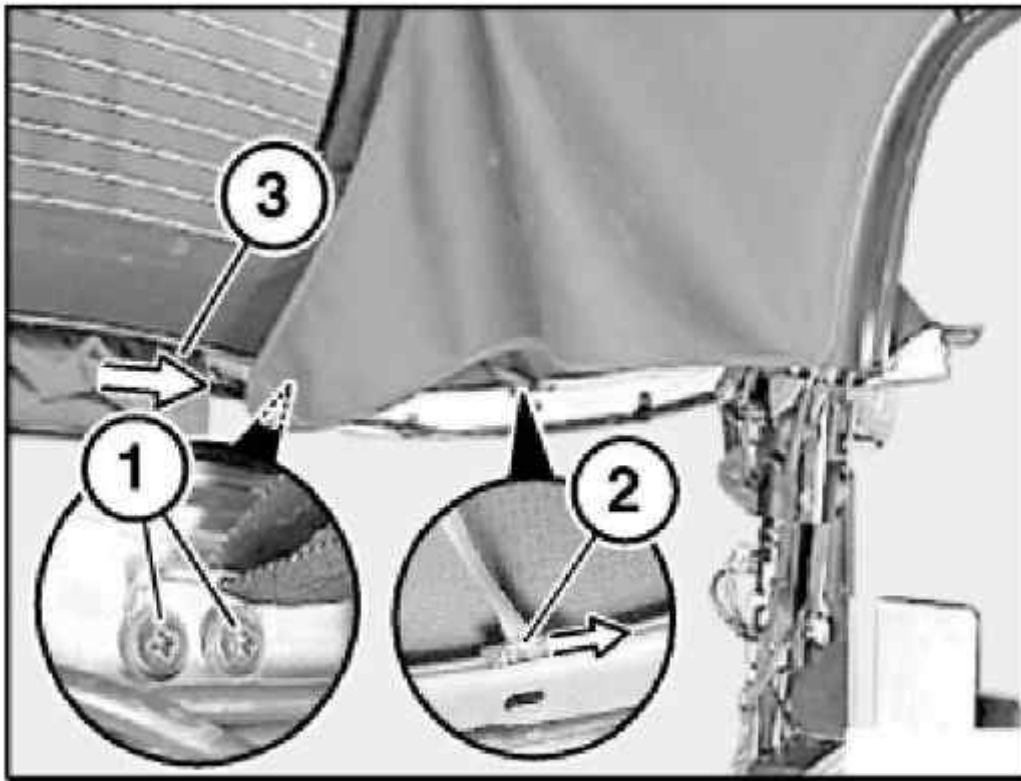
- Remove convertible top . See **54 34 101 Removing And Installing Complete Convertible Top** .

Release screws (1) of front strap on convertible top strip.

Feed front strap (2) out of convertible top strip.

Replacement only:

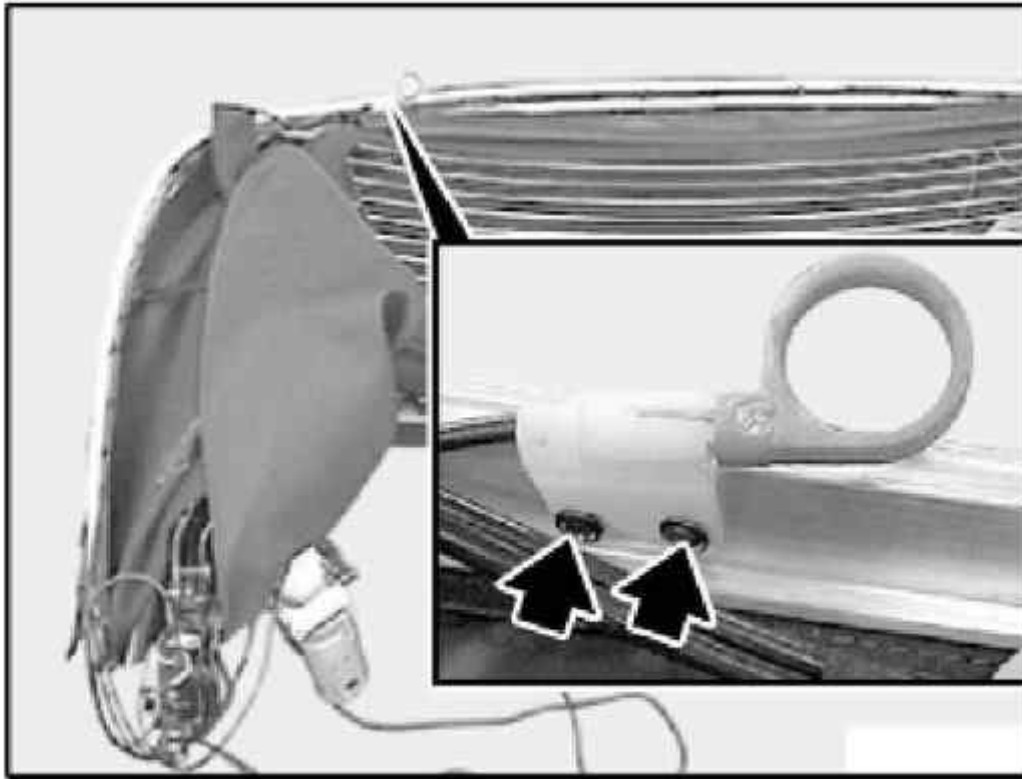
Feed cover (3) out of convertible top strip.



G03298304

Fig. 103: Feeding Front Strap Out Of Convertible Top Strip
Courtesy of BMW OF NORTH AMERICA, INC.

Unfasten screws.

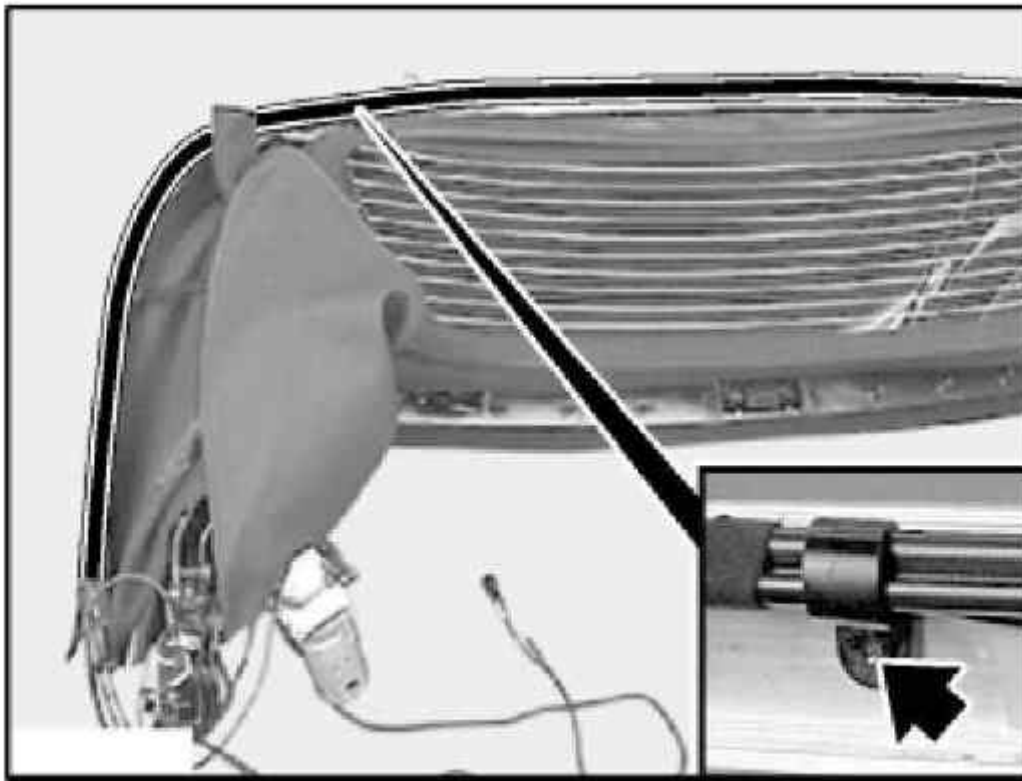


G03298305

Fig. 104: Unfastening Screws

Courtesy of BMW OF NORTH AMERICA, INC.

If necessary, release holder of hydraulic lines and emergency release Bowden cable.

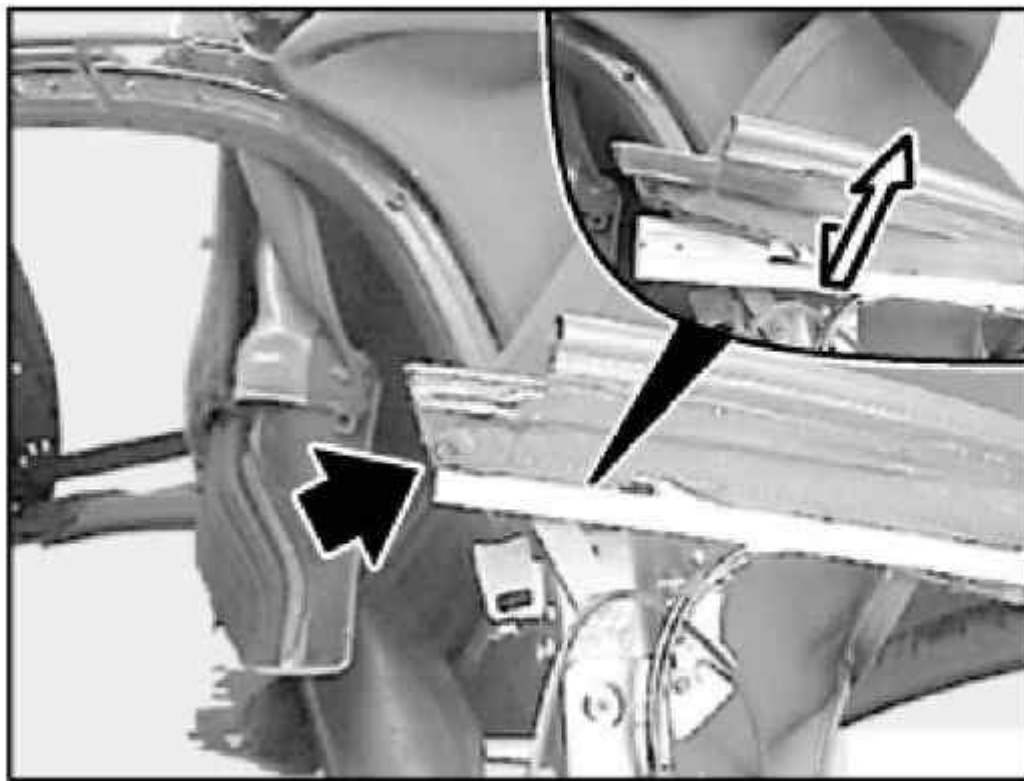


G03298306

Fig. 105: Releasing Holder Of Hydraulic Lines
Courtesy of BMW OF NORTH AMERICA, INC.

Unfasten screws on left/right side.

Feed fabric welt out of clamp.

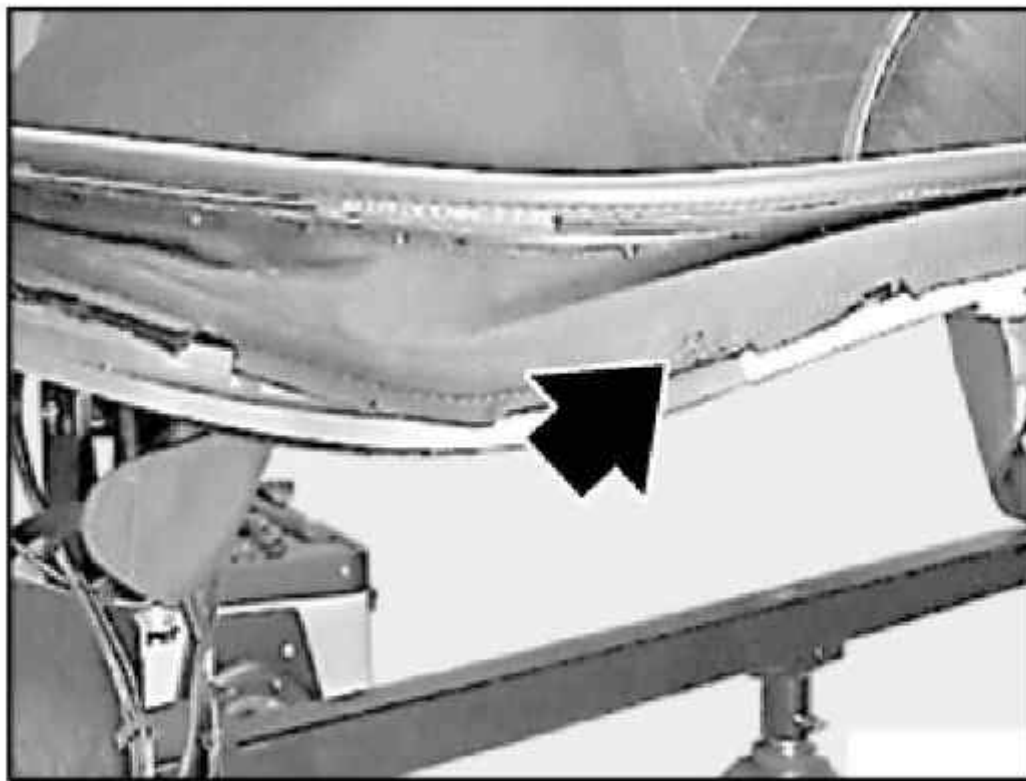


G03298307

Fig. 106: Feeding Fabric Welt Out Of Clamp
Courtesy of BMW OF NORTH AMERICA, INC.

Unfasten screws on left/right side.

Feed out fabric welt further.



G03298308

Fig. 107: Feeding Out Fabric Welt Further
Courtesy of BMW OF NORTH AMERICA, INC.

Feeding belt out of convertible top strip:

- Raise welt
- Remove welt towards rear bottom



G03298309

Fig. 108: Removing Welt Towards Rear Bottom
Courtesy of BMW OF NORTH AMERICA, INC.

54 31 165 REPLACING CONVERTIBLE TOP LOCK (STOWAGE LOCK)

Necessary preliminary tasks:

- Remove storage box . See **51 16 240 REMOVING AND INSTALLING REAR STORAGE COMPARTMENT** .

Unfasten screws.

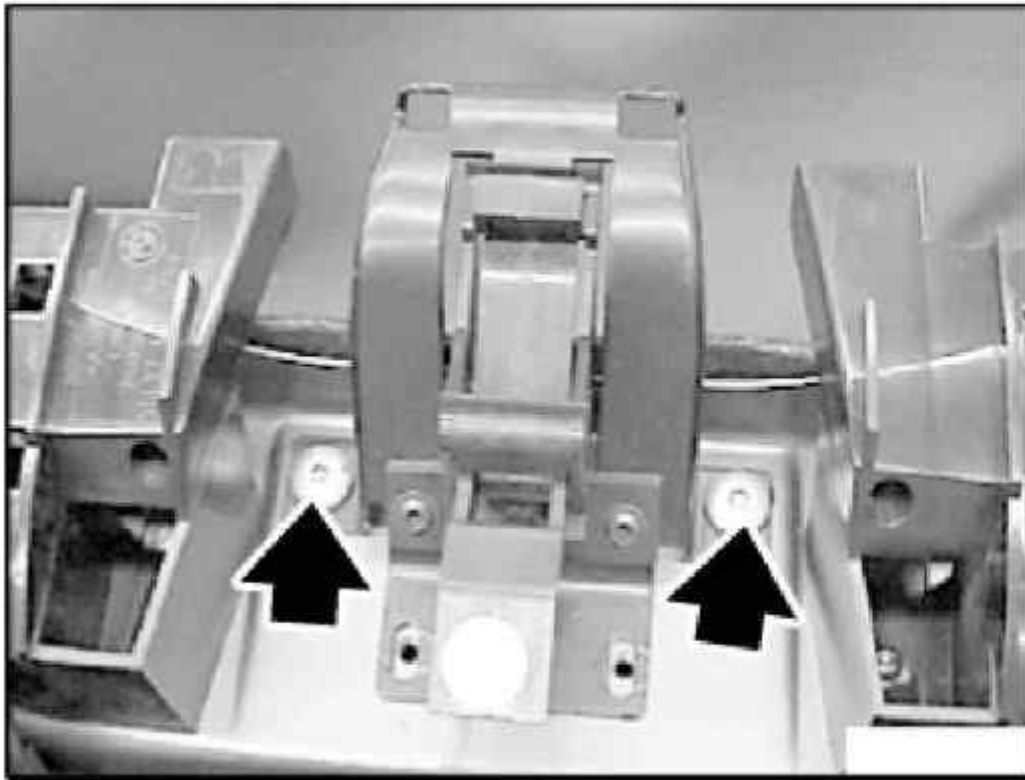
Installation:

- Install lock loose.
- Move lock in elongated holes in direction of convertible top.
- Stow convertible top until it engages exactly.

- Pull lock approx. 2 mm towards front and tighten down screws.

Tightening torque, see 54 31 1AZ in **SLIDE/TILT ROOF AND CONVERTIBLE TOP - TIGHTENING TORQUES** .

- Carry out function check, listening out for grinding noises.



G03298310

Fig. 109: Installing Convertible Top Lock
Courtesy of BMW OF NORTH AMERICA, INC.

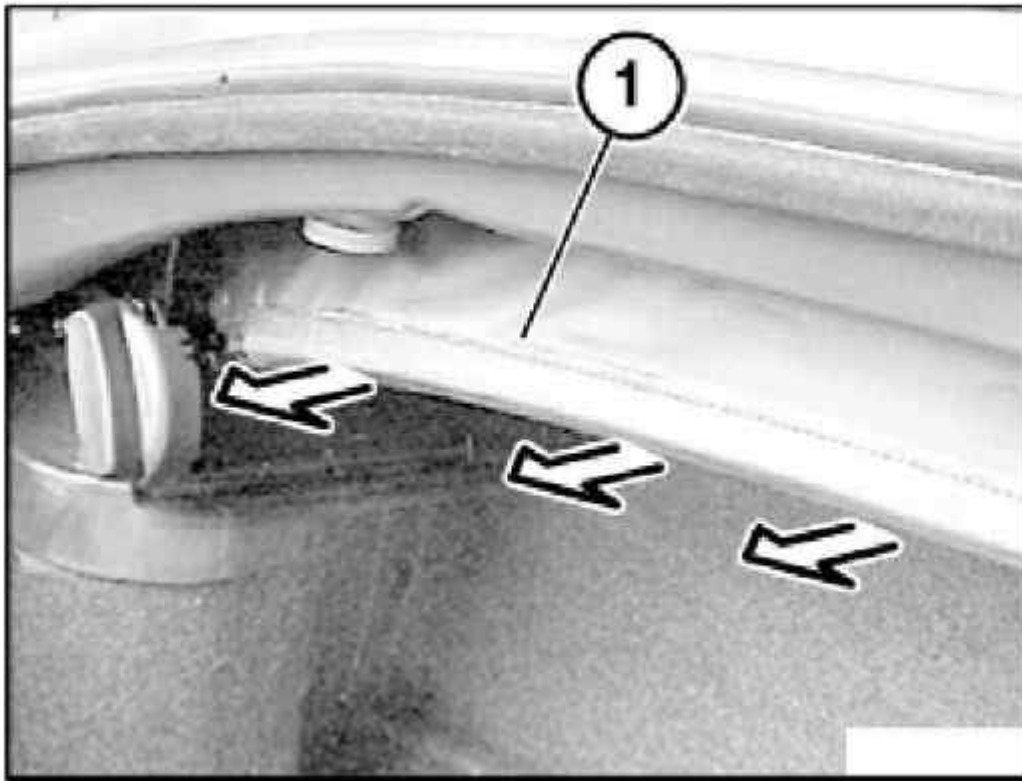
54 31 170 REMOVING AND INSTALLING/REPLACING CONVERTIBLE TOP COMPARTMENT FLOOR

Necessary preliminary tasks:

- Close convertible top
- Open rear lid.

Move convertible top compartment floor downwards.

Feed cover (1) out of convertible top compartment floor towards rear



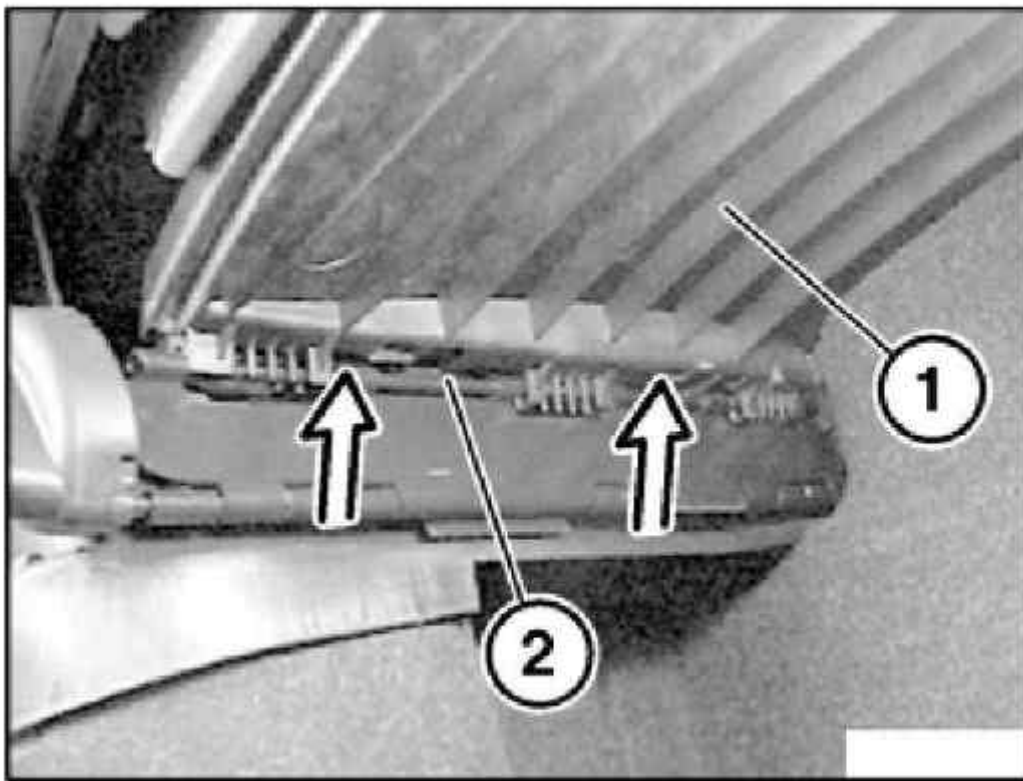
G03298311

Fig. 110: Feeding Cover Out Of Convertible Top Compartment Floor Towards Rear
Courtesy of BMW OF NORTH AMERICA, INC.

Unclip convertible top compartment floor (1) upwards out of mounting (2).

Installation:

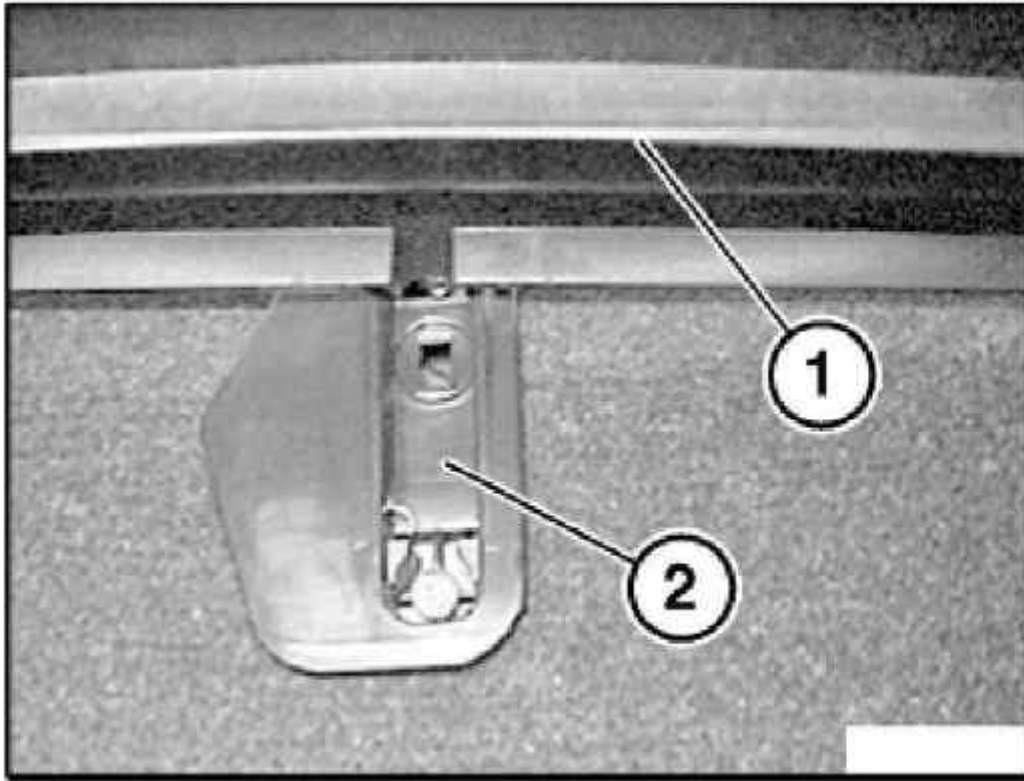
- Move mounting (2) downwards
- Position convertible top compartment floor (1)
- Move mounting (2) upwards
- Clip in convertible top compartment floor (1) (press from passenger compartment)



G03298312

Fig. 111: Positioning Convertible Top Compartment Floor
Courtesy of BMW OF NORTH AMERICA, INC.

Feed convertible top compartment floor (1) out of center mount (2) towards rear and rear.



G03298313

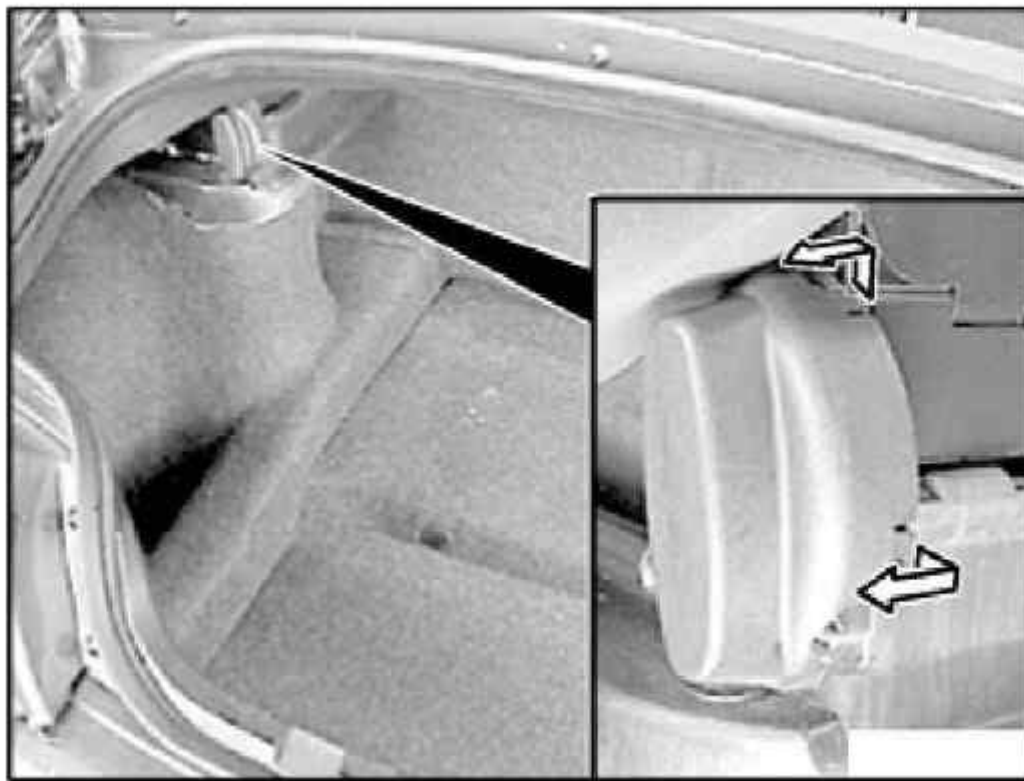
Fig. 112: Feeding Convertible Top Compartment Floor Out Of Center Mount
Courtesy of BMW OF NORTH AMERICA, INC.

54 31 175 REMOVING AND INSTALLING/REPLACING DAMPER FOR VARIABLE CONVERTIBLE TOP COMPARTMENT

Necessary preliminary tasks:

- Close convertible top
- Open rear lid.

Unclip handle cover towards rear.

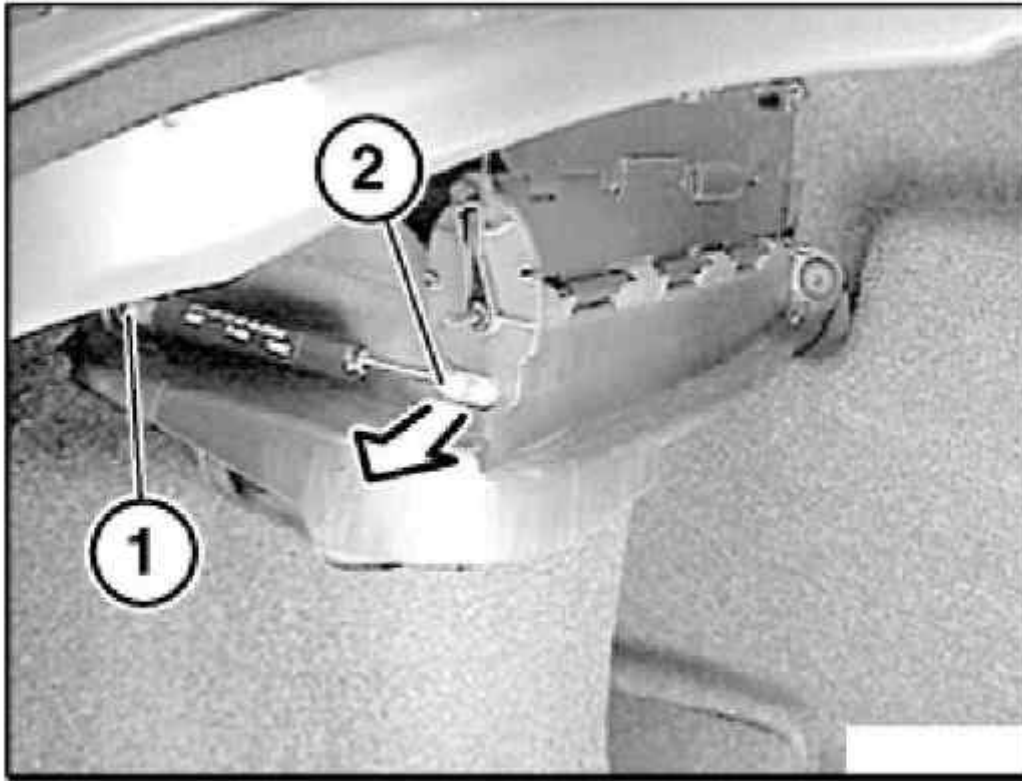


G03298314

Fig. 113: Unclipping Handle Cover Towards Rear
Courtesy of BMW OF NORTH AMERICA, INC.

Remove expansion rivet (1).

Remove damper (2) from shaft towards rear.



G03298315

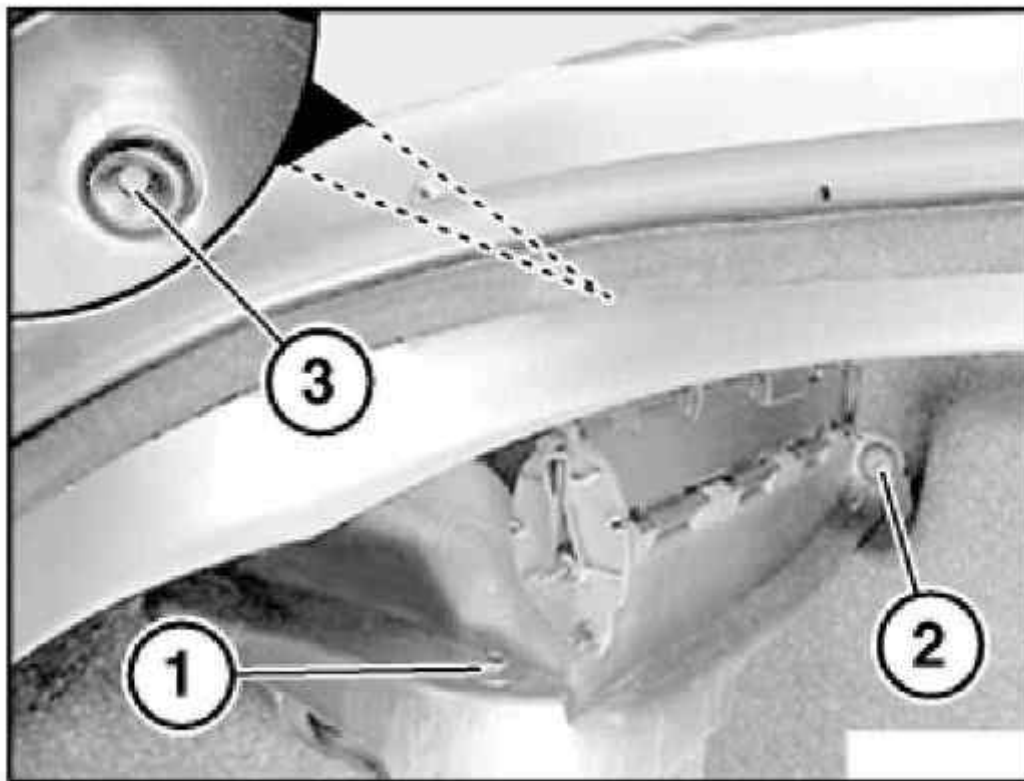
Fig. 114: Removing Damper From Shaft Towards Rear
Courtesy of BMW OF NORTH AMERICA, INC.

54 31 180 REMOVING AND INSTALLING/REPLACING A MOUNTING FOR CONVERTIBLE TOP COMPARTMENT FLOOR

Necessary preliminary tasks:

- Open rear lid.
- Remove convertible top compartment base . See **54 31 170 Removing And Installing/Replacing Convertible Top Compartment Floor** .

Release screws (1 and 2) and remove expansion rivet (3).



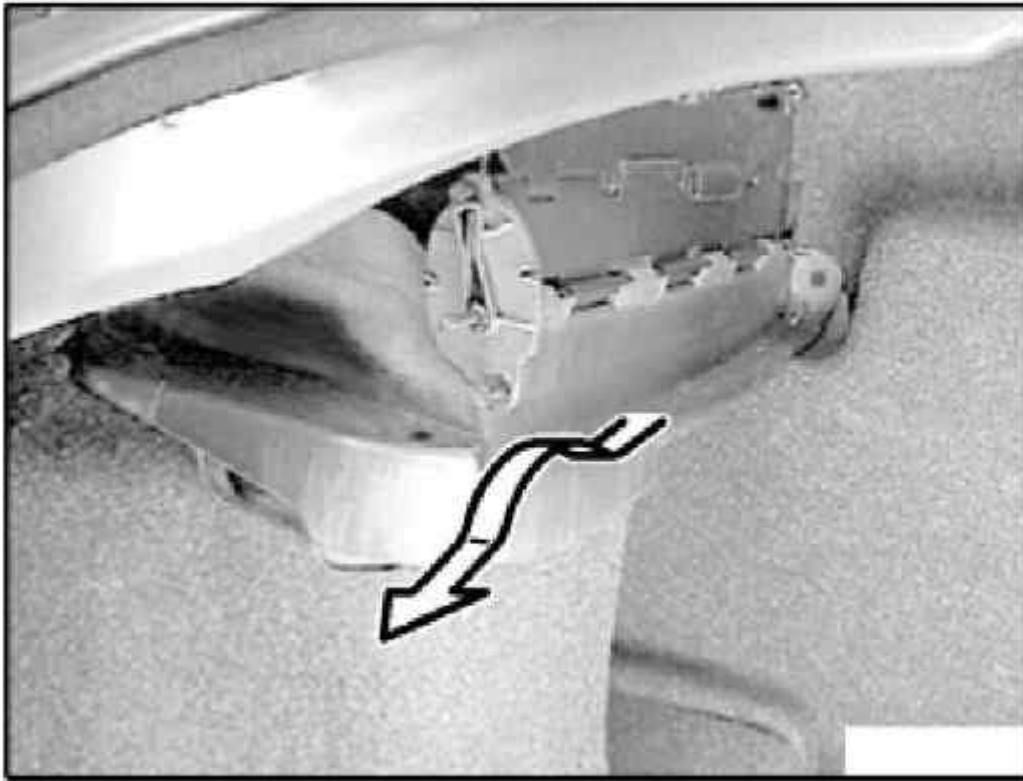
G03298316

Fig. 115: Releasing Screws And Removing Expansion Rivet
Courtesy of BMW OF NORTH AMERICA, INC.

Feed out mounting towards rear top over spring strut cap.

Installation:

Feed in mounting under funnel.



G03298317

Fig. 116: Feeding Out Mounting Towards Rear Top
Courtesy of BMW OF NORTH AMERICA, INC.

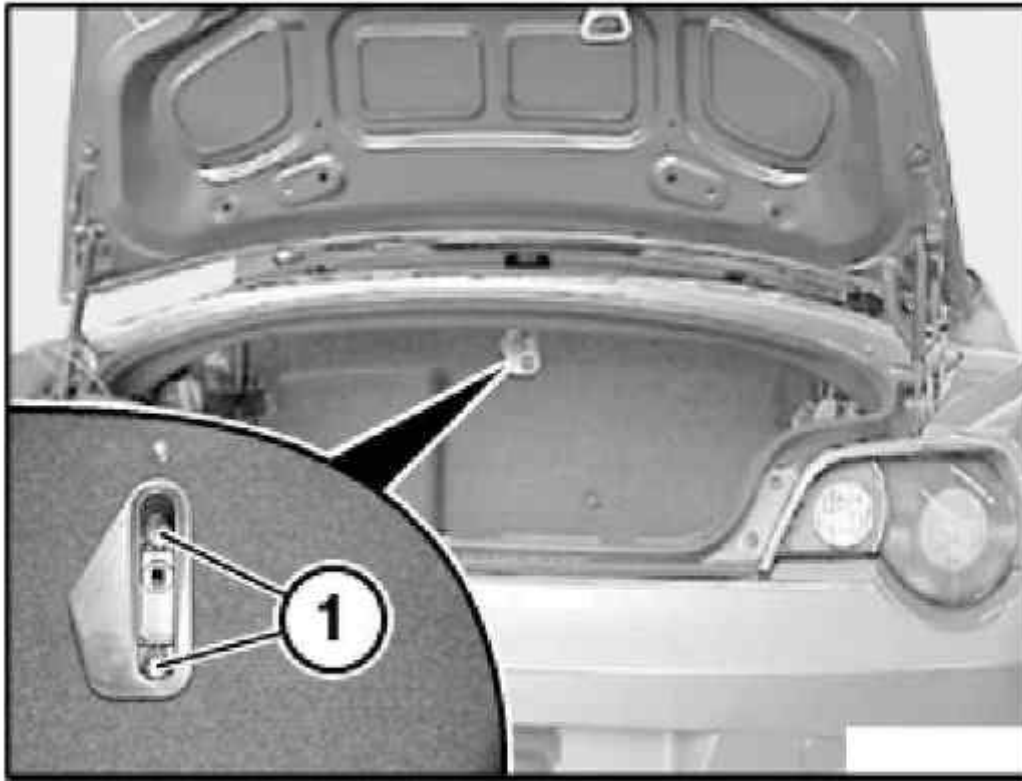
54 31 185 REMOVING AND INSTALLING/REPLACING CENTER MOUNT FOR CONVERTIBLE TOP COMPARTMENT FLOOR

Necessary preliminary tasks:

- Remove convertible top compartment base . See **54 31 170 Removing And Installing/Replacing Convertible Top Compartment Floor** .

Loosen screws (1).

Carefully remove center mount towards rear and disconnect plug connection.



G03298318

Fig. 117: Removing Center Mount Towards Rear
Courtesy of BMW OF NORTH AMERICA, INC.

For replacement only:

- Remove microswitch . See **61 31 799 REMOVING AND INSTALLING/REPLACING MICROSWITCH** .

54 34... MOUNTING OF HYDRAULIC COMPONENTS

If line connections on the hydraulic unit or the hydraulic lines remain open for an extended period of time (e.g. storage, maintenance time), they must be protected against the penetration of moisture and dirt particles. Proceed as described below in this respect.

The new method can even be used on older systems.

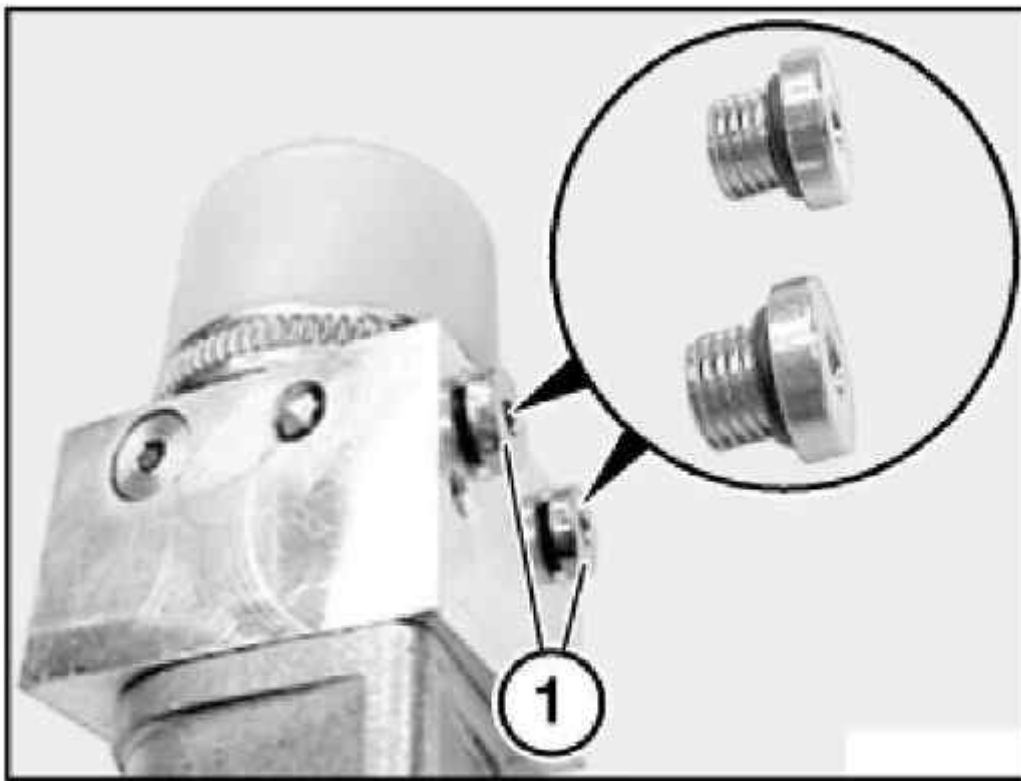
Screw plugs and cap nuts are included in the "Banjo bolts for hydraulic unit" kit.

Sealing caps, sealing plugs and screw plugs are included in the "Hydraulic repair kit" (all sourcing reference: BMW Parts Service).

Connections on hydraulic unit:

Use screw plugs (1) for this purpose.

In case of screw plugs from "Banjo bolts..." kit, use the old seals.



G03298319

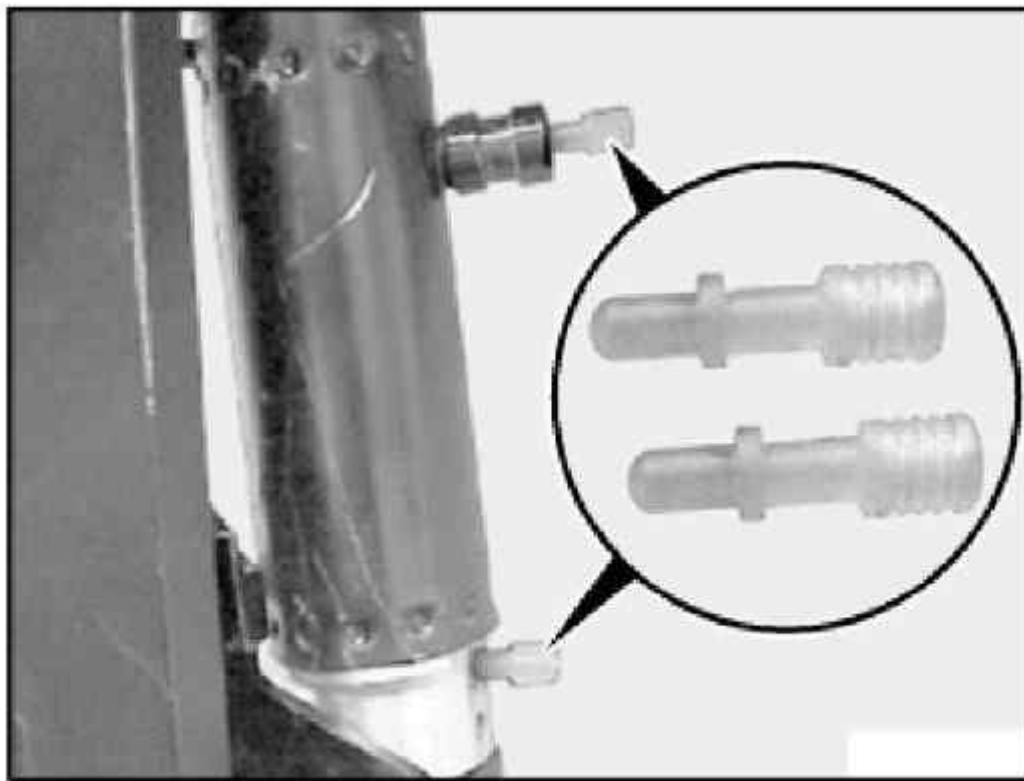
Fig. 118: Identifying Screw Plugs

Courtesy of BMW OF NORTH AMERICA, INC.

Connections on cylinder:

Use seal plugs (1) for this purpose.

In case of connections with cap nuts, use seal plugs (as on hydraulic unit).



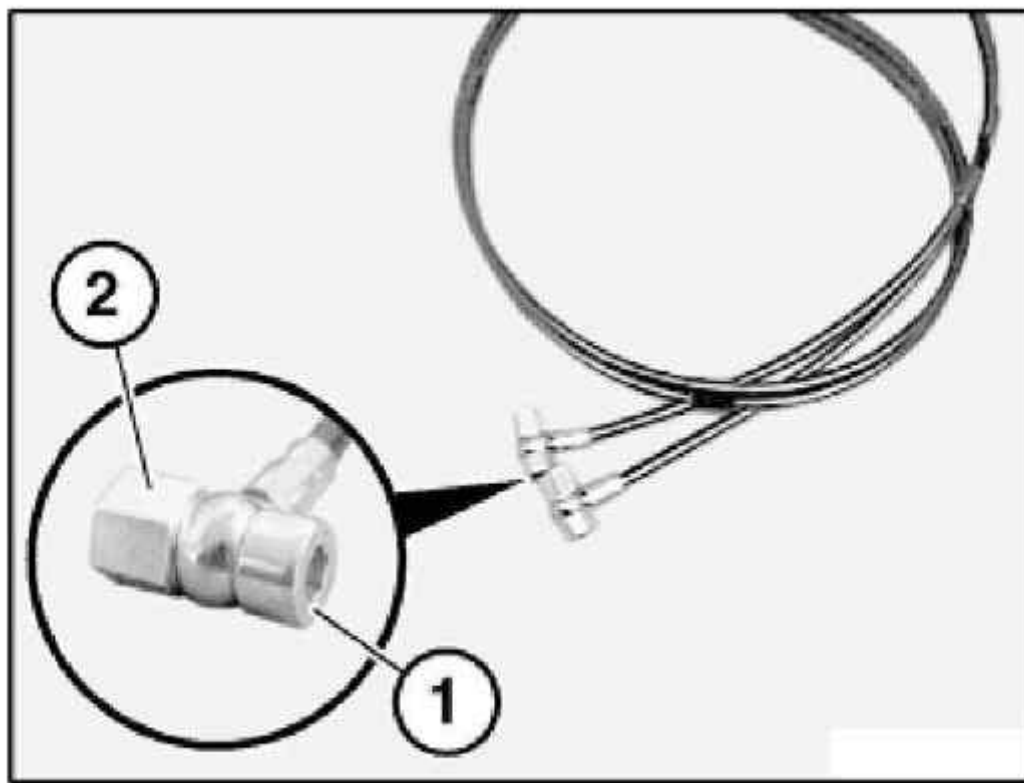
G03298320

Fig. 119: Identifying Seal Plugs

Courtesy of BMW OF NORTH AMERICA, INC.

Line connections (old):

Use screw plugs (1), cap nuts (2) and old seals for this purpose.

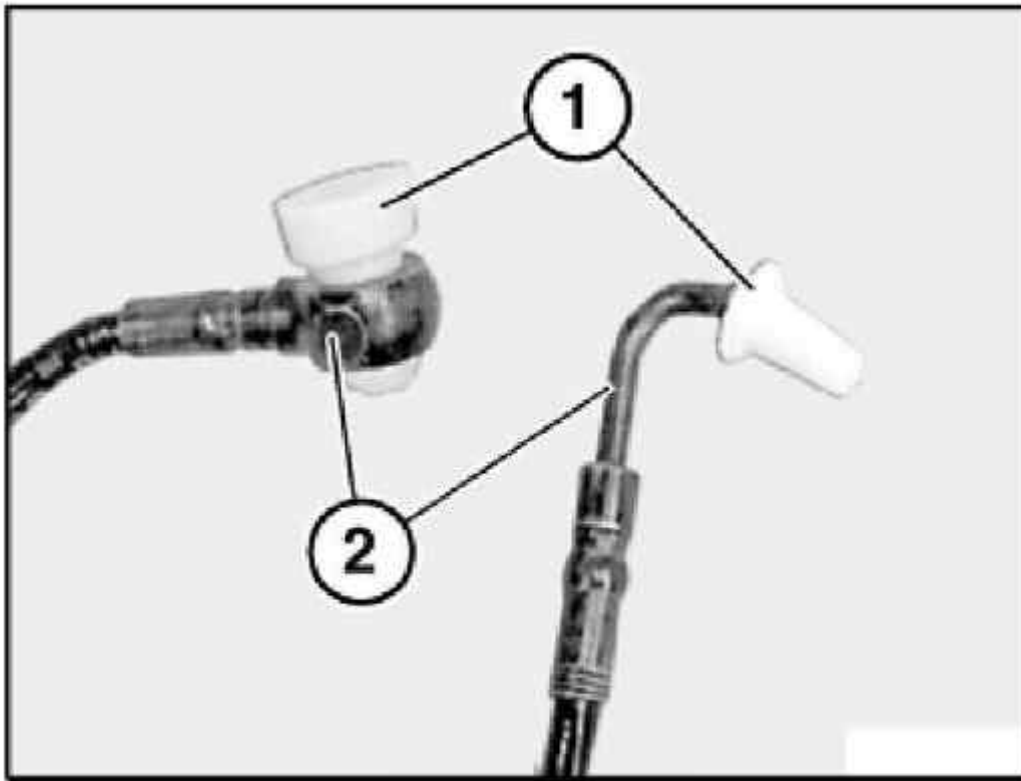


G03298321

Fig. 120: Identifying Line Connections
Courtesy of BMW OF NORTH AMERICA, INC.

Line connections (new):

Attach seal plug or cap (1) to line connection (2).



G03298322

Fig. 121: Attaching Seal Plug Or Cap To Line Connection

Courtesy of BMW OF NORTH AMERICA, INC.

54 34... OPENING/CLOSING CONVERTIBLE TOP IN EVENT OF A TECHNICAL FAULT**Opening Convertible Top:**

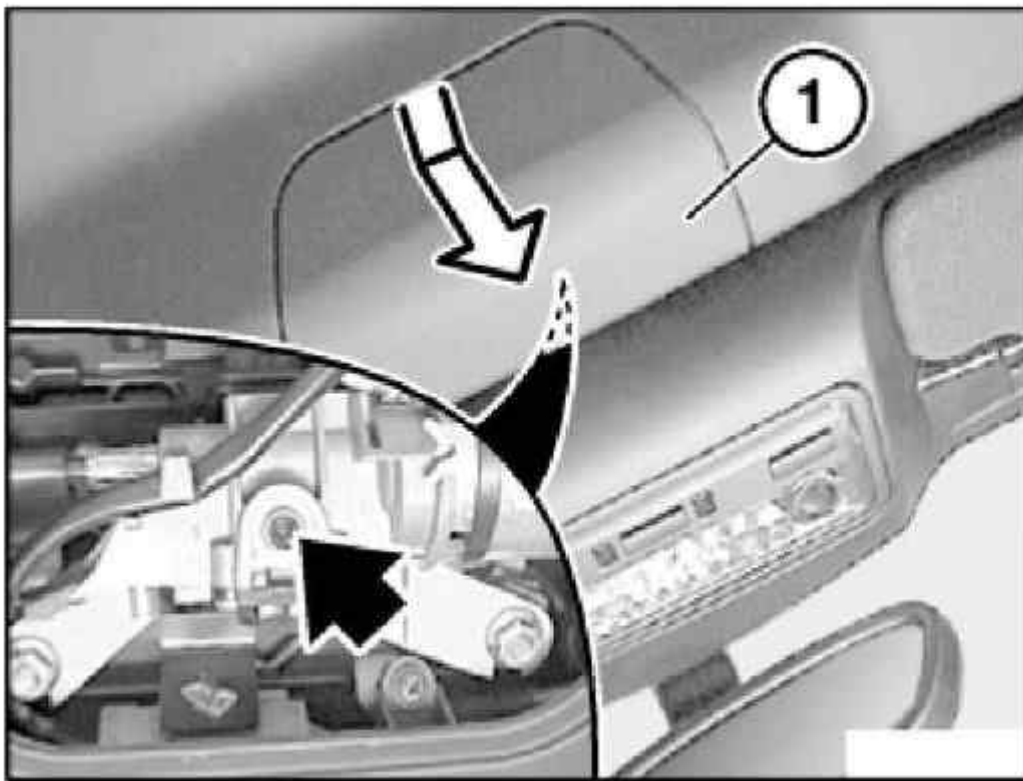
Depending on the nature of the technical fault, perform one of the following tasks before opening the convertible top.

All the tasks may be necessary in a few cases.

- Open side windows

Automatic convertible top catch:

- Press in cover (1) at top slightly and lever out towards bottom.
- Turn screw with double offset hexagon socket key (onboard tool kit).

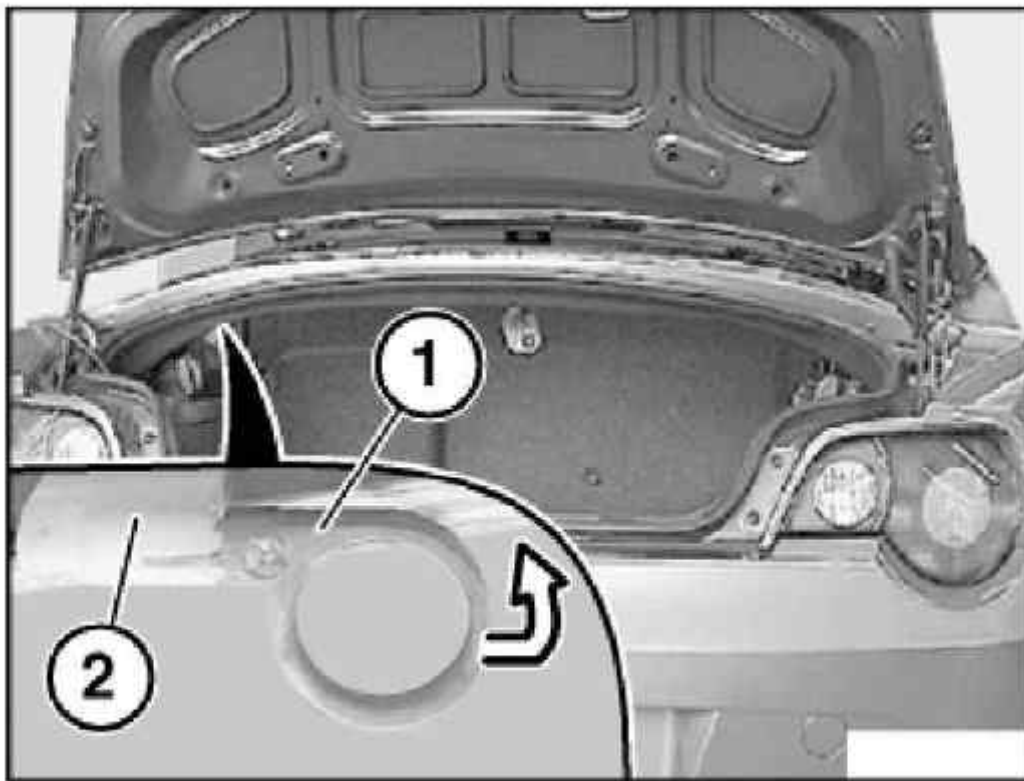


G03298323

Fig. 122: Pressing In Cover At Top Slightly And Lever Out Towards Bottom
Courtesy of BMW OF NORTH AMERICA, INC.

Convertible top hydraulics:

- Open rear lid.
- On left side, pull ring (1) to center and turn through 90°.
- Place ring on holder (2).



G03298324

Fig. 123: Pulling Ring To Center

Courtesy of BMW OF NORTH AMERICA, INC.

Opening convertible top:

- If necessary, open convertible top by hand.

When opening the convertible top by hand, only grip in the middle of the front edge of the front bow.

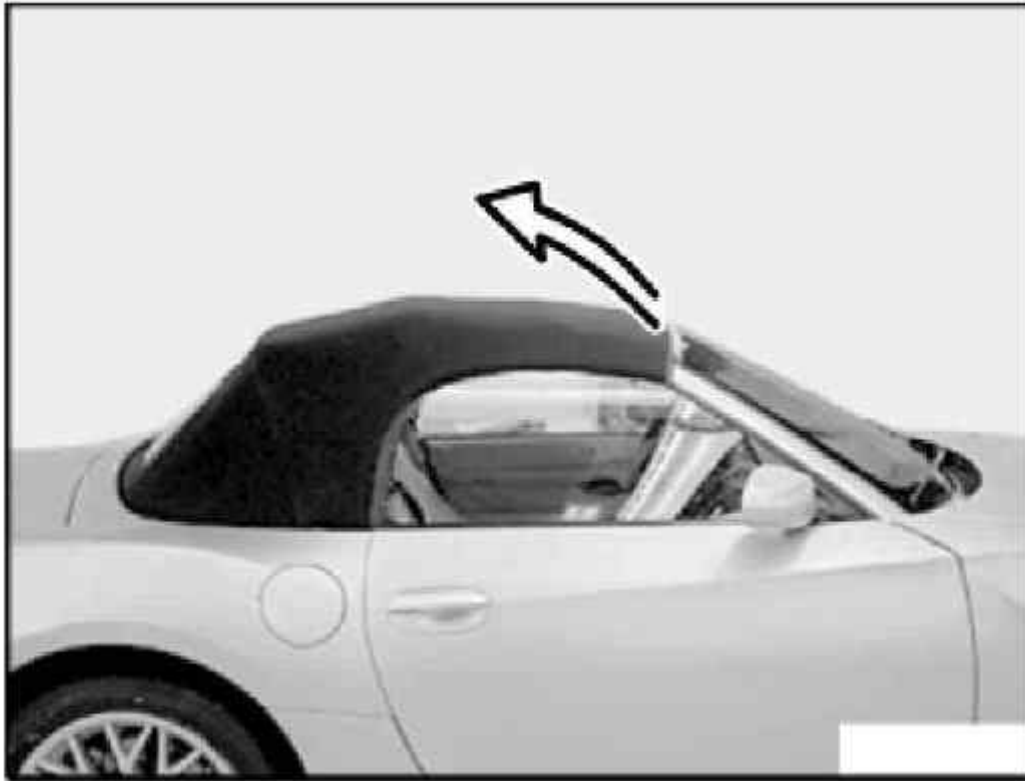
**G03298325**

Fig. 124: Opening Convertible Top
Courtesy of BMW OF NORTH AMERICA, INC.

Closing convertible top:

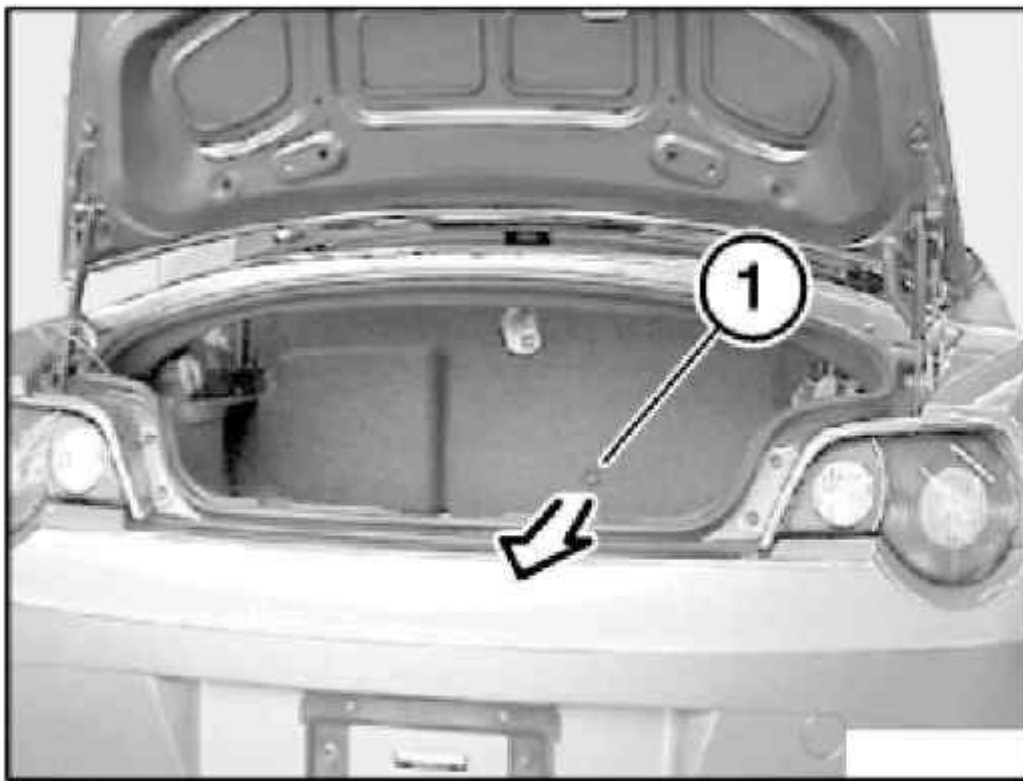
Depending on the nature of the technical fault, perform one of the following tasks before closing the convertible top.

All the tasks may be necessary in a few cases.

- Open side windows

Stowage lock:

- Open rear lid.
- Pull knob (1) towards rear on luggage compartment panel.

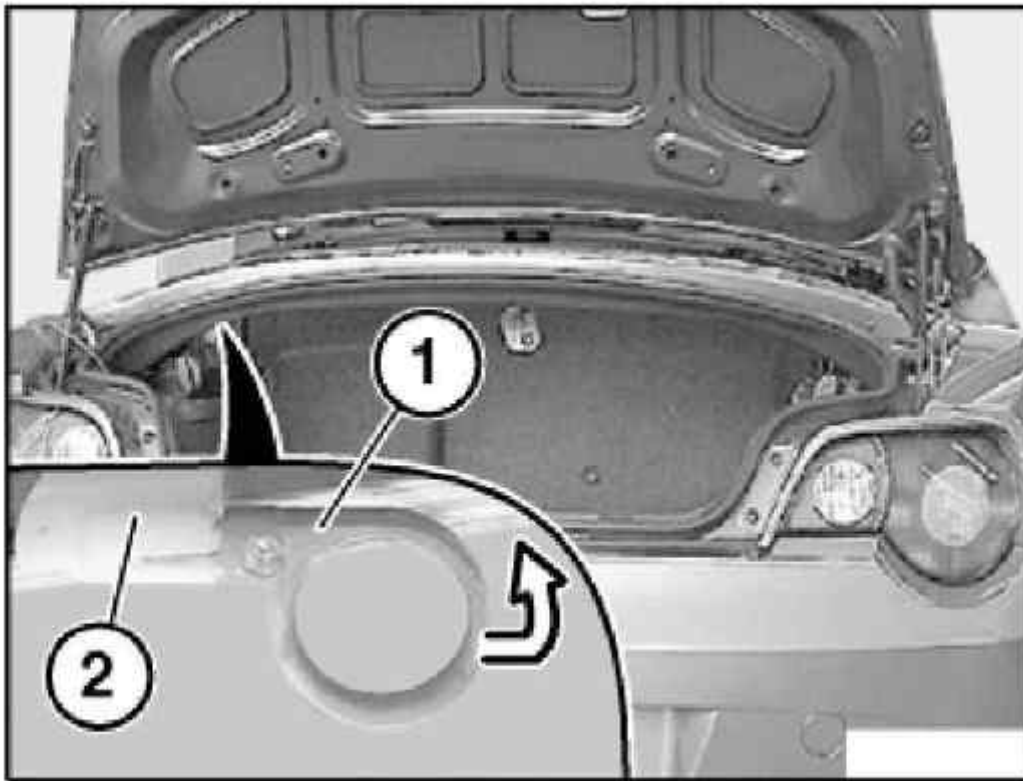


G03298326

Fig. 125: Pulling Knob Towards Rear On Luggage Compartment Panel
Courtesy of BMW OF NORTH AMERICA, INC.

Convertible top hydraulics:

- Open rear lid.
- On left side, pull ring (1) to center and turn through 90°.
- Place ring on holder (2).



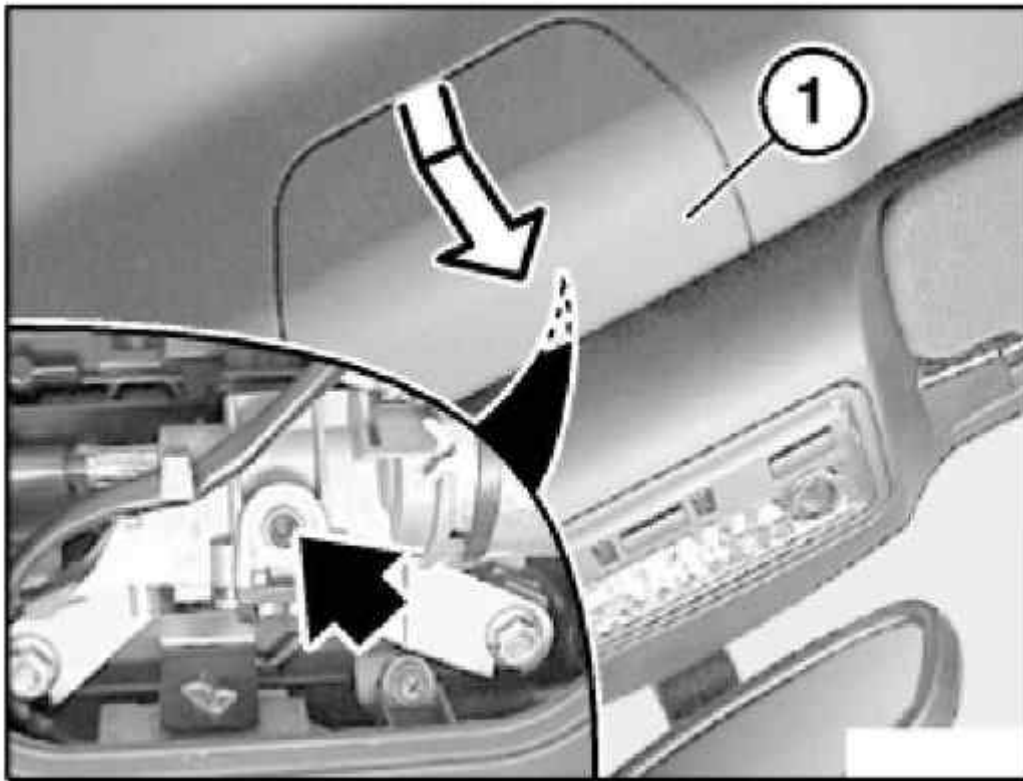
G03298327

Fig. 126: Pulling Ring To Center

Courtesy of BMW OF NORTH AMERICA, INC.

Automatic convertible top catch:

- Press in cover (1) at top slightly and lever out towards bottom.
- Turn screw with double offset hexagon socket key (onboard tool kit).



G03298328

Fig. 127: Pressing In Cover At Top Slightly And Lever Out Towards Bottom
Courtesy of BMW OF NORTH AMERICA, INC.

Closing convertible top:

- If necessary, close convertible top by hand.

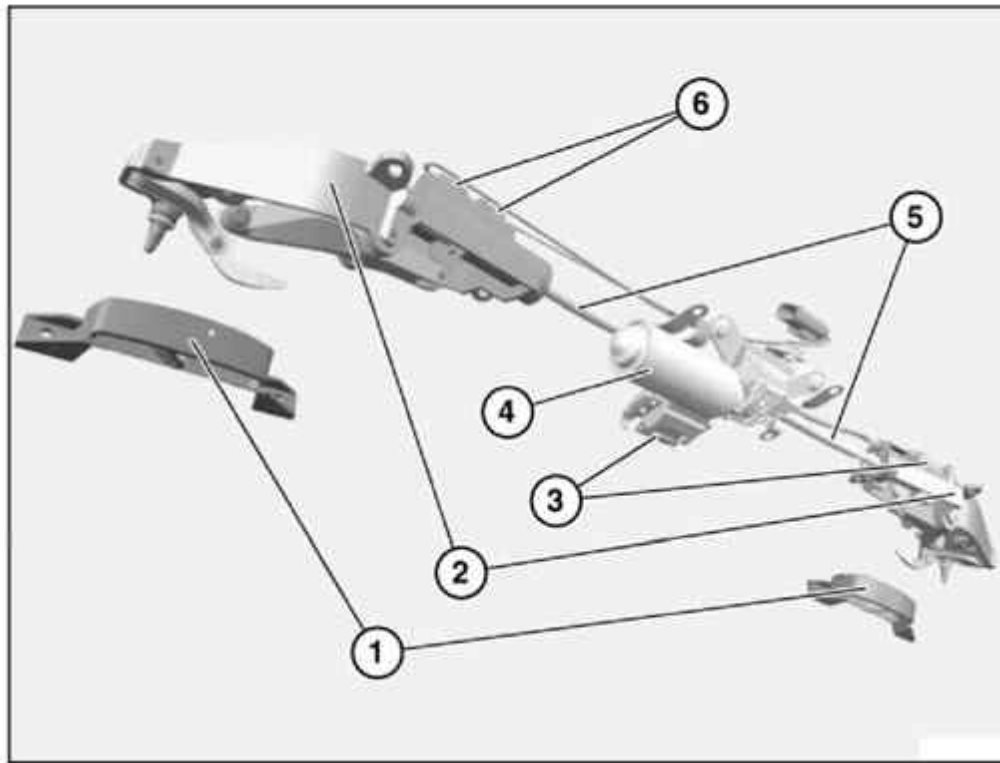
When closing the convertible top by hand, only grip in the middle of the front edge of the front bow.



G03298329

Fig. 128: Closing Convertible Top
Courtesy of BMW OF NORTH AMERICA, INC.

54 34... OVERVIEW OF AUTOMATIC CONVERTIBLE TOP CATCH



0 General
information
and notes

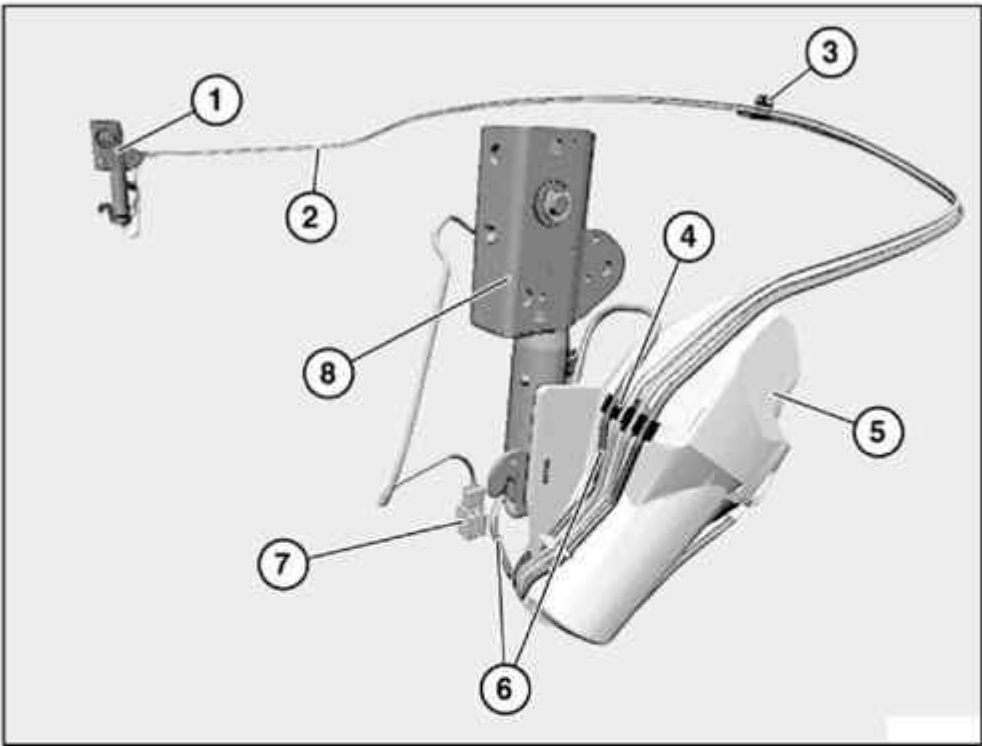
- 1 Base plates, catch
- 2 Catch, left or right
- 3 Lock (center lock)

- 4 Drive
- 5 Flexible shafts, left or right
described under Catch and drive
- 6 Sensor with wiring harness

G03298330

Fig. 129: Overview Of Automatic Convertible Top Catch
Courtesy of BMW OF NORTH AMERICA, INC.

54 34... OVERVIEW OF HYDRAULIC SYSTEM FOR CONVERTIBLE TOP



- 0 General information and notes
- 1 Main support with hydraulic cylinder, right only replaceable with convertible top frame
- 2 Hydraulic lines, right
- 3 Bowden cable for emergency release mechanism
- 4 Clips for lines and Bowden cable
- 5 Hydraulic unit with acoustic insulation
- 6 Hydraulic lines, left
- 7 Wiring harness for hydraulic pump described under Hydraulic unit
- 8 Main support with hydraulic cylinder, left only replaceable with convertible top frame
- G03298331

Fig. 130: Overview Of Hydraulic System For Convertible Top
Courtesy of BMW OF NORTH AMERICA, INC.

54 34... REPAIR INSTRUCTIONS FOR HYDRAULIC SYSTEM OF CONVERTIBLE TOP AND CONVERTIBLE TOP COMPARTMENT LID

1. Definitions of terms

DEFINITIONS OF TERMS

	• Turn ignition lock to "0" position. • E46c: Wait 15 seconds	
--	---	--

2005 BMW Z4**2003-05 ACCESSORIES & EQUIPMENT Sliding/Tilt Roof - Repair Procedures - Z4 (E85)**

Hydraulic system at zero pressure or Untensioned state:	E52: Wait 2 minutes E85: Emergency actuation or wait 2 minutes E64: Wait 5 seconds.	Hydraulic system has no or only very low pressure
Mechanical actuation: Emergency actuation:	• Convertible top is opened or closed by hand • Always move convertible top with aid of a second person	Observe Point 3
Closed system:	• All lines are connected	"Even short-circuiting of lines is possible"
Function Test:	• Open and close convertible top several times (min. 3 times) • Check fluid level in hydraulic unit; if necessary, top up fluid	refer to Operating Instructions
Short circuit (E46c only):	• Unfastening of quick-release couplings • Connection of supply and return lines	Hydraulic system cannot build up pressure Convertible top can be moved
Function Test:	• Checking of convertible top function if possible on removed convertible top	Convertible top must be secured! Move 2-3 times
Convertible top stowed:	• Convertible top fully open (folded together)	When the convertible top is installed, it is in the closed convertible top compartment

2. When working on hydraulic system, observe the following

- Once it has been removed, the convertible top must be safely stowed or tensioned (e.g. with screw clamps to work bench).

On some models, the special tool must be used.

- When the hydraulic system is open (unscrewing of lines, topping up of fluid, etc.), always provide sufficient cloths to catch leak-off fluid.

Also provide an adherent protective cover to cover/protect fittings.

- Hydraulic system must be at zero pressure.
- E46c only: The disconnected supply and return lines to the convertible top can be connected to each other (establish "short circuit"). The system is thereby closed again. The clutches are protected against damage. The hydraulic system cannot build up a high pressure. The convertible top can be moved.

- Disconnect or unscrew feed and return lines if possible at a later stage, when the convertible top is stowed and untensioned (check fluid, see **OPERATING FLUIDS - SUNROOF AND CONVERTIBLE TOP.**).
- Once the hydraulic system has been opened, first check the fluid level after completing the tasks before carrying out a function test.
- After disconnecting the hydraulic lines from hydraulic components, do not move the convertible top if at all possible (fluid can escape from joints).
- Piston rods must not be damaged (e.g. scratches). Even paint mist and welding spots are harmful.

When working in the vicinity of hydraulic cylinders, cover the cylinders with suitable materials.

- If the hydraulic unit or the lines stay removed for an extended period of time, the bores on the hydraulic unit and the hose connections must be sealed off (observe fitting instructions).

3. Mechanical operation of convertible top

- E46c: only with ignition switched off.

If lines are disconnected, connect them to each other if at all possible.

- E52/E85: Emergency actuation
- In the event of repeated actuation, the system fluid is pumped into the supply tank of the hydraulic unit. If hydraulic components are now replaced, there will be too much fluid in the system. This may cause damage to the system in event of actuation. (Checking fluid level, see **OPERATING FLUIDS - SUNROOF AND CONVERTIBLE TOP.**).

4. Check fluid level

- E46c: only when convertible top is stowed and convertible top compartment lid is closed.

E52, E85: only with convertible top closed.

- Observe brief instructions .
- Fluid level must be within the markings (circle/cross).
- Fluid is supplied with the repair kits (e.g. banjo bolts/seals, hoses, cylinders) and is available separately (refer to **OPERATING FLUIDS - SUNROOF AND CONVERTIBLE TOP.**).

5. Top up/extract fluid

- E46c: only when convertible top is stowed and convertible top compartment lid is closed.

E52, E85: only with convertible top closed.

- E64: the hydraulic fluid does not have to be changed because the system is filled with life-time fluid. Only the approved hydraulic fluid may be used in the event of leaks.
- Observe brief instructions .
- Remove hydraulic unit without detaching lines.
- Fluid is supplied with the repair kits (e.g. banjo bolts/seals, hoses, cylinders) and is available separately (refer to BMW Parts Service).

- Pour in fluid with bottle through filling orifice.
- Hydraulic unit must be removed if overfilled. Allow fluid to escape through filling orifice and collect.

6. Bleeding hydraulic system

- E64: if there is a significant build-up of noise while the convertible top is moving, the convertible top must be opened and closed several times. The hydraulic system is automatically bled in the fluid reservoir in the process.

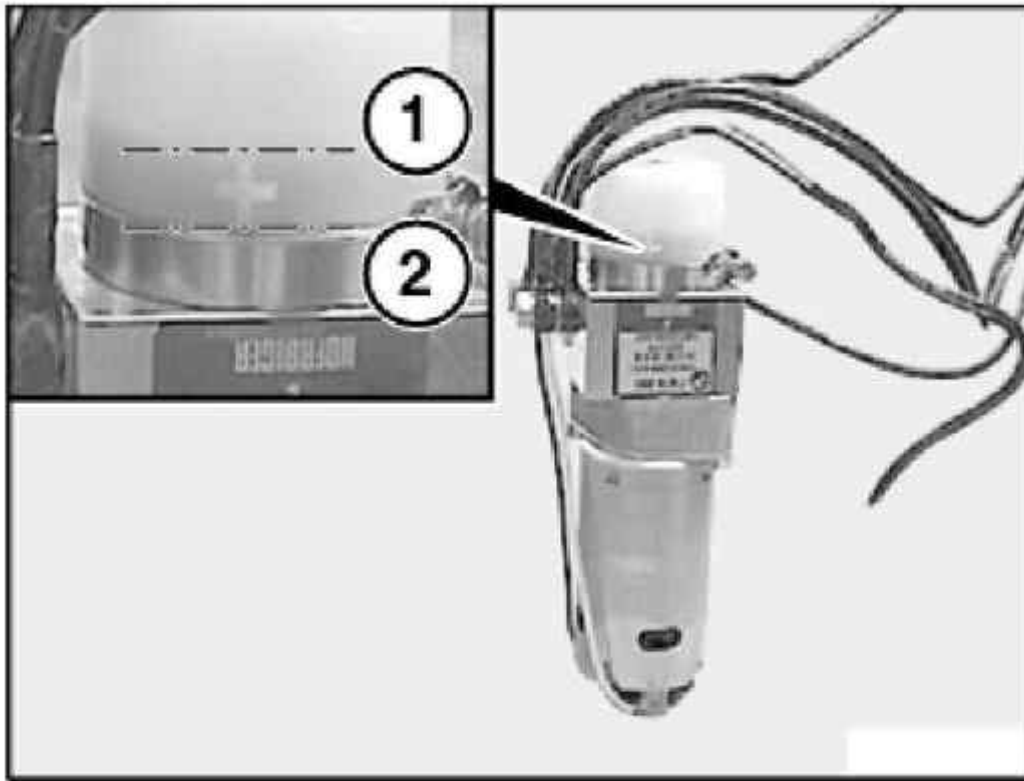
54 34... TOPPING UP/EXTRACTING FLUID, CHECKING FLUID LEVEL

Necessary preliminary tasks:

- Follow repair instructions for hydraulic system. See **54 34... Repair Instructions For Hydraulic System Of Convertible Top And Convertible Top Compartment Lid**.
- Remove convertible top. See **54 34 101 Removing And Installing Complete Convertible Top**.
- Convertible top placed on special tool.
- Remove acoustic insulation of hydraulic unit.

Checking fluid level:

- Close convertible top
- Position hydraulic unit vertically.
- Fluid level must be within the markings.
 1. Maximum
 2. Minimum



1. Maximum

2. Minimum

G03298332

Fig. 131: Checking Fluid Level

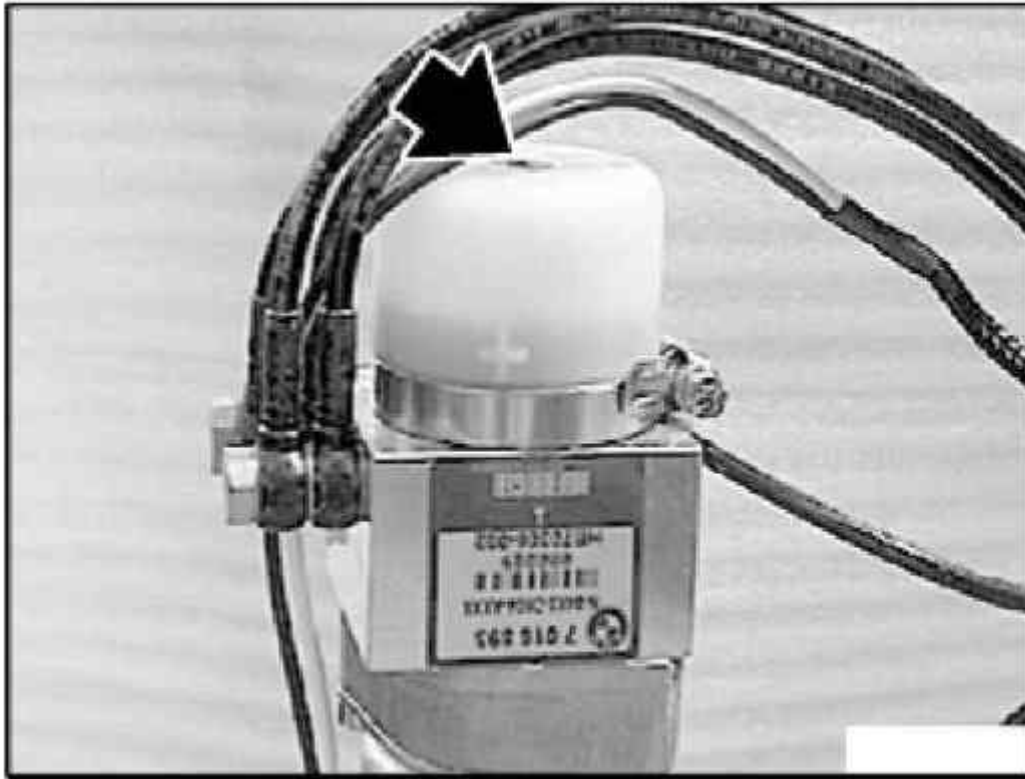
Courtesy of BMW OF NORTH AMERICA, INC.

Topping up fluid:

- Open oil filler plug.

Tightening torque, see 54 34 5AZ in **SLIDE/TILT ROOF AND CONVERTIBLE TOP - TIGHTENING TORQUES** .

- Hold hydraulic unit vertically and pour in required amount of fluid from a fluid bottle.
- Check fluid level from time to time.



G03298333

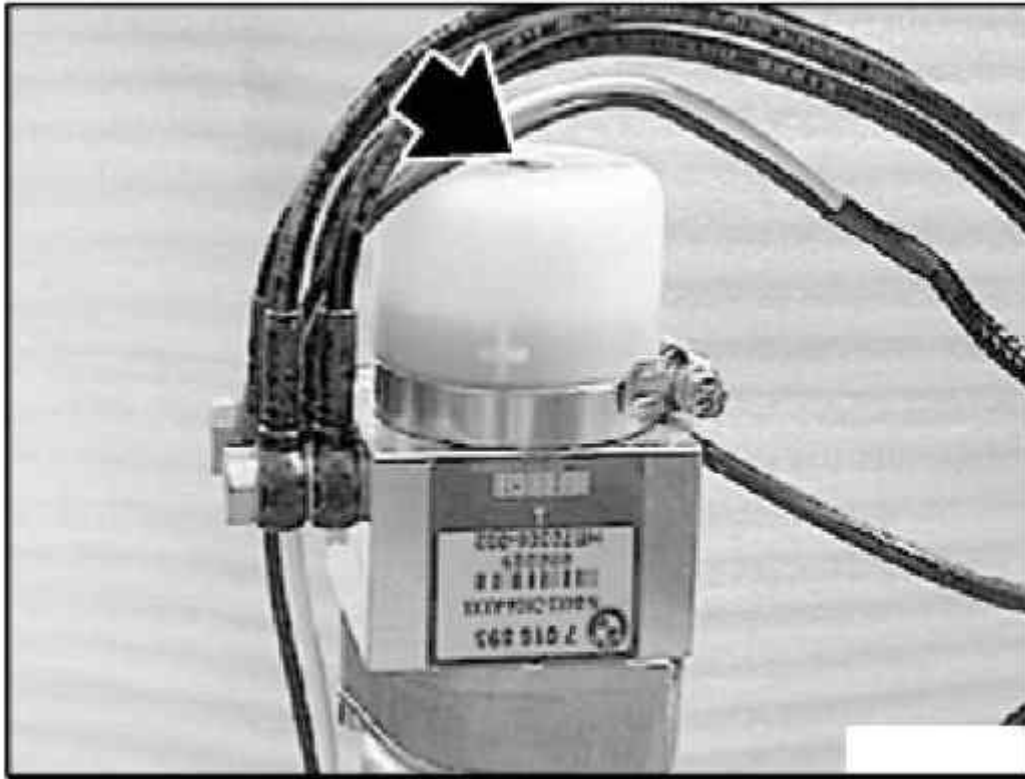
Fig. 132: Locating Oil Filler Plug (Topping Up Fluid)
Courtesy of BMW OF NORTH AMERICA, INC.

Extract fluid:

- Open oil filler plug.

Tightening torque, see 54 34 5AZ in **SLIDE/TILT ROOF AND CONVERTIBLE TOP - TIGHTENING TORQUES** .

- Hold hydraulic unit on its head over a tray and allow oil to flow out.



G03298334

Fig. 133: Locating Oil Filler Plug (Extract Fluid)
Courtesy of BMW OF NORTH AMERICA, INC.

54 34 005 REMOVING AND INSTALLING/REPLACING HYDRAULIC UNIT FOR CONVERTIBLE TOP DRIVE

NOTE: **Observe notes on EH convertible top.**

Necessary preliminary tasks:

- Remove convertible top . See **54 34 101 Removing And Installing Complete Convertible Top** .
- Stow convertible top

Release screw.

Remove hydraulic unit from main bearing.

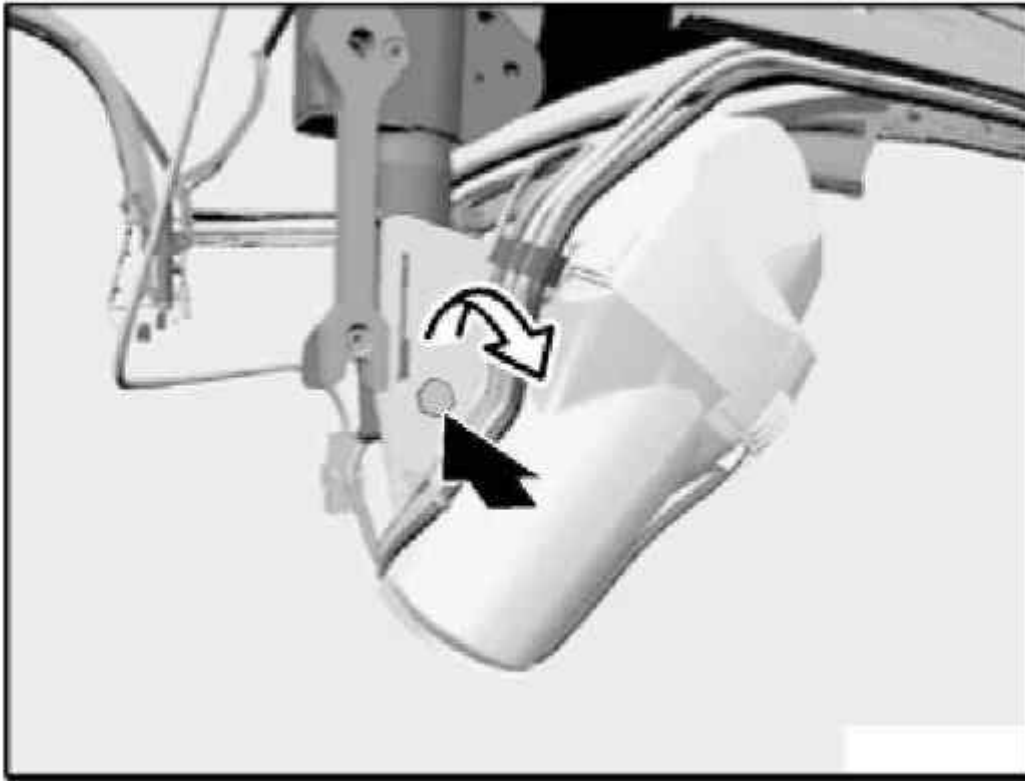
**G03298335**

Fig. 134: Removing Hydraulic Unit From Main Bearing
Courtesy of BMW OF NORTH AMERICA, INC.

Installation:

- Using scan tool, carry out function test
- Check fluid level, remove/replenish if necessary. See **OPERATING FLUIDS - SUNROOF AND CONVERTIBLE TOP** .

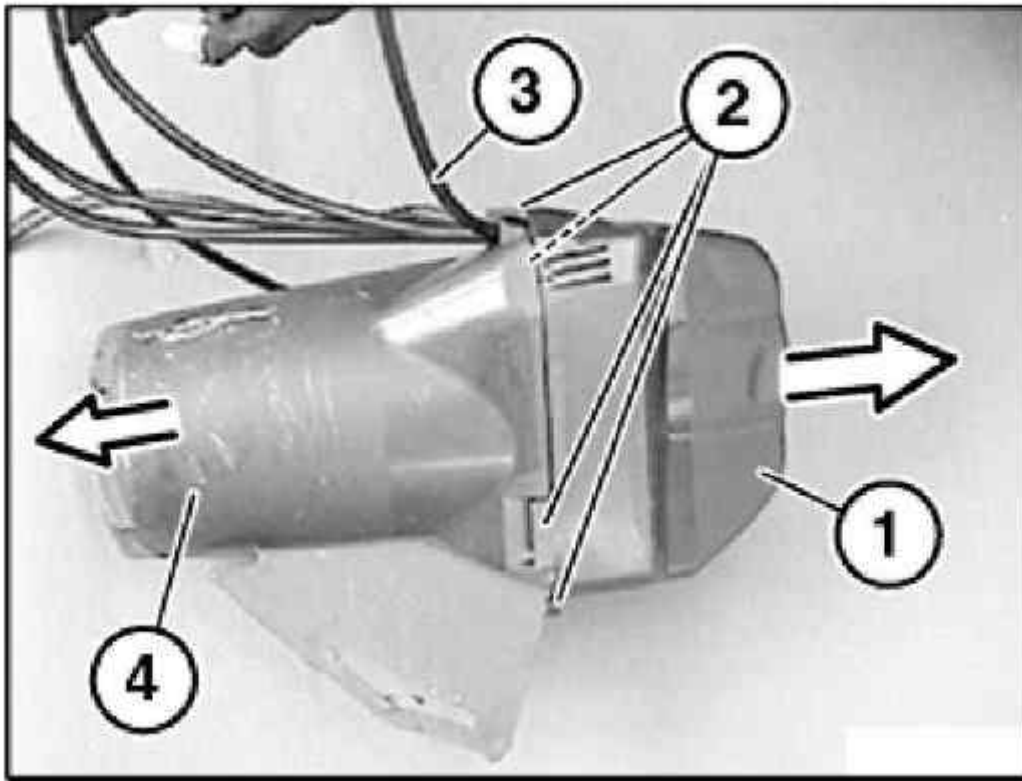
Unclip lead clip.

Unclip acoustic cover (1) at catches (2) and remove.

Unclip cable, hydraulic lines and Bowden cable (3).

Unfasten cable clip.

Detach acoustic insulation lower section (4).



G03298336

Fig. 135: Detaching Acoustic Insulation Lower Section
Courtesy of BMW OF NORTH AMERICA, INC.

Installation:

Hydraulic lines, cable and Bowden cable must not be kinked and clip in according to numbers on acoustic insulation lower section. They must rest very closely on acoustic insulation.

Observe following notes on installation.

Installation:

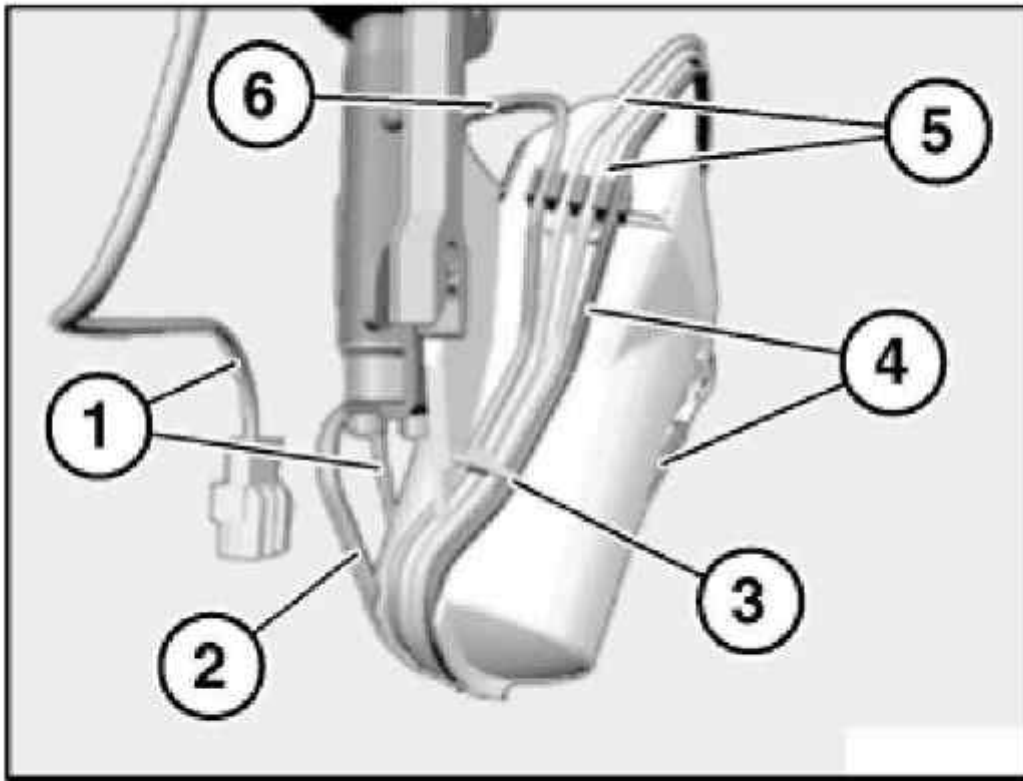
Line and cable routing, hydraulic unit, front:

1. Wiring harness, hydraulic unit
2. Upper hydraulic line, left main support
3. Cable ties

2005 BMW Z4

2003-05 ACCESSORIES & EQUIPMENT Sliding/Tilt Roof - Repair Procedures - Z4 (E85)

4. Emergency release Bowden cable
5. Hydraulic lines, right main support
6. Lower hydraulic line, left main support



1. Wiring harness, hydraulic unit
2. Upper hydraulic line, left main support
3. Cable ties
4. Emergency release Bowden cable
5. Hydraulic lines, right main support
6. Lower hydraulic line, left main support

G03298337

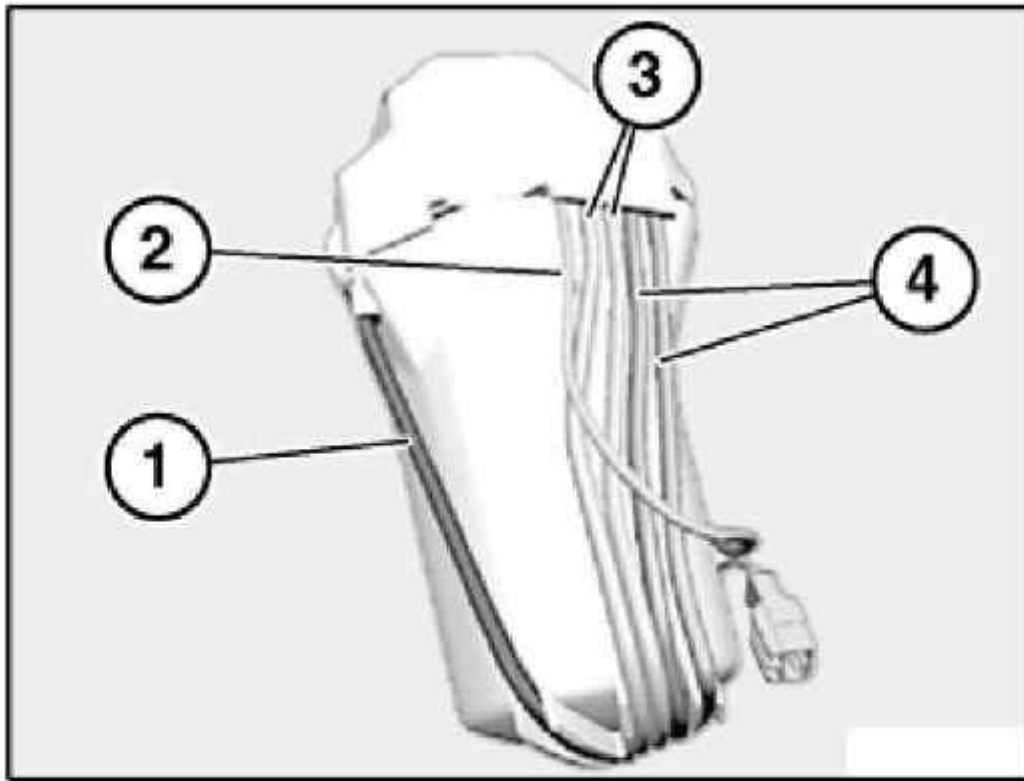
2005 BMW Z4

2003-05 ACCESSORIES & EQUIPMENT Sliding/Tilt Roof - Repair Procedures - Z4 (E85)

Installation:

Line and cable routing, hydraulic unit, rear:

1. Emergency release Bowden cable
2. Wiring harness, hydraulic unit
3. Hydraulic lines, right main support
4. Hydraulic lines, left main support



1. Emergency release Bowden cable
2. Wiring harness, hydraulic unit
3. Hydraulic lines, right main support
4. Hydraulic lines, left main support

G03298338

Fig. 137: Identifying Line And Cable Routing For Hydraulic Unit Rear
Courtesy of BMW OF NORTH AMERICA, INC.

Close convertible top.

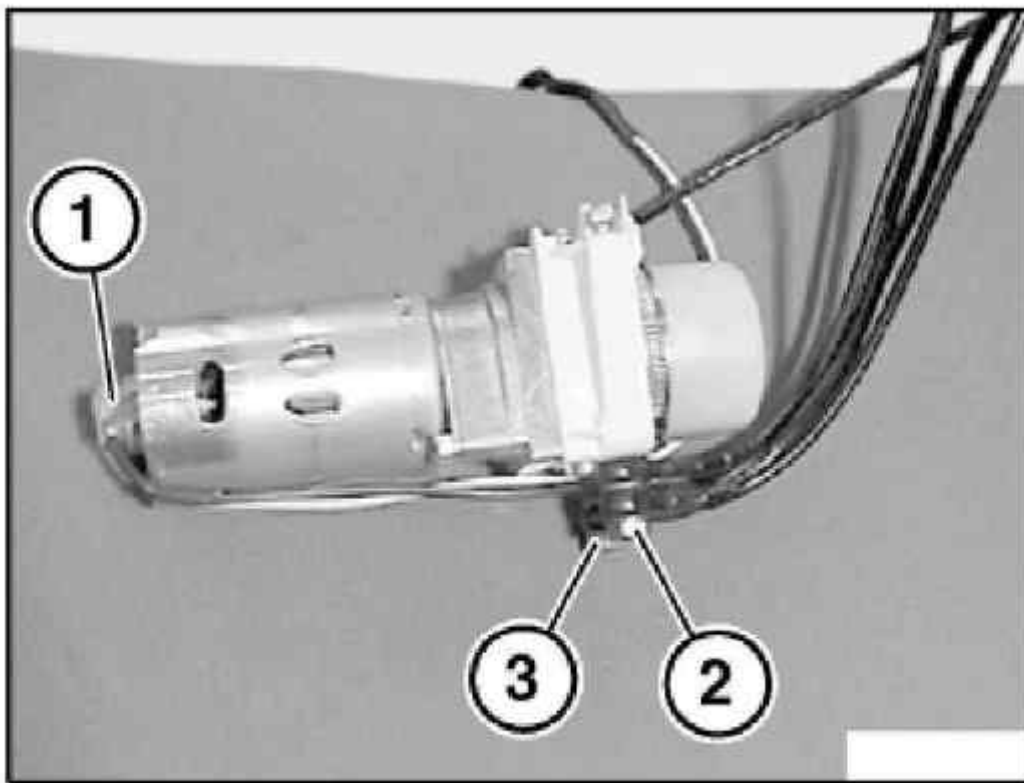
Disconnect plug connections (1).

IMPORTANT: Have a cloth ready to wipe away escaping oil.

Release banjo bolts (2) and (3) and remove lines.

Installation:

- Blue/black cable on plug with red dot
- Hose with hose labeling 12/14 on hydraulic unit connection "12/14" (connection 2)
- Hose with hose labeling "11/13" on other hydraulic unit connection "11/13" (connection 3)



G03298339

Fig. 138: Releasing Banjo Bolts And Removing Lines
Courtesy of BMW OF NORTH AMERICA, INC.

NOTE: If hydraulic components are to be stored for an extended period, seal off bores on hydraulic unit and hose connections for hydraulic cylinder.

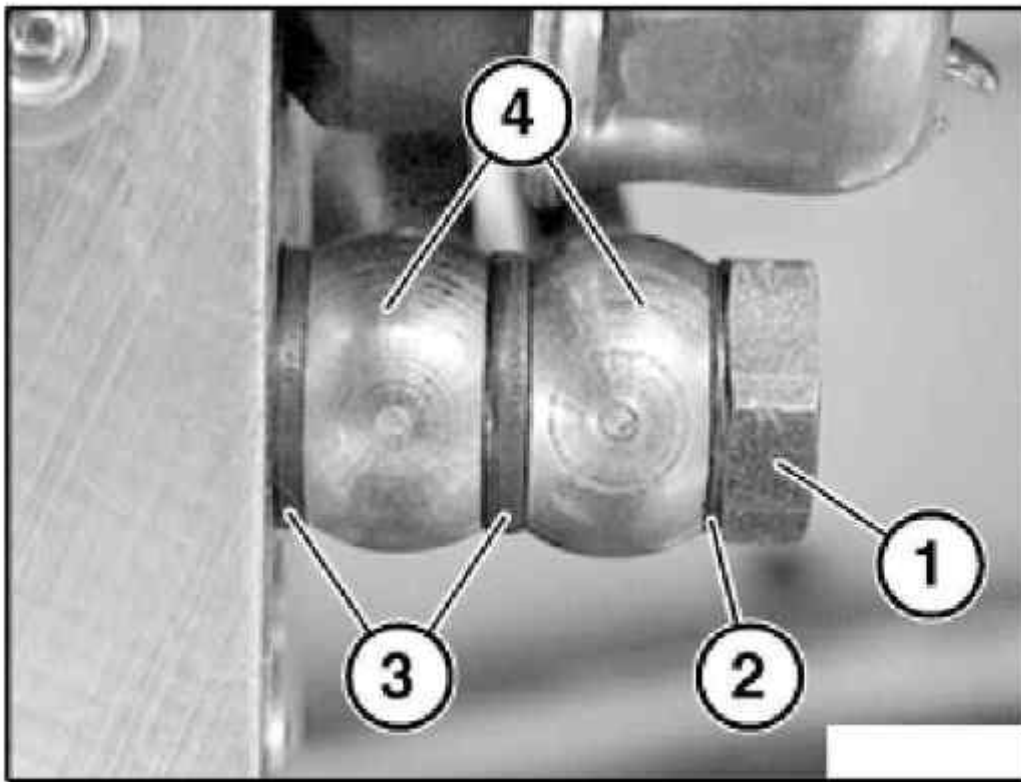
Installation:

Always fit new banjo bolts (1) and seals (2 and 3) (sourcing reference: BMW Parts Service).

1 = Banjo bolt 3 = Seal, middle/bottom

2 = Seal, top 4 = Line connection

The installation position of the hydraulic hoses (4) is not prespecified.

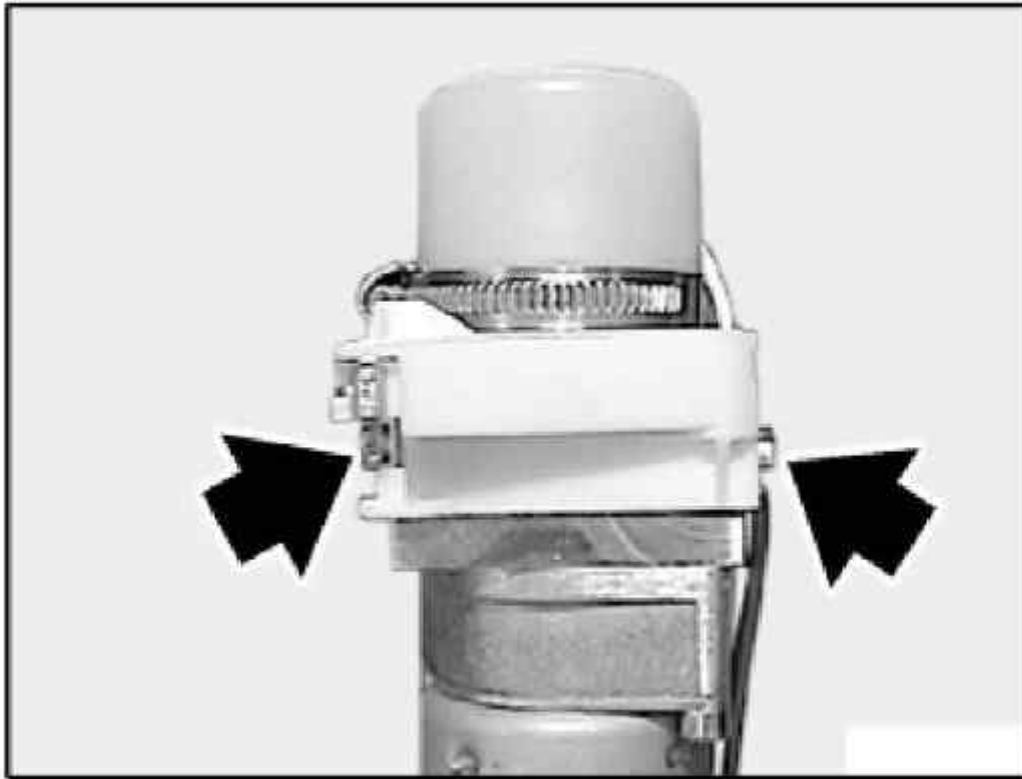


G03298340

Fig. 139: Installing New Banjo Bolts And Seals
Courtesy of BMW OF NORTH AMERICA, INC.

Release emergency release screws.

Remove emergency release mechanism.



G03298341

Fig. 140: Removing Mechanism

Courtesy of BMW OF NORTH AMERICA, INC.

IMPORTANT: If line connections on the hydraulic unit or the hydraulic lines remain open for an extended period (e.g. storage, waiting time), they must be protected against the ingress of moisture.

54 34 012 REMOVING AND INSTALLING/REPLACING HYDRAULIC CYLINDER FOR CONVERTIBLE TOP

Necessary preliminary tasks:

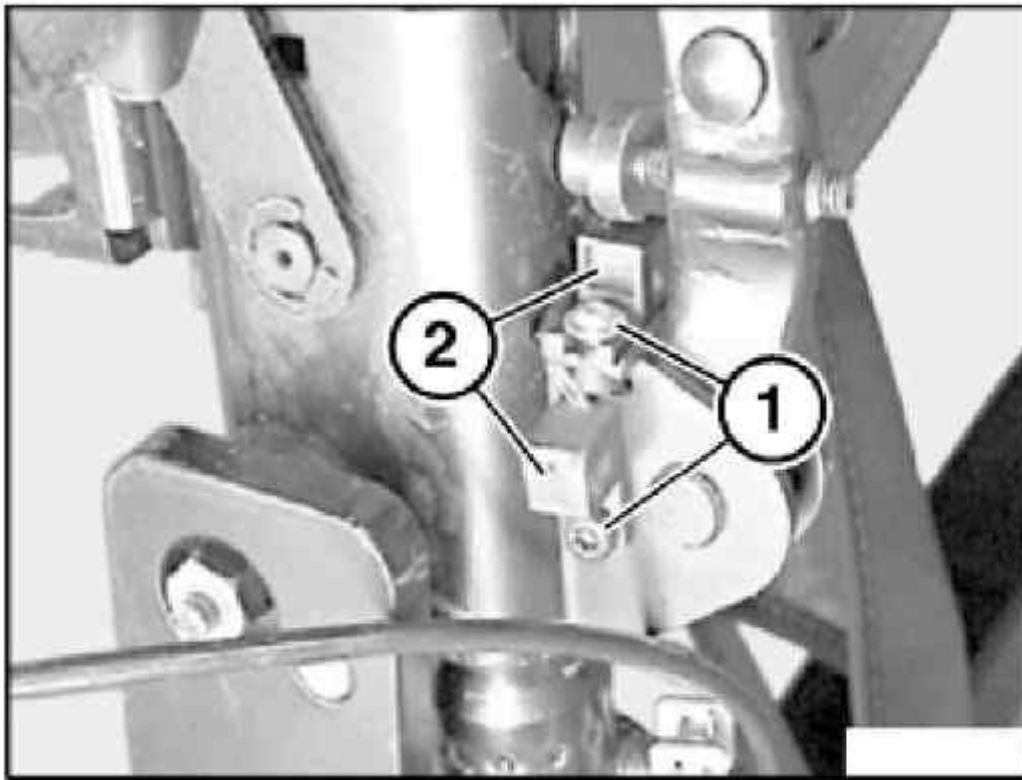
- Observe **54 34... Repair Instructions For Hydraulic System Of Convertible Top And Convertible Top Compartment Lid** on EH convertible top.
- Remove convertible top . See **54 34 101 Removing And Installing Complete Convertible Top** .
- Remove hydraulic unit . See **54 34 005 Removing And Installing/Replacing Hydraulic Unit For Convertible Top Drive** .

Installation:

- Using scan tool, carry out operational check .
- Check fluid level, remove/replenish if necessary. See **OPERATING FLUIDS - SUNROOF AND CONVERTIBLE TOP** .
- Check convertible top adjustment.

Release screws (1); if necessary, raise convertible top slightly and remove microswitch (2).

NOTE: **Further information in MG 61**



G03298342

Fig. 141: Removing Microswitch

Courtesy of BMW OF NORTH AMERICA, INC.

Disconnecting hydraulic lines :

- Cut through cable ties

2005 BMW Z4

2003-05 ACCESSORIES & EQUIPMENT Sliding/Tilt Roof - Repair Procedures - Z4 (E85)

- Remove clips
- Pull out hydraulic line at top
- Unscrew plate
- Pull out hydraulic line at bottom

NOTE: **Seal hydraulic lines with caps (sourcing reference: BMW Parts Service).**

Installation:

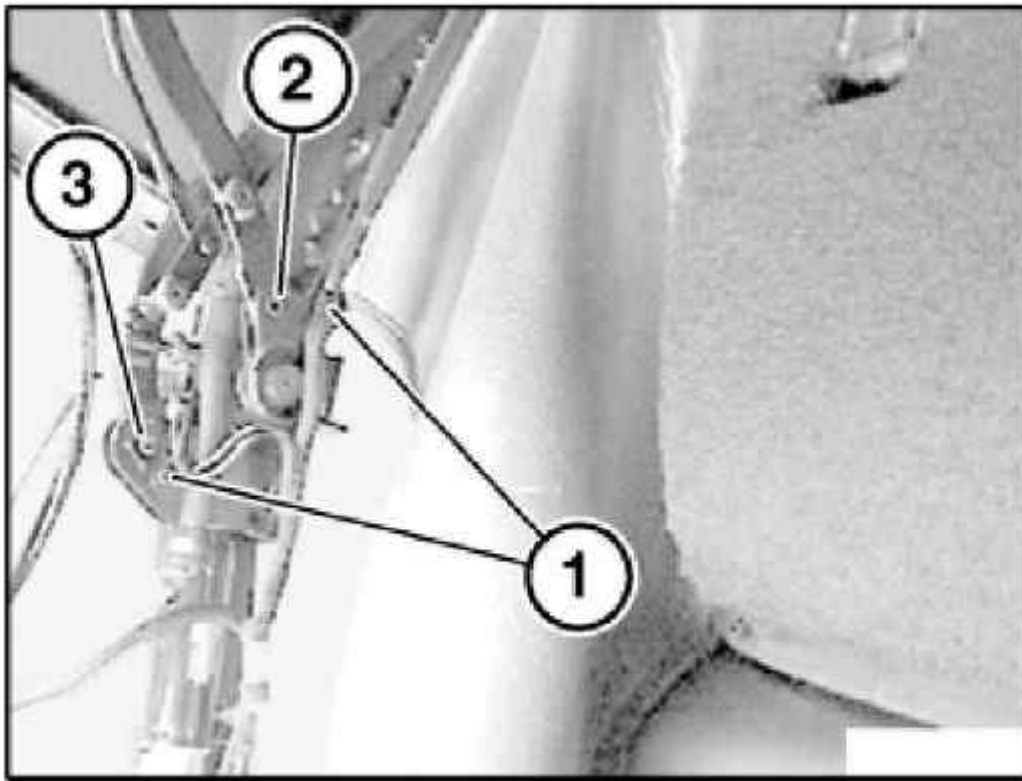
Pay attention to routing and seating of hydraulic lines.

Unfasten cable tie (1).

Release screw (2).

Tightening torque, see 54 31 14AZ in **SLIDE/TILT ROOF AND CONVERTIBLE TOP - TIGHTENING TORQUES** .

Release and remove pin (3).

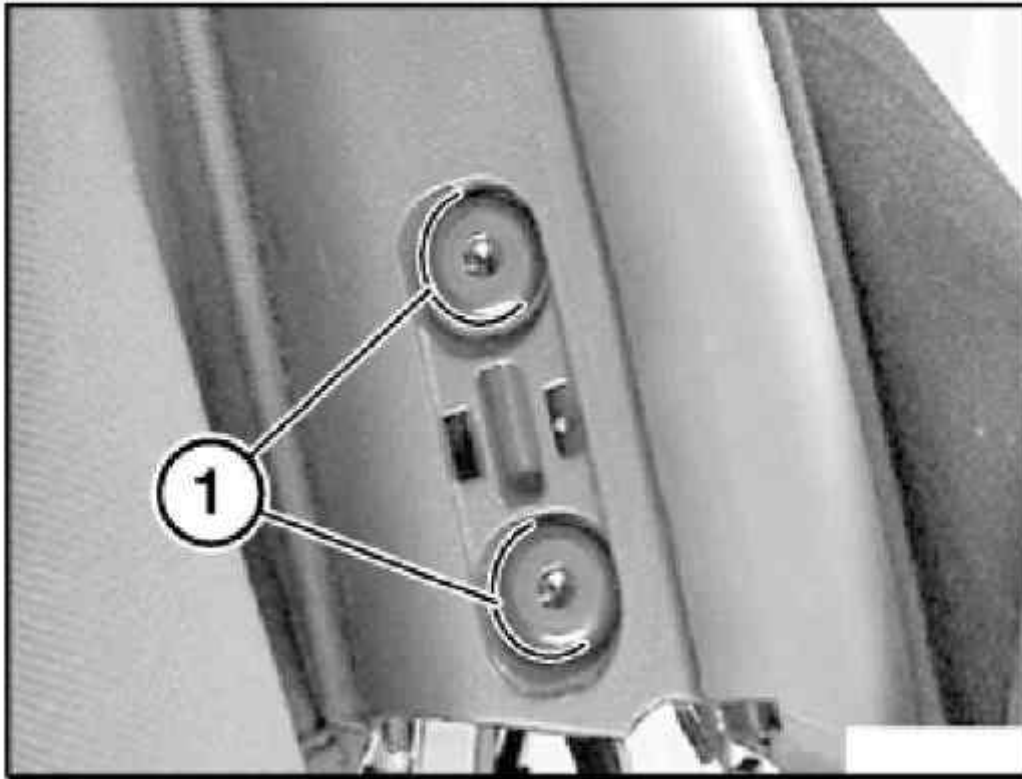


G03298343

Fig. 142: Releasing And Removing Pin
Courtesy of BMW OF NORTH AMERICA, INC.

Unclip cover.

Mark position of screw heads (1).



G03298344

Fig. 143: Marking Position Of Screw Heads
Courtesy of BMW OF NORTH AMERICA, INC.

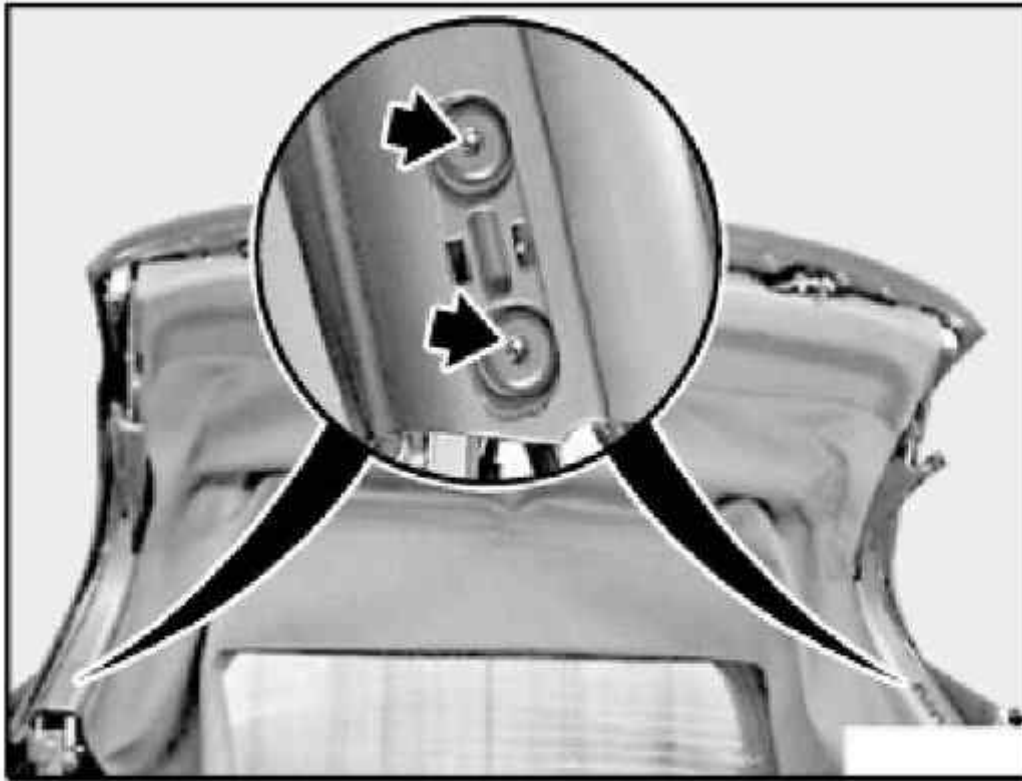
Release screws and remove main support/cylinder.

Installation:

Fit thin spacer between bracket and frame.

Return screws to their original location, then tighten down screws.

Tightening torque, see 54 31 12AZ in **SLIDE/TILT ROOF AND CONVERTIBLE TOP - TIGHTENING TORQUES** .

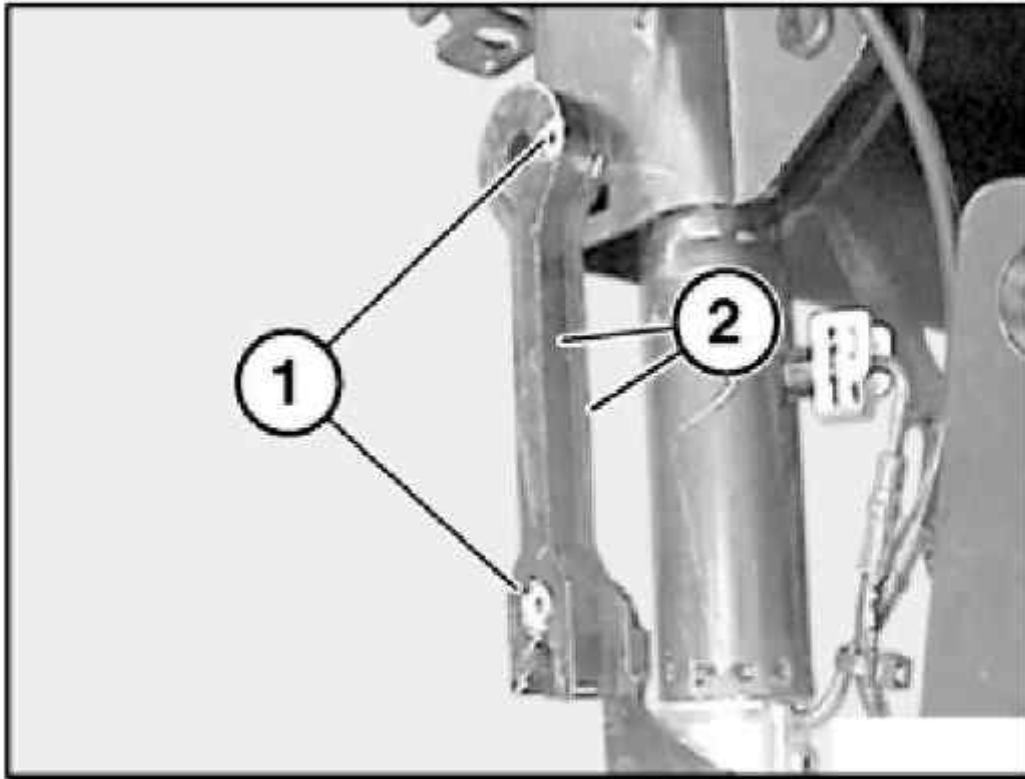


G03298345

Fig. 144: Releasing Screws And Removing Main Support/Cylinder
Courtesy of BMW OF NORTH AMERICA, INC.

Replacement only:

- Release screws (1) and remove shims (2).
- If necessary, remove hardtop mounting . See **54 31 200 Removing And Installing/Replacing Hard Top Mounting** .



G03298346

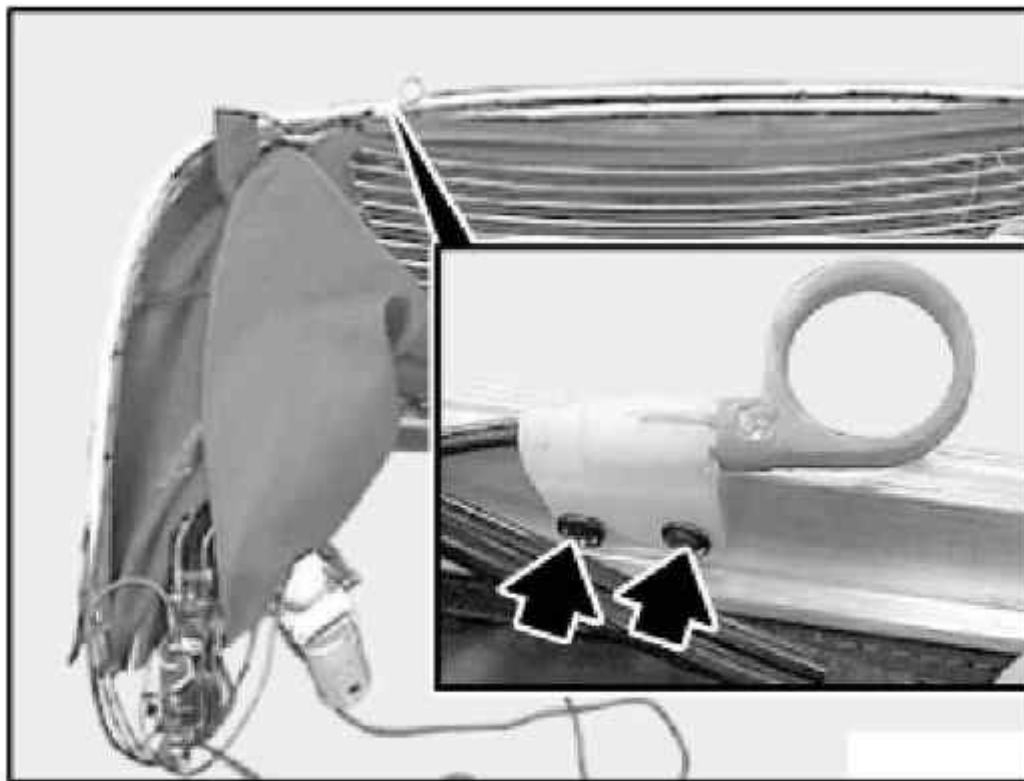
Fig. 145: Releasing Screws And Removing Shims
Courtesy of BMW OF NORTH AMERICA, INC.

54 34 029 REPLACING BOWDEN CABLE FOR EH CONVERTIBLE TOP EMERGENCY RELEASE MECHANISM

Necessary preliminary tasks:

- Remove convertible top . See **54 34 101 Removing And Installing Complete Convertible Top** .
- Remove emergency release mechanism from hydraulic unit. See **54 34 005 Removing And Installing/Replacing Hydraulic Unit For Convertible Top Drive** .

Release screws and/or drill out rivets.



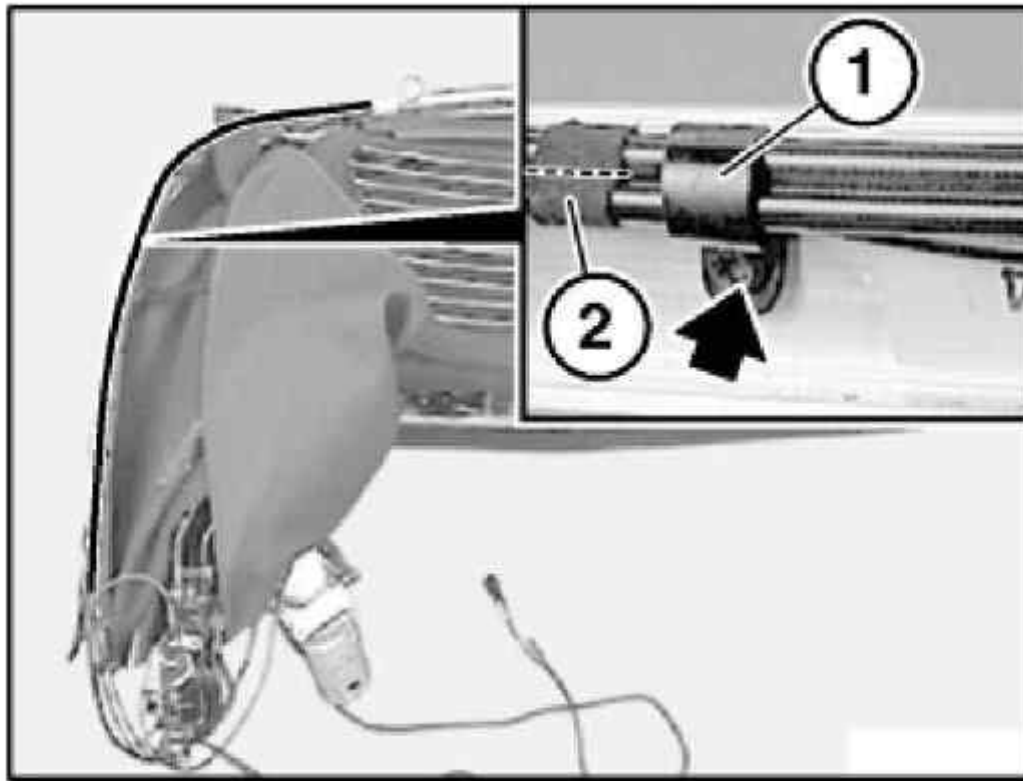
G03298347

Fig. 146: Releasing Screws And Drill Out Rivets
Courtesy of BMW OF NORTH AMERICA, INC.

Disconnect Bowden cable in area A from hydraulic lines (cable ties) and feed out of holder if necessary.

Installation:

Using scan tool, carry out function check .



G03298348

Fig. 147: Disconnecting Bowden Cable In Area From Hydraulic Lines
Courtesy of BMW OF NORTH AMERICA, INC.

54 34 101 REMOVING AND INSTALLING COMPLETE CONVERTIBLE TOP

Special tools required:

- 00 9 318
- 00 9 323
- 54 3 200

Necessary preliminary tasks:

- Remove convertible top compartment base . See **54 31 170 Removing And Installing/Replacing Convertible Top Compartment Floor** .
- Release side trim panel upper section at rear on B-pillar. See **51 43 010 REMOVING AND INSTALLING/REPLACING TRIM SECTION** .

- If necessary, unclip hardtop contact tube . See **54 31 200 Removing And Installing/Replacing Hard Top Mounting** .

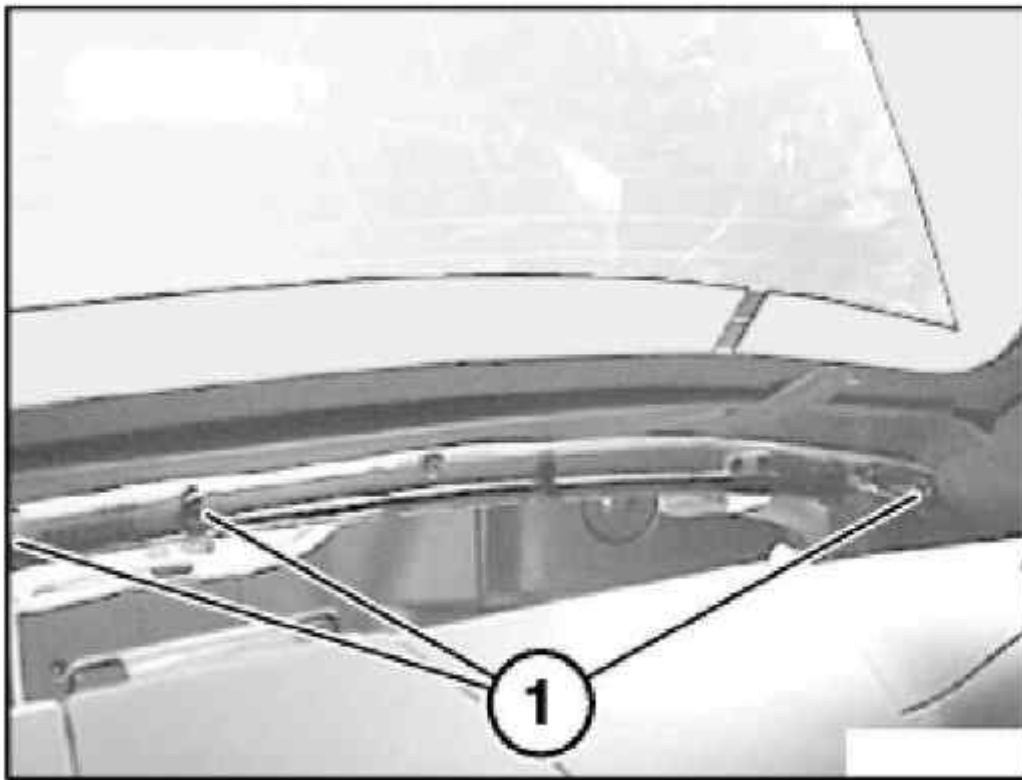
IMPORTANT: Risk of damage: Cover vehicle rear end.

Risk of dirt accumulation: Clean and tape off convertible top compartment.

Close convertible top.

Release hexagon screws (1) on convertible top strip at rear all round.

NOTE: Carry out tasks from luggage compartment.



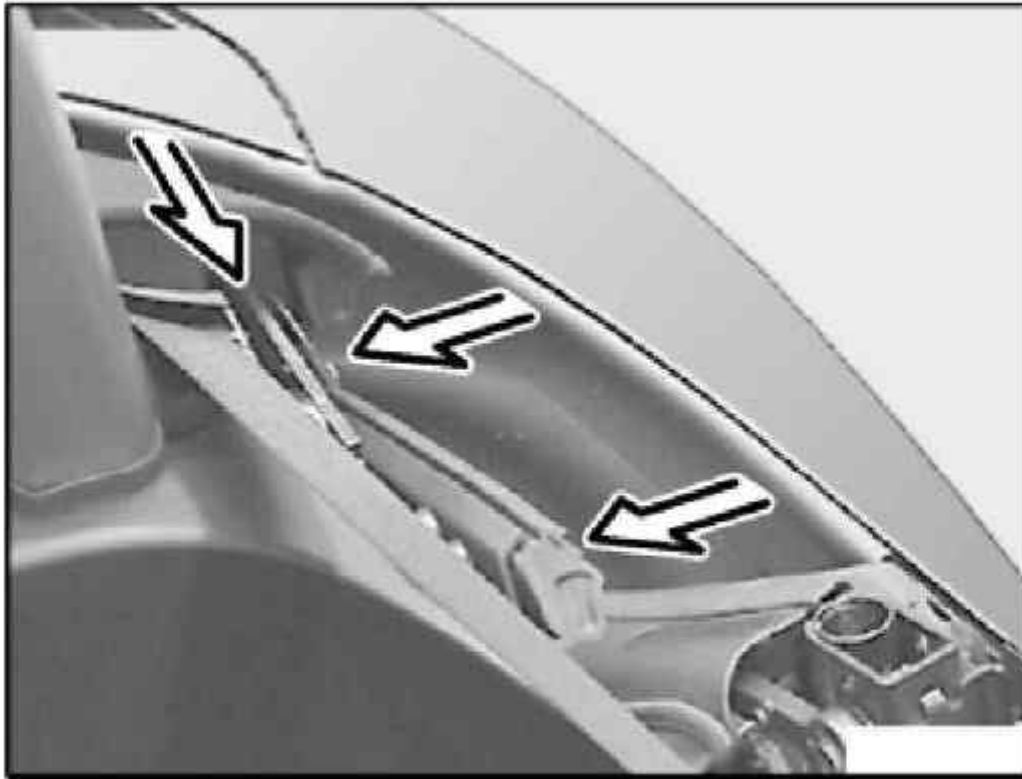
G03298349

Fig. 148: Releasing Hexagon Screws On Convertible Top Strip At Rear All Round
Courtesy of BMW OF NORTH AMERICA, INC.

Open convertible top halfway.

Detach convertible top compartment seal all round from outer skin.

Open convertible top.



G03298350

Fig. 149: Detaching Convertible Top Compartment Seal All Round From Outer Skin
Courtesy of BMW OF NORTH AMERICA, INC.

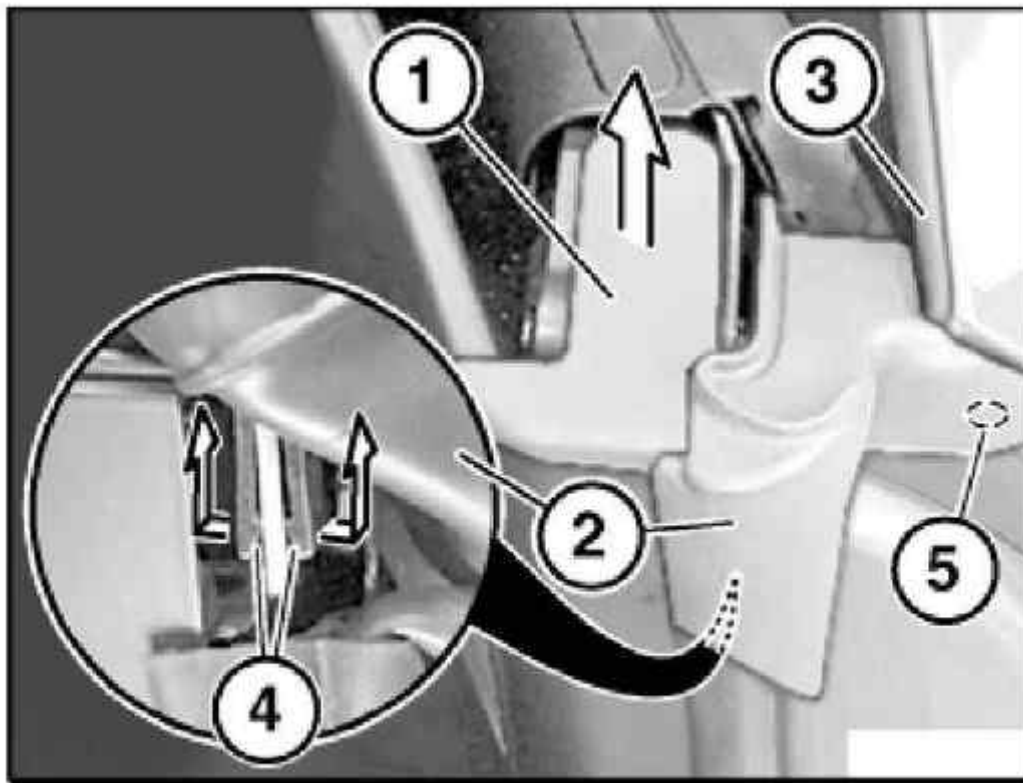
Unclip cover (1) towards top.

Release seal (2) at point (5).

NOTE:

- **New version: Point (5) secured with rubber plug in B-pillar.**
- **Old version: Point (5) secured with double-sided adhesive tape.**
- **Replacing old version: Cut off rubber plug from seal (2).**

Fold tab of seal (2) upwards. Bend retaining lugs (4) to one side slightly and pull seal (2) towards top and feed towards front out of convertible top compartment seal (3).

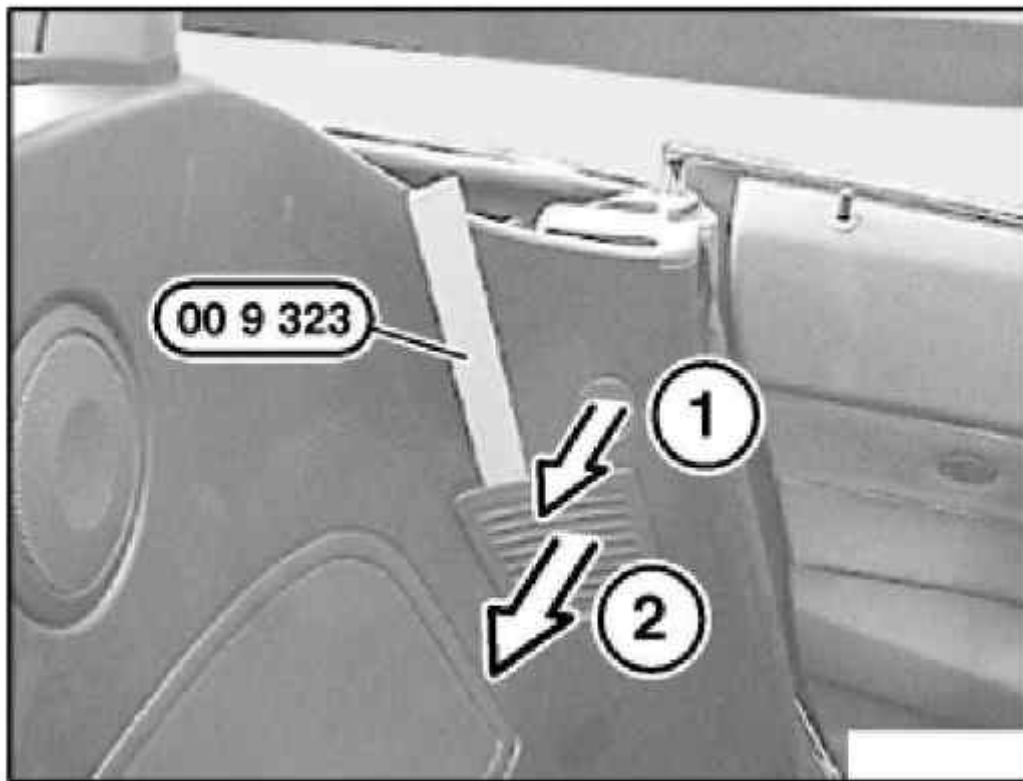


G03298351

Fig. 150: Releasing Seal At Point
Courtesy of BMW OF NORTH AMERICA, INC.

Remove lock from convertible top.

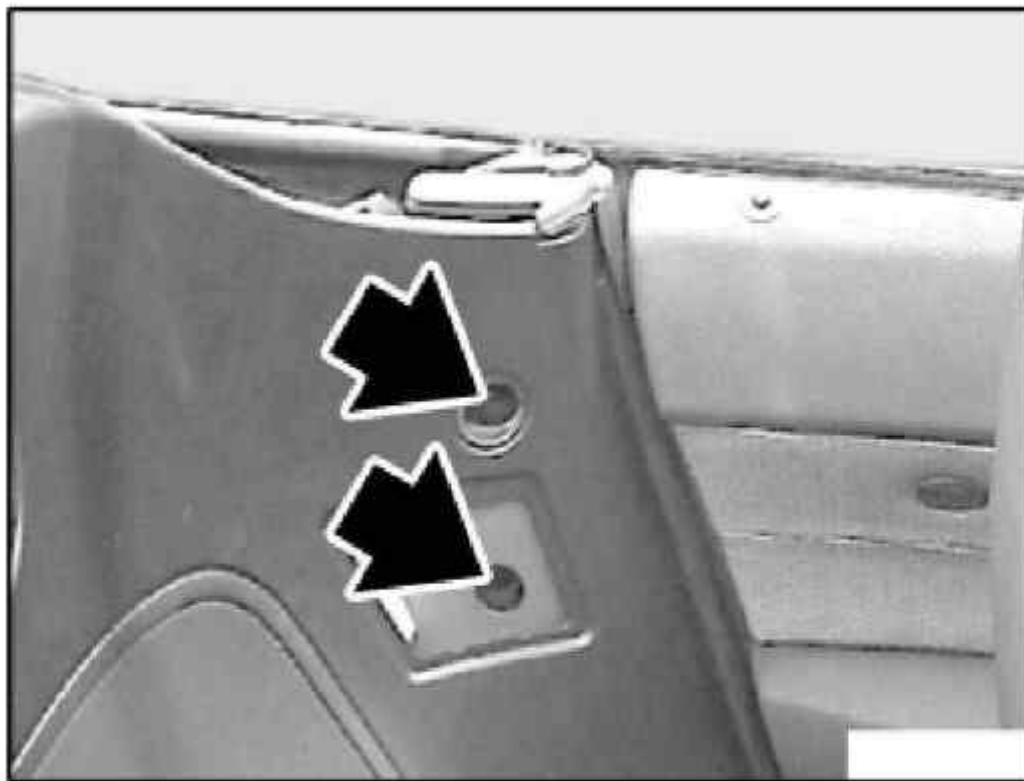
Unclip removal cover (1) and grill (2) with special tool 00 9 323 (apply at top) on left and right.



G03298352

Fig. 151: Removing Cover And Grill With Special Tool
Courtesy of BMW OF NORTH AMERICA, INC.

Unscrew left and right bolts.

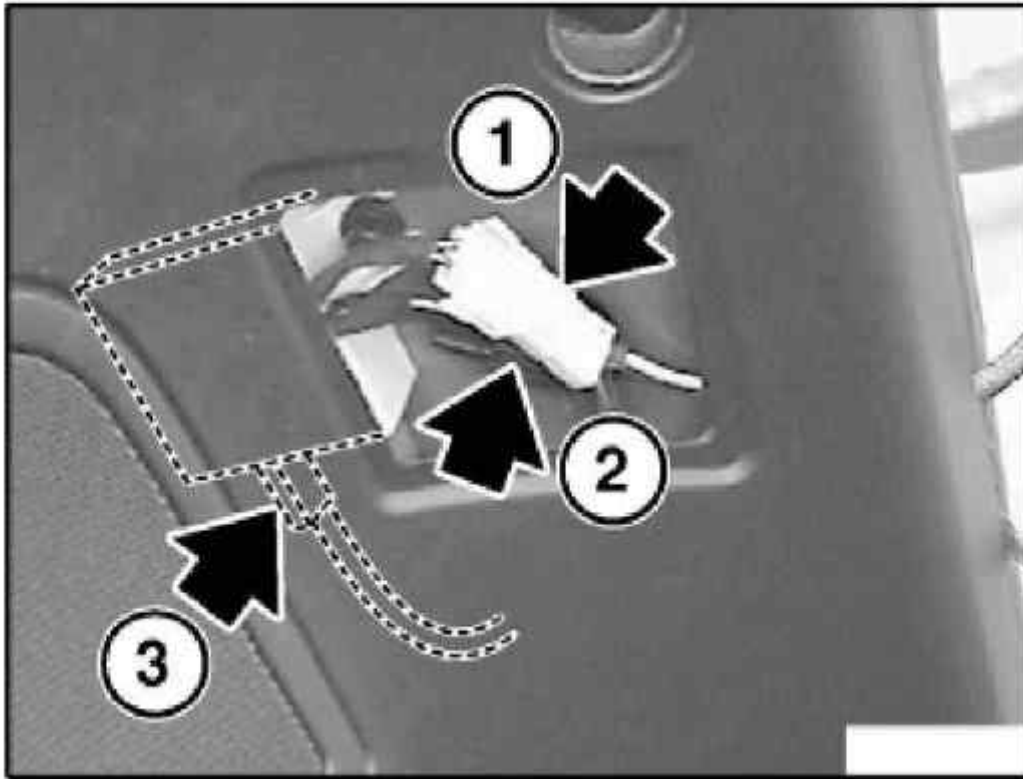


G03298353

Fig. 152: Unscrewing Left And Right Bolts
Courtesy of BMW OF NORTH AMERICA, INC.

Detach side trim slightly and disconnect plug connections:

1. EH convertible top only
2. EH convertible top only
3. Manual and EH convertible tops



1. EH convertible top only
2. EH convertible top only
3. Manual and EH convertible tops

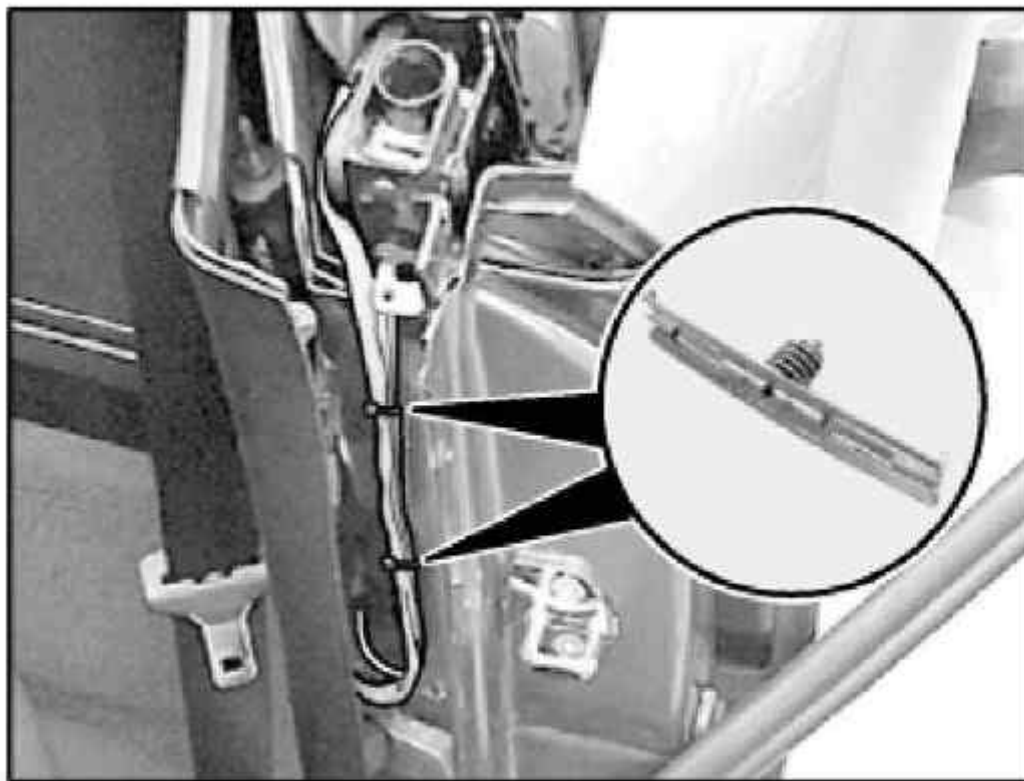
G03298354

Fig. 153: Disconnecting Plug Connections
Courtesy of BMW OF NORTH AMERICA, INC.

Unclip cable.

Installation:

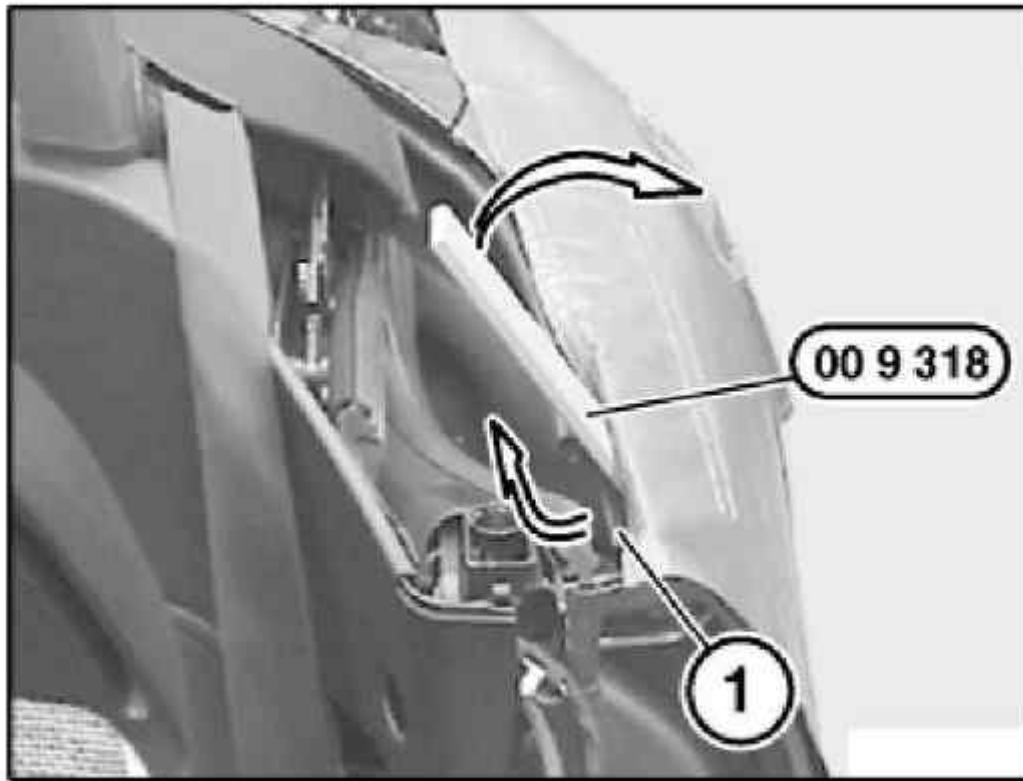
Observe cable routing on B-pillar.



G03298355

Fig. 154: Observing Cable Routing On B-Pillar
Courtesy of BMW OF NORTH AMERICA, INC.

Press convertible top strip inwards with special tool 00 9 318 and at same time lift out of retainer (1).



G03298356

Fig. 155: Pressing Convertible Top Strip Inwards With Special Tool
Courtesy of BMW OF NORTH AMERICA, INC.

IMPORTANT: A 2nd person is needed to help carry out the following tasks.

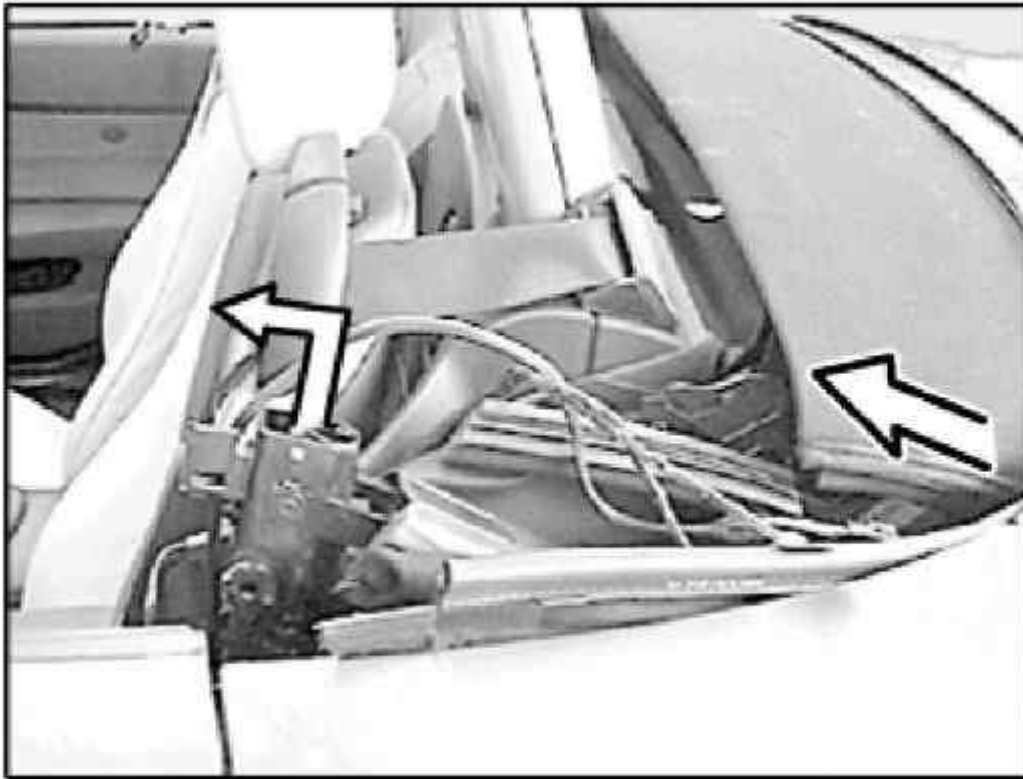
Lift convertible top frame on left and right out of B-pillar.

If necessary, lift hydraulic unit out of B-pillar on left side.

Lift convertible top (with hydraulic unit) towards front top out of convertible top compartment.

NOTE: If the convertible top jams or the hydraulic unit sticks under the retainer of the convertible top strip:

- Close convertible top almost (do not lock)
- Pull hydraulic unit inwards from inside
- Lift out closed convertible top



G03298357

Fig. 156: Lifting Hydraulic Unit Out Of B-Pillar On Left Side
Courtesy of BMW OF NORTH AMERICA, INC.

Set convertible top down on special tool 54 3 200.



G03298358

Fig. 157: Identifying Convertible Top Special Tool
Courtesy of BMW OF NORTH AMERICA, INC.

54 34 120 REPLACING CONVERTIBLE TOP FABRIC

Special tools required:

- 00 9 321

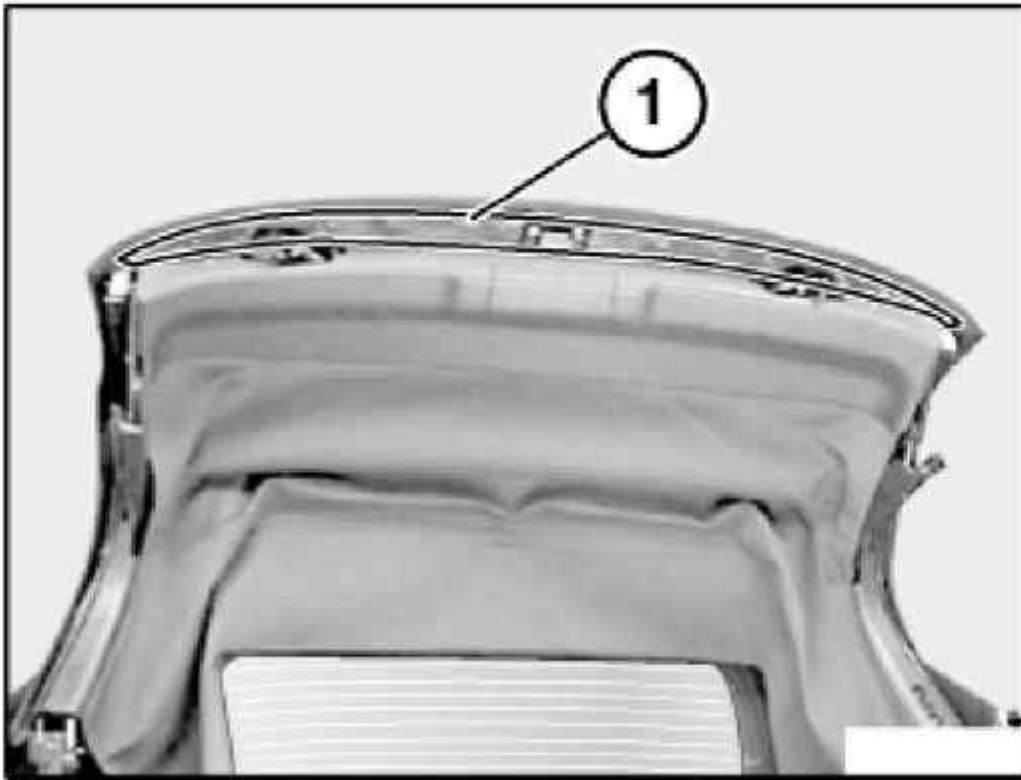
Necessary preliminary tasks:

- Remove convertible top . See **54 34 101 Removing And Installing Complete Convertible Top** .
- Remove front window guide **54 31 155 Removing And Installing/Replacing All Window Guides On Right And Left Of Convertible Top** .
- Remove rear window seal **54 31 155 Removing And Installing/Replacing All Window Guides On Right And Left Of Convertible Top** .
- Remove trim on convertible top catch.

EH convertible top only:

- Partially remove roofliner (1st bow/cowl panel and last bow)

Release screws in area (1).



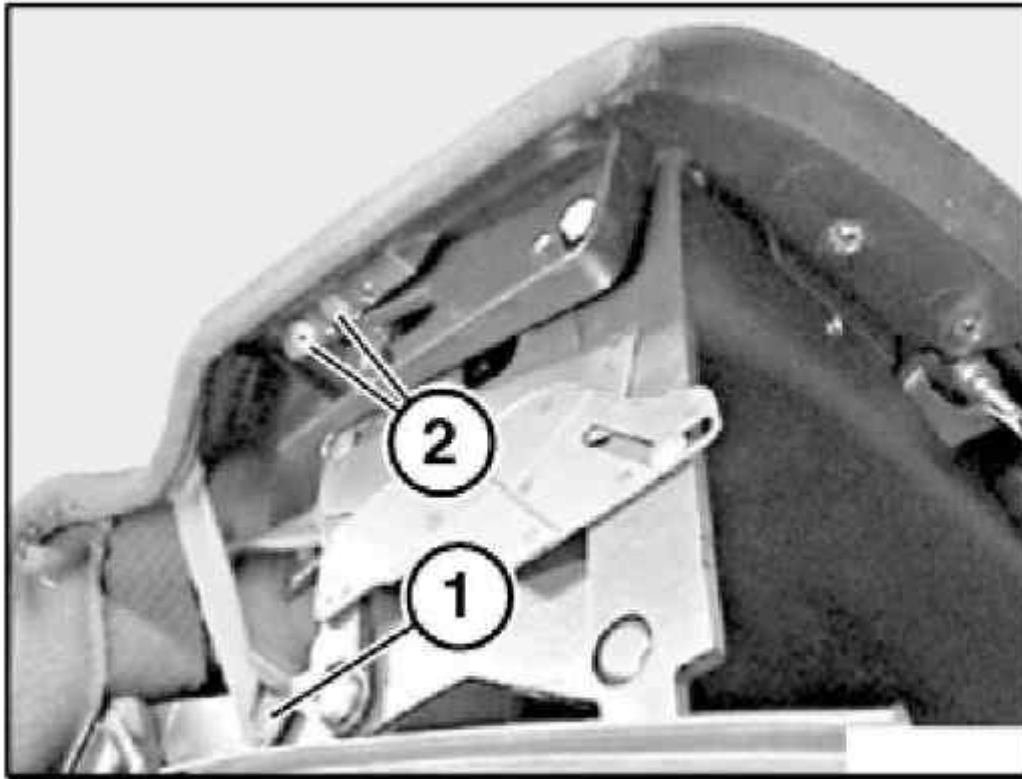
G03298359

Fig. 158: Releasing Screws In Area
Courtesy of BMW OF NORTH AMERICA, INC.

Release front strap (1) on left/right.

Drill out blind rivets (2) on left/right.

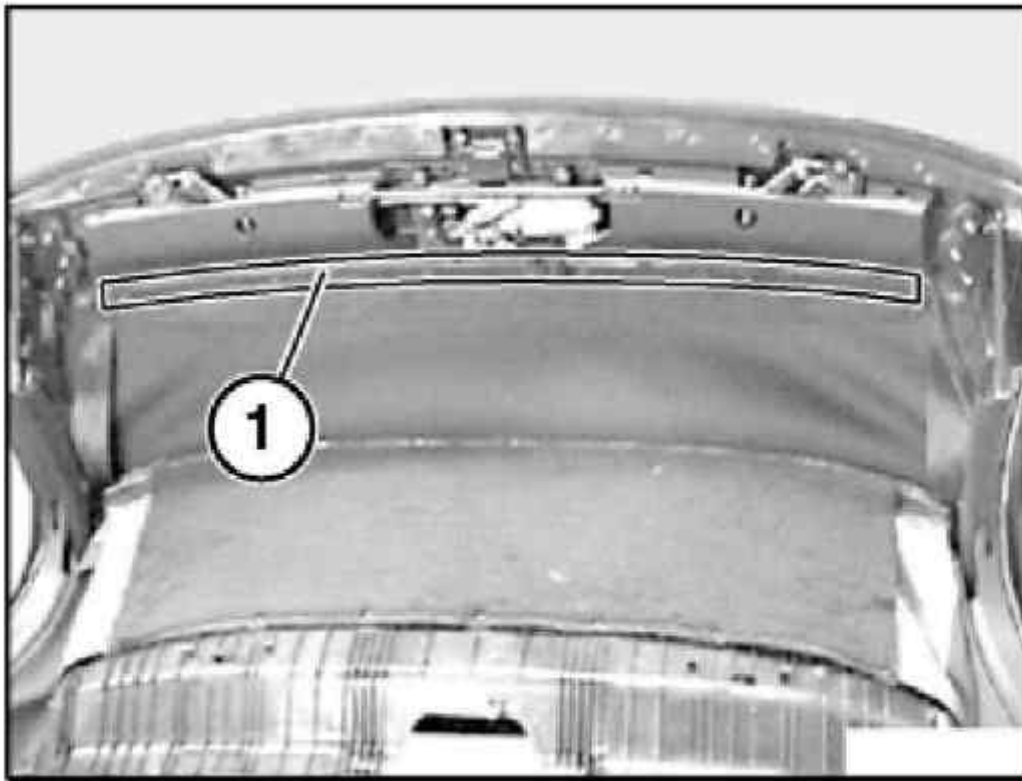
Remove trim, if necessary suspend from roofliner.



G03298360

Fig. 159: Releasing Front Strap On Left/Right
Courtesy of BMW OF NORTH AMERICA, INC.

Release screws in area (1).



G03298361

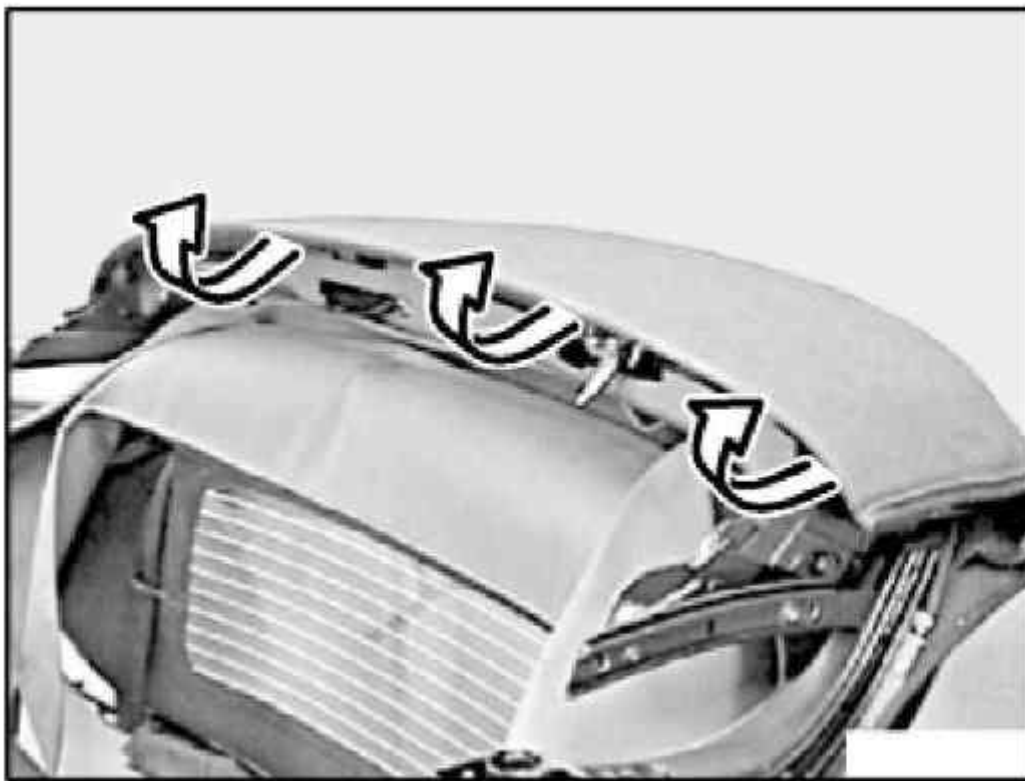
Fig. 160: Releasing Screws In Area
Courtesy of BMW OF NORTH AMERICA, INC.

Detaching fabric from bow 1:

- Pull fabric in middle towards front and fold upwards at rear.
- Pull fabric over a corner towards front and fold upwards at rear.

If necessary, use special tool 00 9 321.

- Pull off fabric over other corner.



G03298362

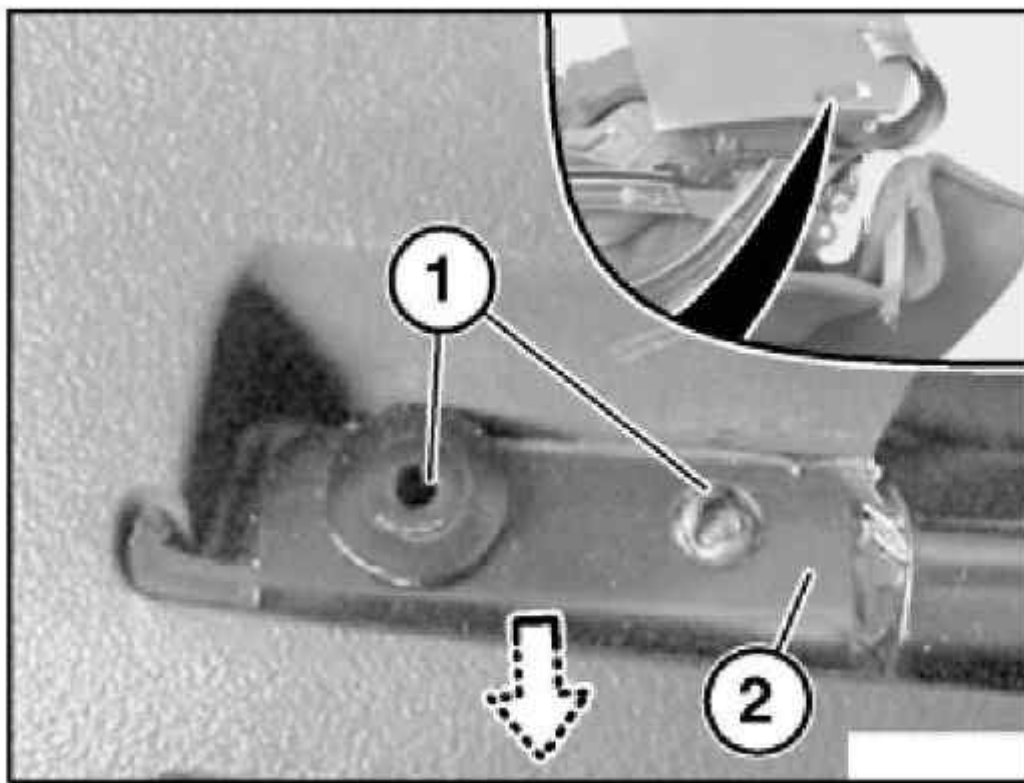
Fig. 161: Detaching Fabric From Bow
Courtesy of BMW OF NORTH AMERICA, INC.

Drill out rivet joint (1) on left/right.

Feed out tension cable bearing (2) to one side.

Installation:

Replace shims.

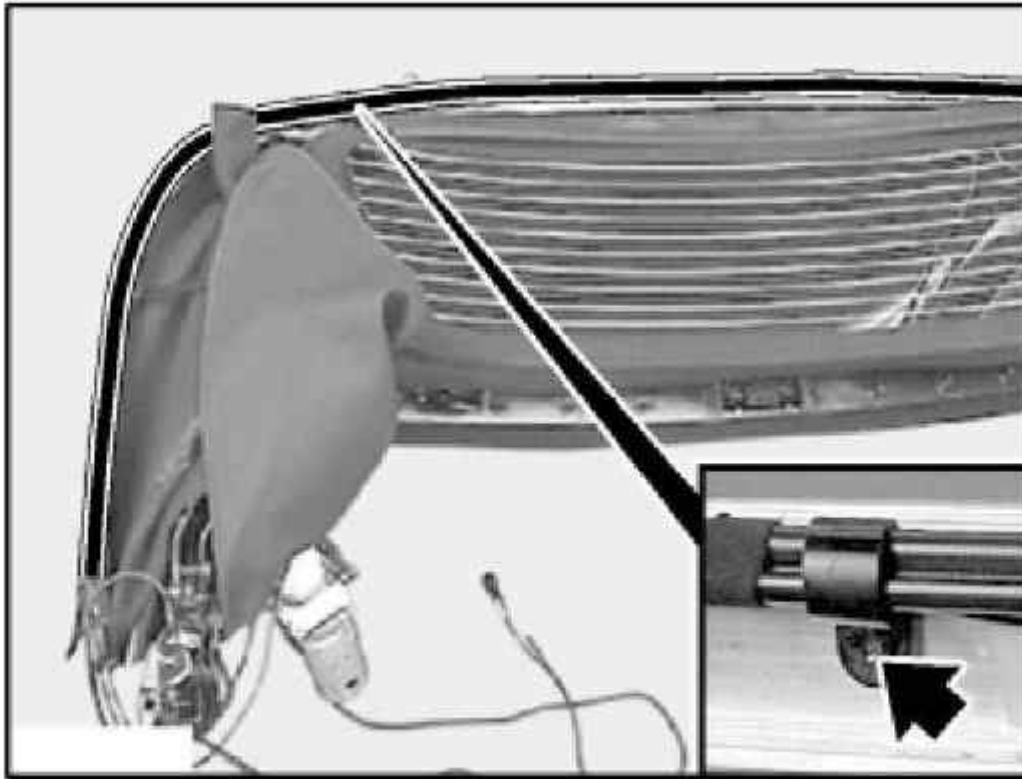


G03298363

Fig. 162: Identifying Rivet Joint On Left/Right
Courtesy of BMW OF NORTH AMERICA, INC.

EH convertible top only:

If necessary, release holder of hydraulic lines.

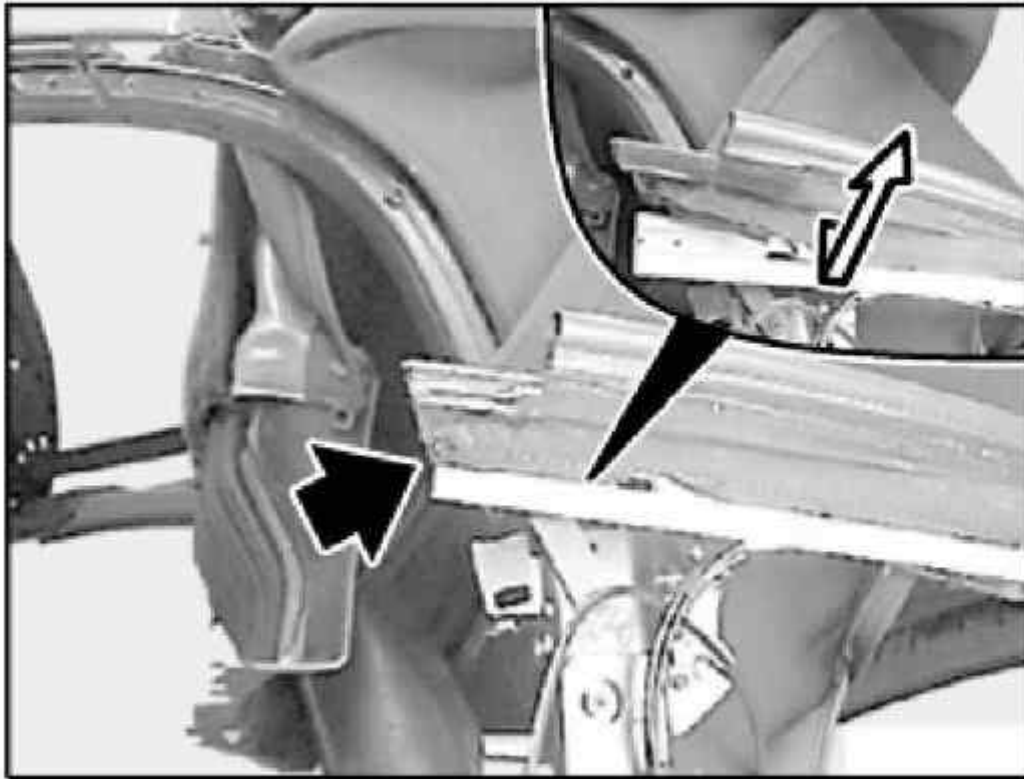


G03298364

Fig. 163: Releasing Holder Of Hydraulic Lines
Courtesy of BMW OF NORTH AMERICA, INC.

Release screw on left/right on convertible top strip.

Feed fabric welt out of clamp.

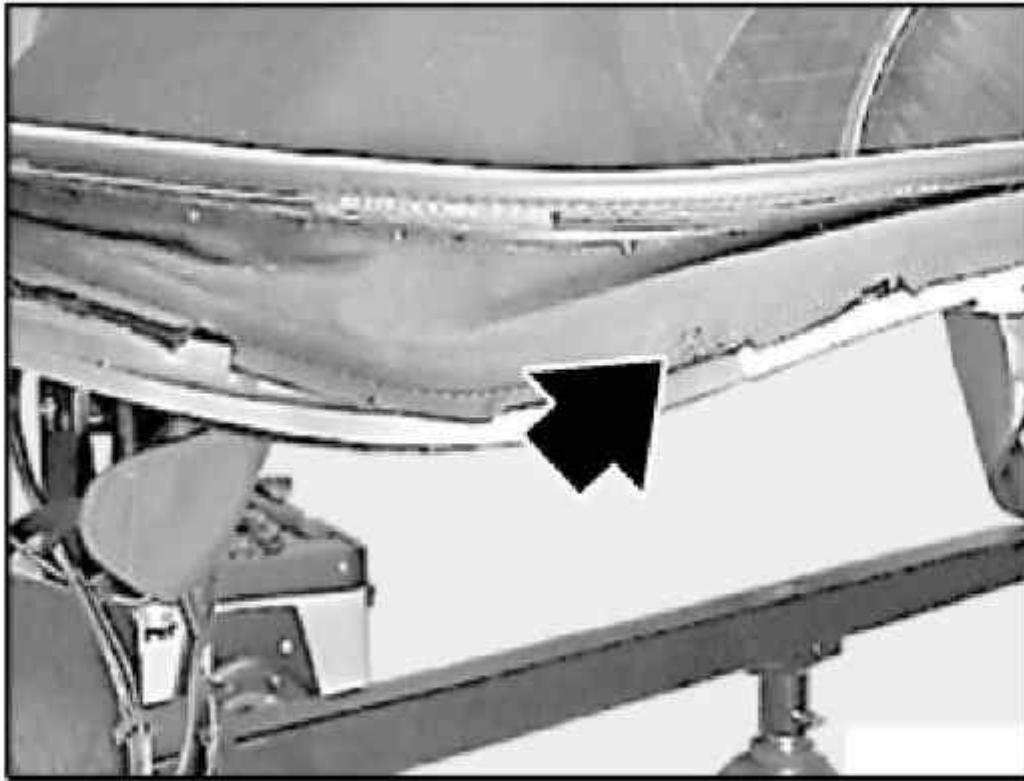


G03298365

Fig. 164: Feeding Fabric Welt Out Of Clamp
Courtesy of BMW OF NORTH AMERICA, INC.

Unfasten screws on left/right side.

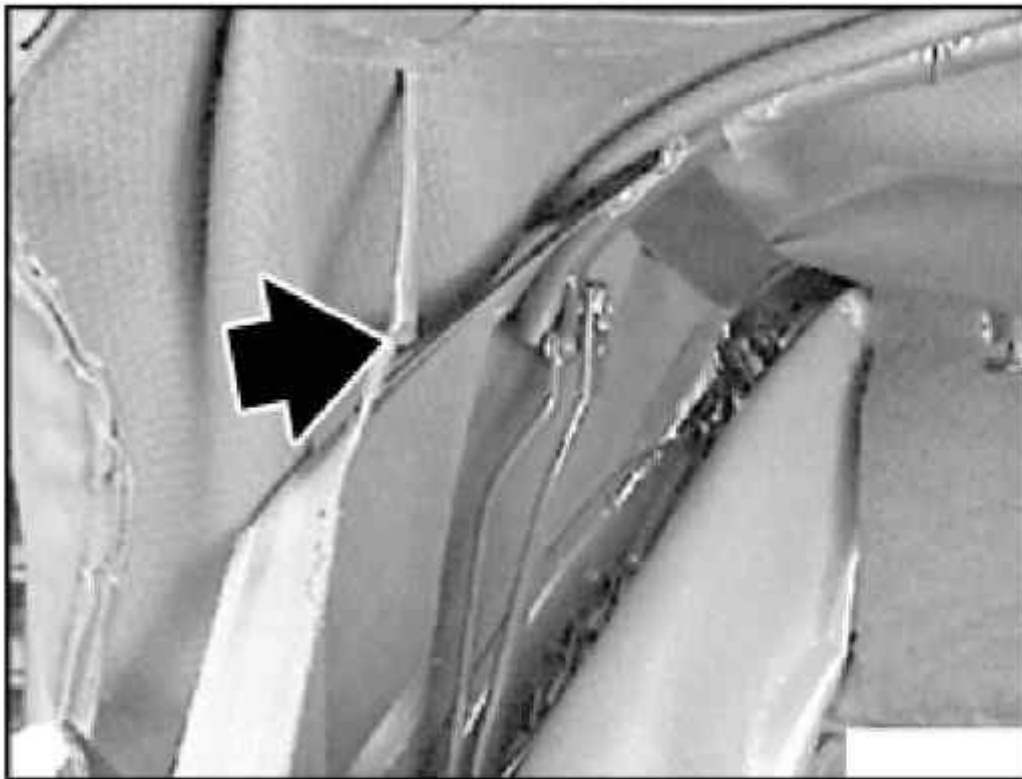
Feed out fabric welt further.



G03298366

Fig. 165: Feeding Out Fabric Welt Further
Courtesy of BMW OF NORTH AMERICA, INC.

Disconnect plug connection for heated rear window.



G03298367

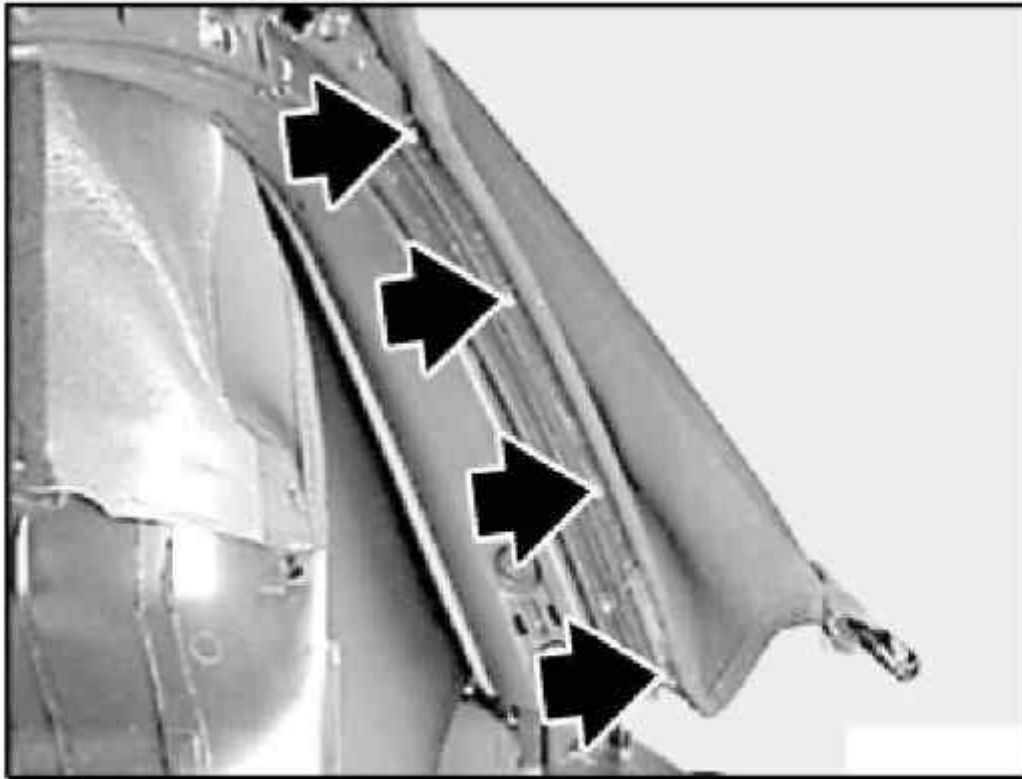
Fig. 166: Disconnecting Plug Connection For Heated Rear Window
Courtesy of BMW OF NORTH AMERICA, INC.

Drill out rivet joint on B-pillar on left/right.

Pull off fabric towards top.

Installation:

Replace shims.



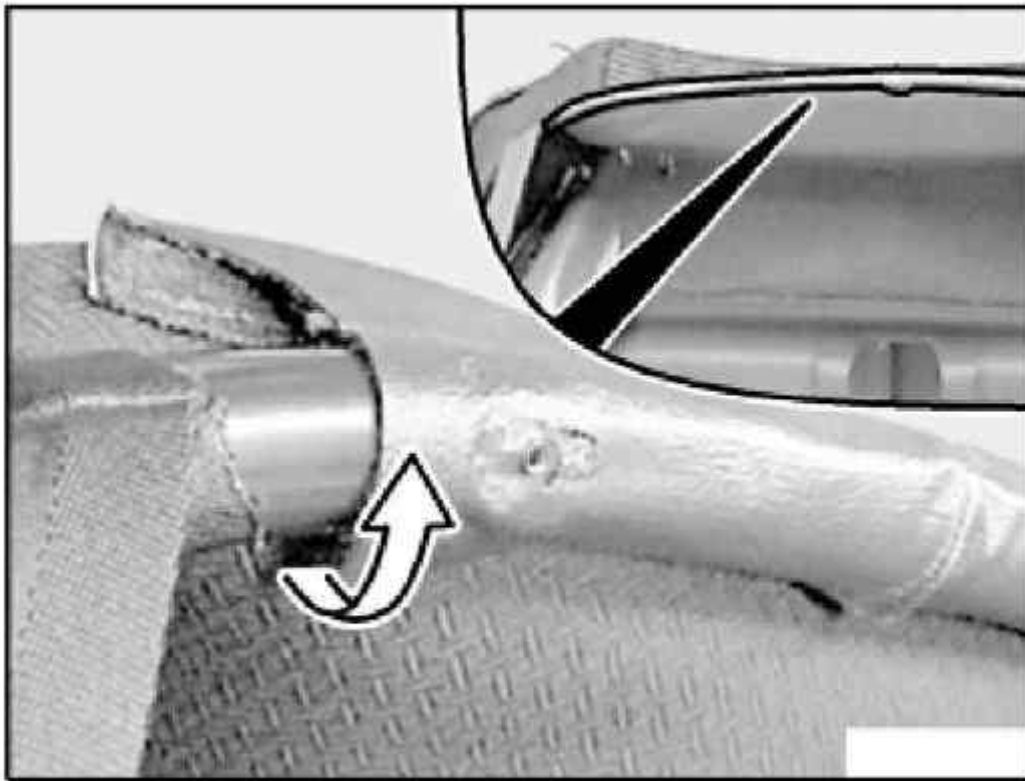
G03298368

Fig. 167: Pulling Off Fabric Towards Top
Courtesy of BMW OF NORTH AMERICA, INC.

Detach fabric from bow at rear.

Installation:

- If necessary, remove double-sided adhesive tape.
- Before installing, fit convertible top fabric on 1st bow so as to obtain the correct tension.
- Bring holes of fabric link and bow in line.



G03298369

Fig. 168: Detaching Fabric From Bow At Rear
Courtesy of BMW OF NORTH AMERICA, INC.

Drill out rivet joint (1) from rear tension cable bearing on left/right.

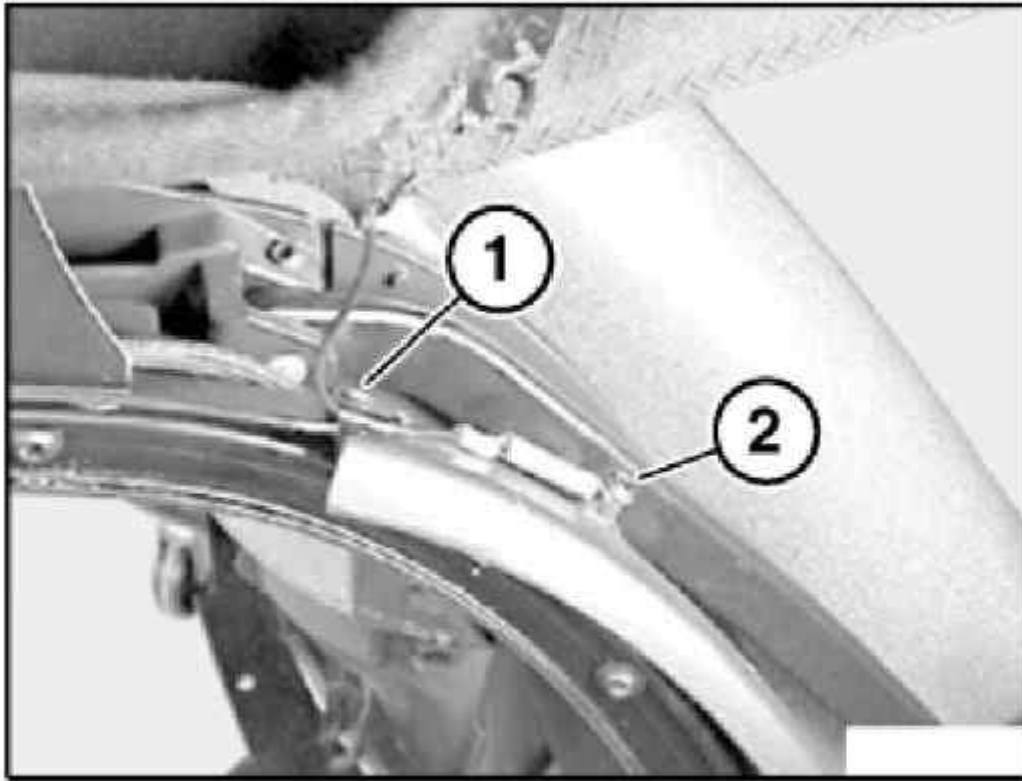
Release screw (2).

Remove fabric.

Feed out tension cables towards front.

Installation:

Replace shims.



G03298370

Fig. 169: Drilling Out Rivet Joint From Rear Tension Cable Bearing On Left/Right
Courtesy of BMW OF NORTH AMERICA, INC.

NOTE: The dimensions and tolerances of the convertible top frame and the convertible top fabric are designed so that it is not necessary to correct the tension. When fitted, new convertible top fabric is always a little "taut" in the initial stages. If the vehicle remains idle with the convertible top closed for some time (e.g. overnight) the fabric "settles" so that the closing forces are then normal again.

IMPORTANT: Excessive convertible top tension not only increases the closing forces but also gives the convertible top the characteristics of a "drum". The acting wind forces and falling raindrops during driving will literally "drum" on the fabric resulting in significant impairment of the interior acoustics. On the other hand, if the convertible top is not tense enough, it droops "and, at higher roadspeeds, it starts to make a flapping noise".

Necessary preliminary tasks:

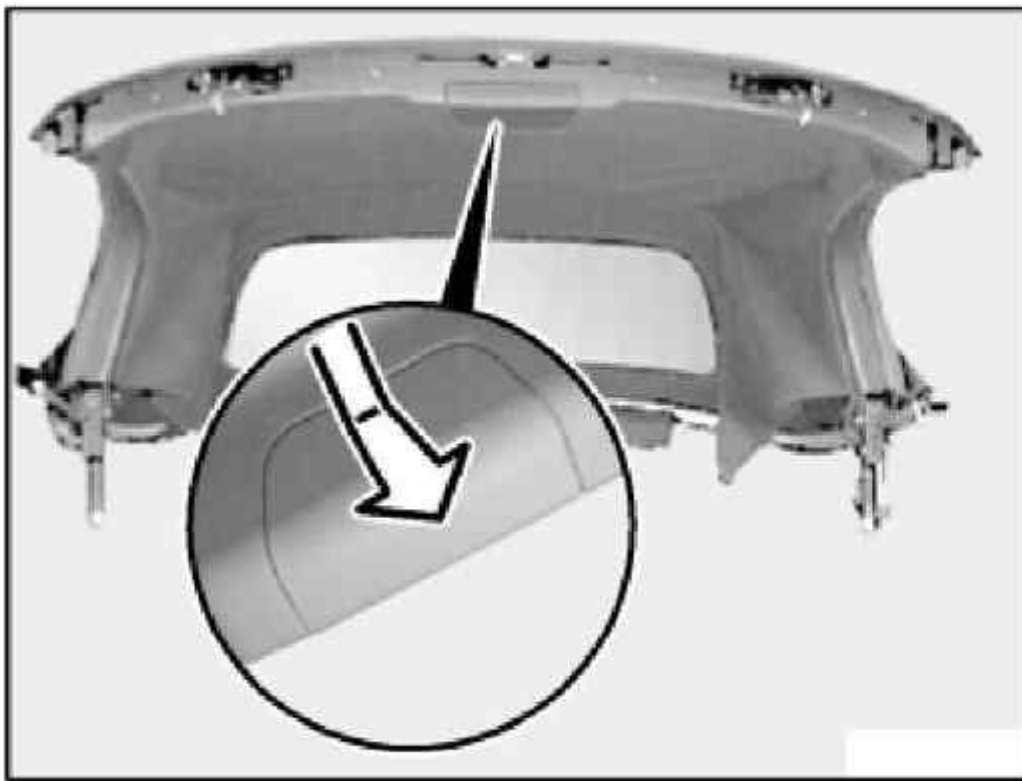
- Open convertible top slightly.

Mechanical convertible top only:

- Remove handle . See **54 31 024 Removing And Installing Or Replacing Handle For Convertible Top Cover Lock** .

NOTE: **Work is shown on the removed convertible top.**

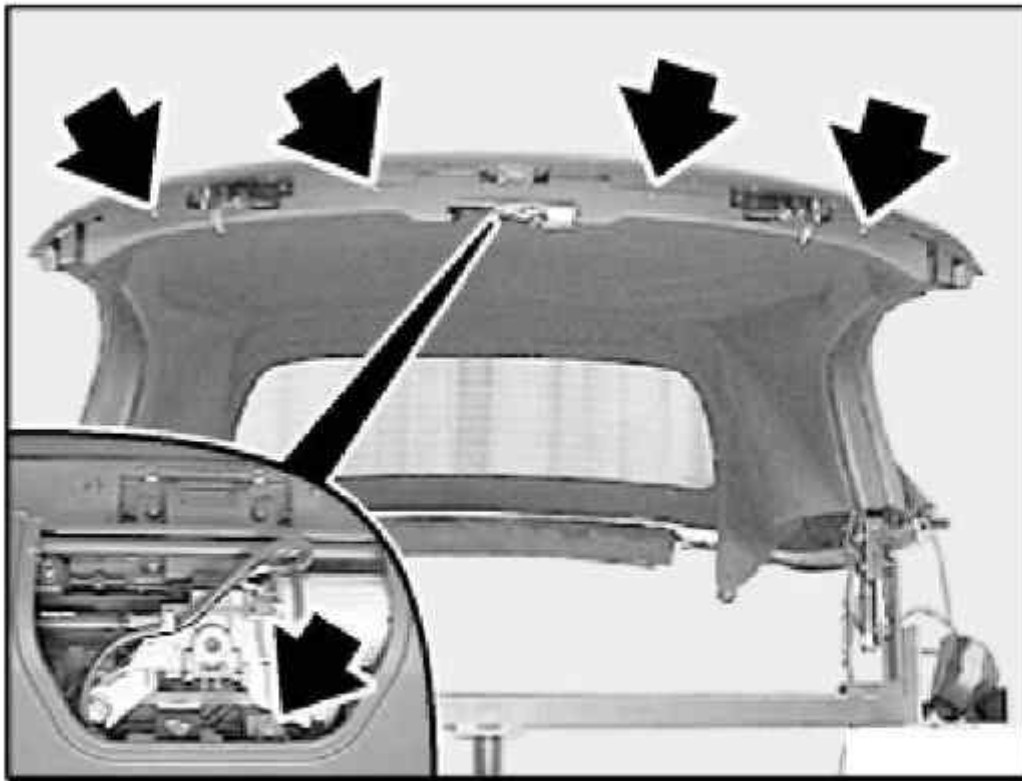
Press in cover from rear slightly and remove towards bottom.



G03298371

Fig. 170: Pressing In Cover From Rear Slightly And Removing Towards Bottom
Courtesy of BMW OF NORTH AMERICA, INC.

Unfasten screws.



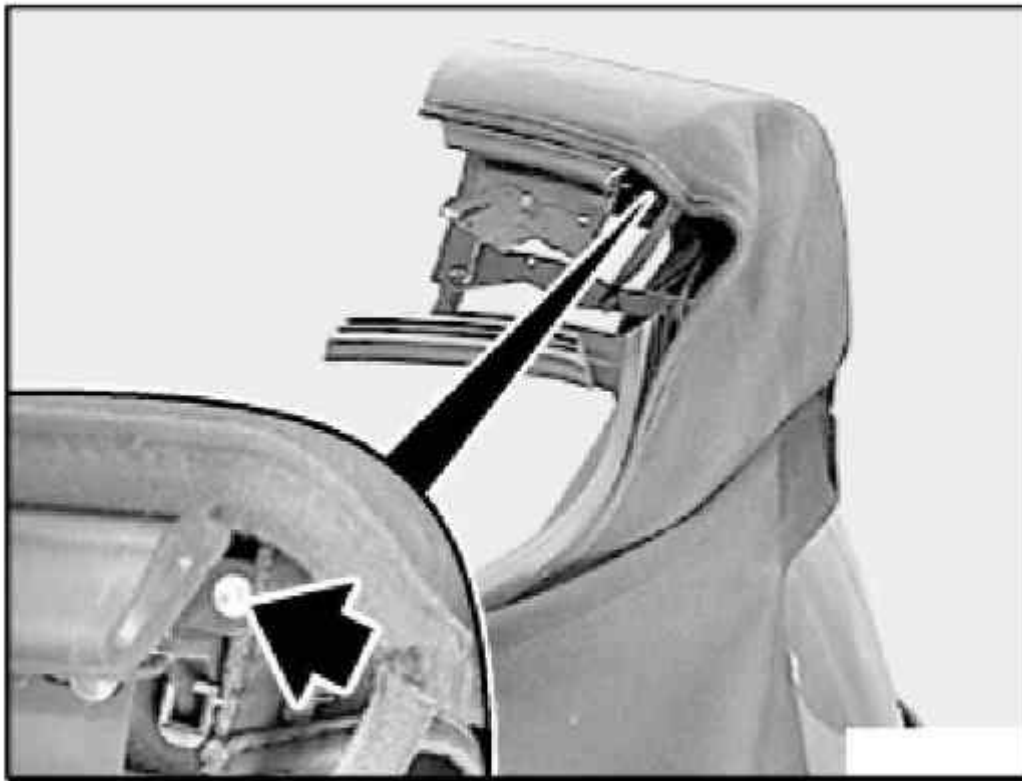
G03298372

Fig. 171: Locating Screws

Courtesy of BMW OF NORTH AMERICA, INC.

Open convertible top halfway.

Unscrew left and right bolts.

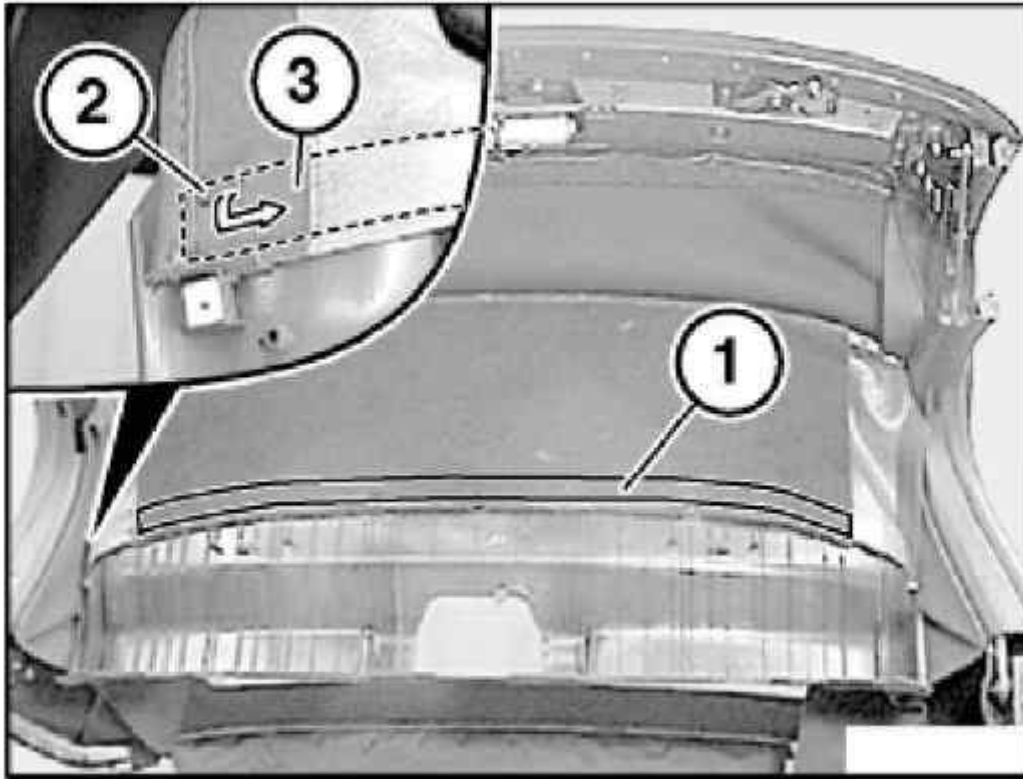


G03298373

Fig. 172: Opening Convertible Top Halfway
Courtesy of BMW OF NORTH AMERICA, INC.

For replacing EH convertible top only:

- Release screws in area (1).
- Unhook cover on right and left from guide (2) and pull with flat welt (3) to center from guide (2).
- Remove trim.



G03298374

Fig. 173: Pulling Flat Welt To Center
Courtesy of BMW OF NORTH AMERICA, INC.

54 34 130 REMOVING AND INSTALLING OR REPLACING HEADLINING IN CONVERTIBLE TOP

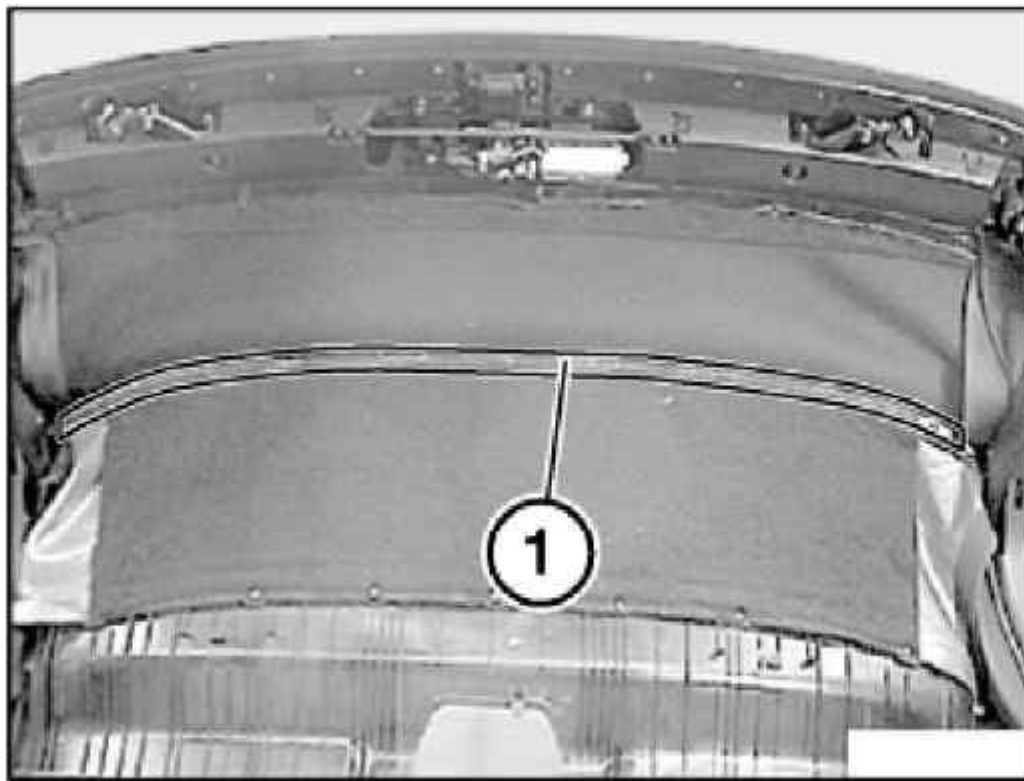
Necessary preliminary tasks:

- Remove convertible top . See **54 34 101 Removing And Installing Complete Convertible Top** .
- Release trim on convertible top catch.

When replacing (EH convertible top):

- Remove trim . See **54 34 125 Removing And Installing/Replacing Trim On Convertible Top Lock** .

Release screws in area (1).

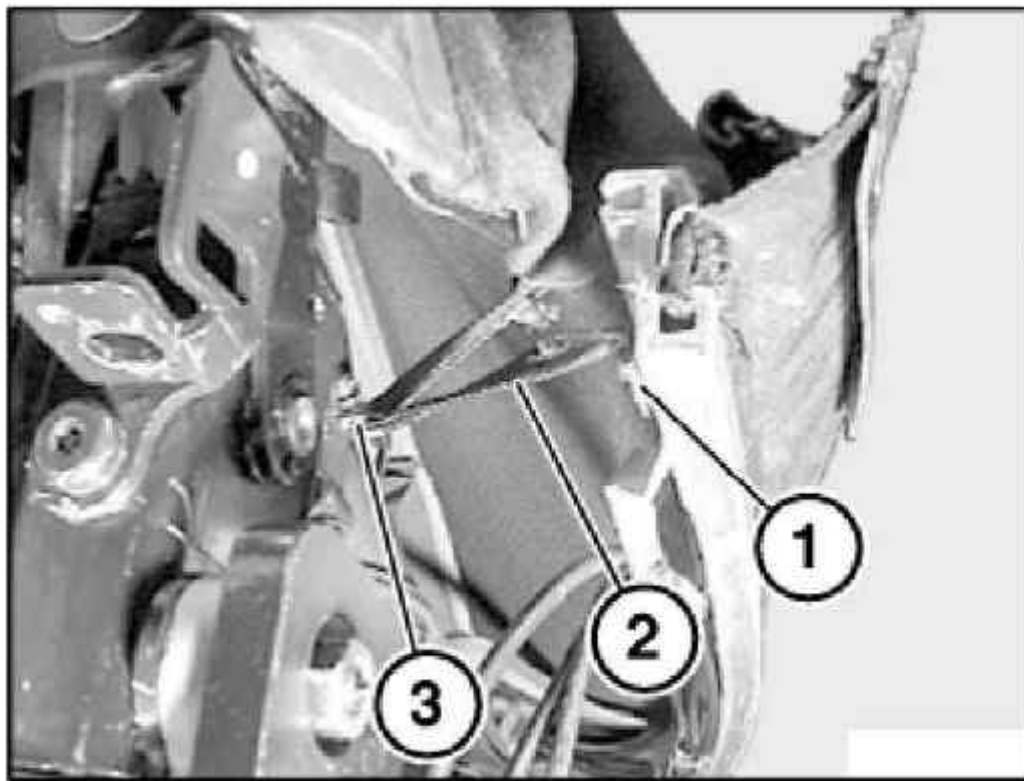


G03298375

Fig. 174: Releasing Screws In Area
Courtesy of BMW OF NORTH AMERICA, INC.

Release screws (1) of front strap on convertible top strip on right and left.

Feed front strap (2) on right and left out of eyelet (3).

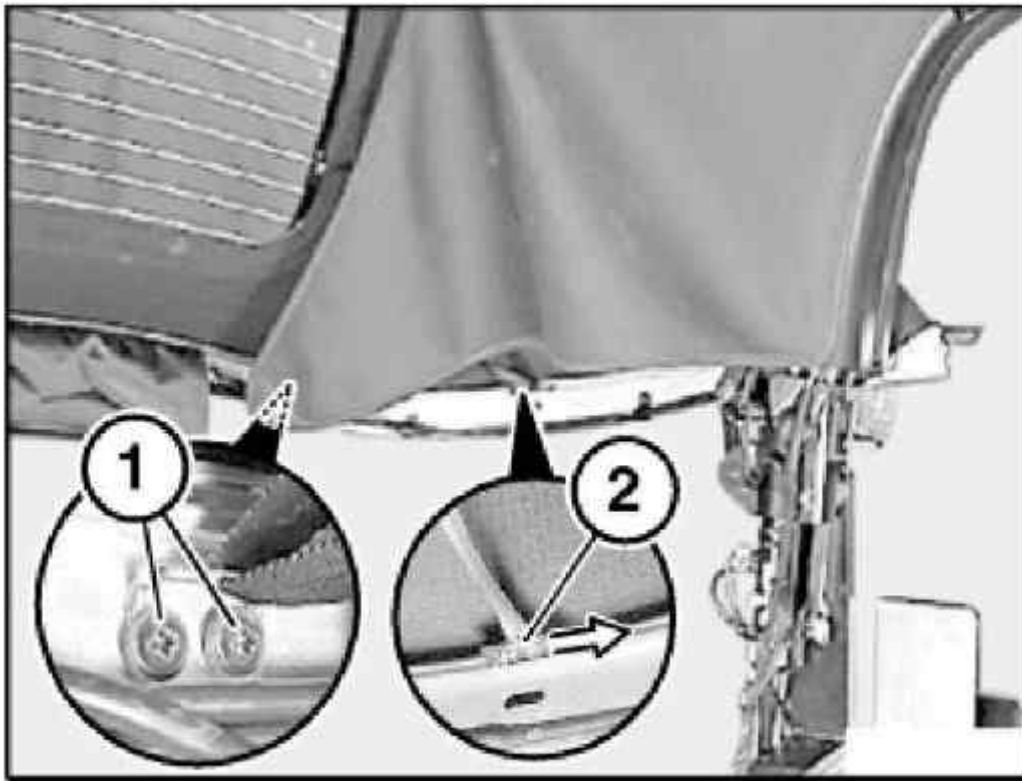


G03298376

Fig. 175: Feeding Front Strap On Right And Left Out Of Eyelet
Courtesy of BMW OF NORTH AMERICA, INC.

Release screws (1) of front strap on convertible top strip on right and left.

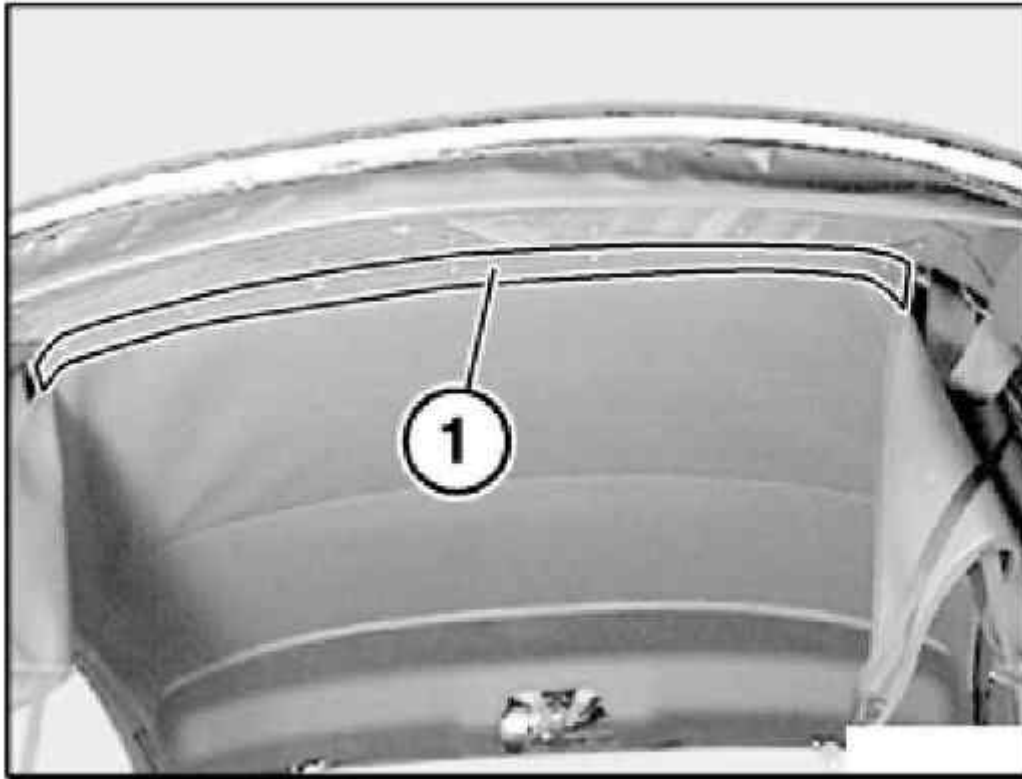
Feed front strap (2) on right and left out of convertible top strip.



G03298377

Fig. 176: Releasing Screws Of Front Strap On Convertible Top Strip On Right And Left
Courtesy of BMW OF NORTH AMERICA, INC.

Release screws in area (1) on lower bow.



G03298378

Fig. 177: Releasing Screws On Lower Bow
Courtesy of BMW OF NORTH AMERICA, INC.

Release screws of front straps.

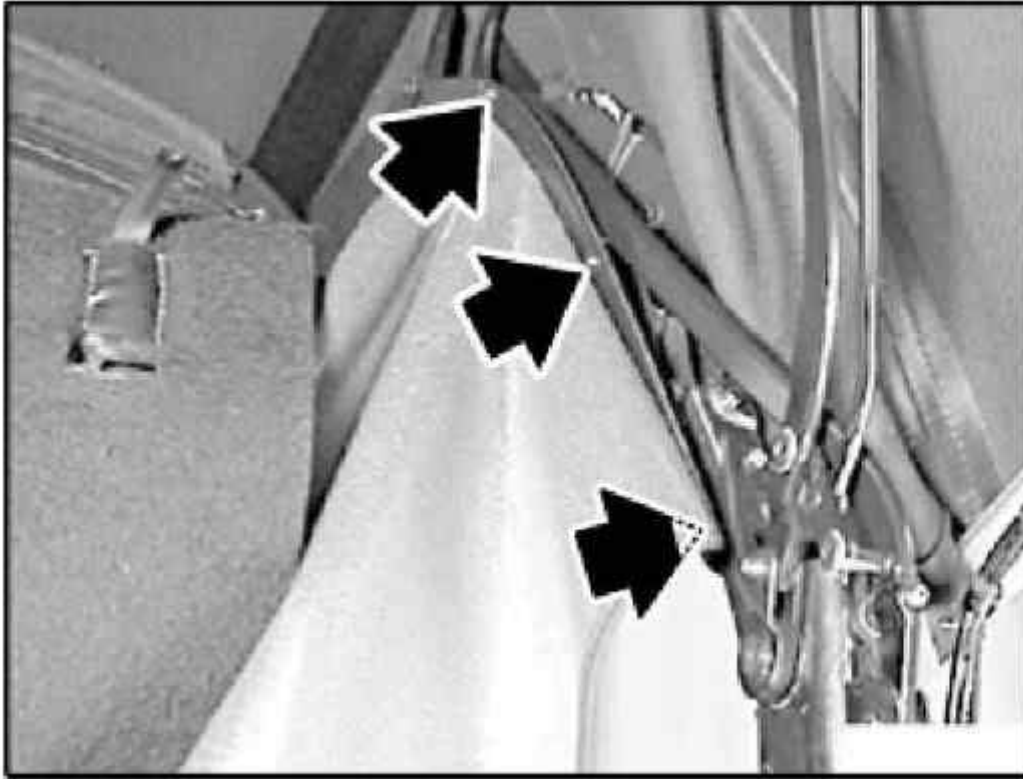


G03298379

Fig. 178: Releasing Screws Of Front Straps
Courtesy of BMW OF NORTH AMERICA, INC.

Drill out rivet joints right and left.

Remove roofliner.



G03298380

Fig. 179: Removing Roofliner

Courtesy of BMW OF NORTH AMERICA, INC.

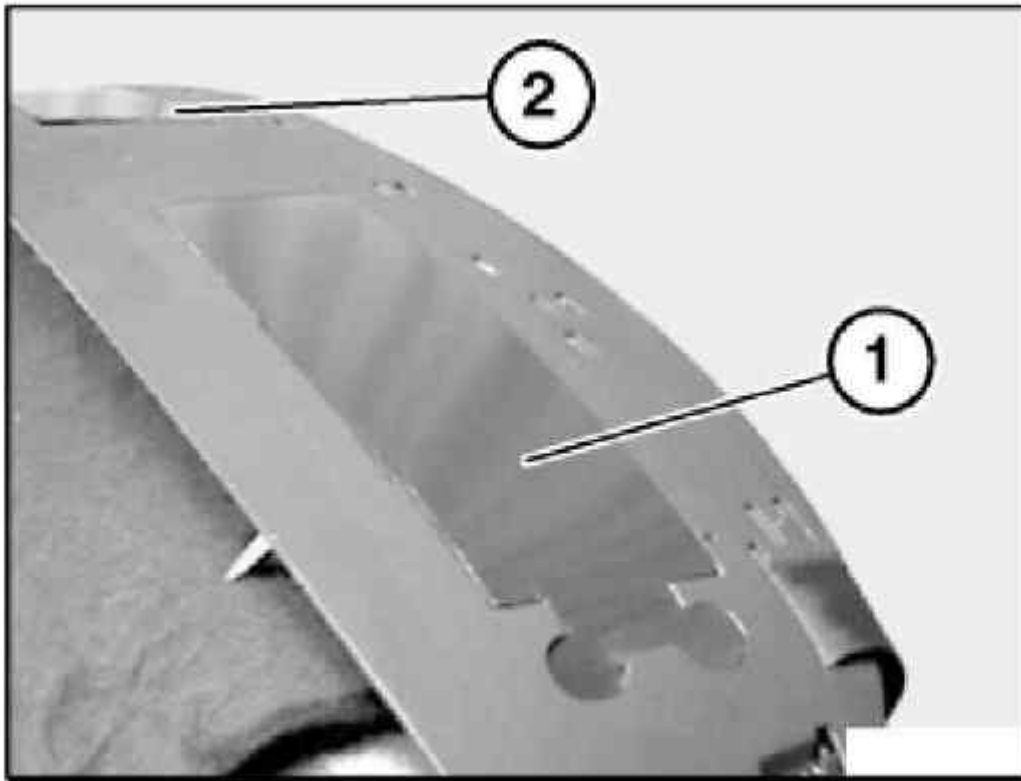
54 34 159 REMOVING AND INSTALLING/REPLACING LEFT CONVERTIBLE TOP CATCH (AUTOMATIC)

Necessary preliminary tasks:

- Remove front convertible top fabric . See **54 34 120 Replacing Convertible Top Fabric** .

Remove cover (1).

2 = Right cover



G03298381

Fig. 180: Removing Right Cover

Courtesy of BMW OF NORTH AMERICA, INC.

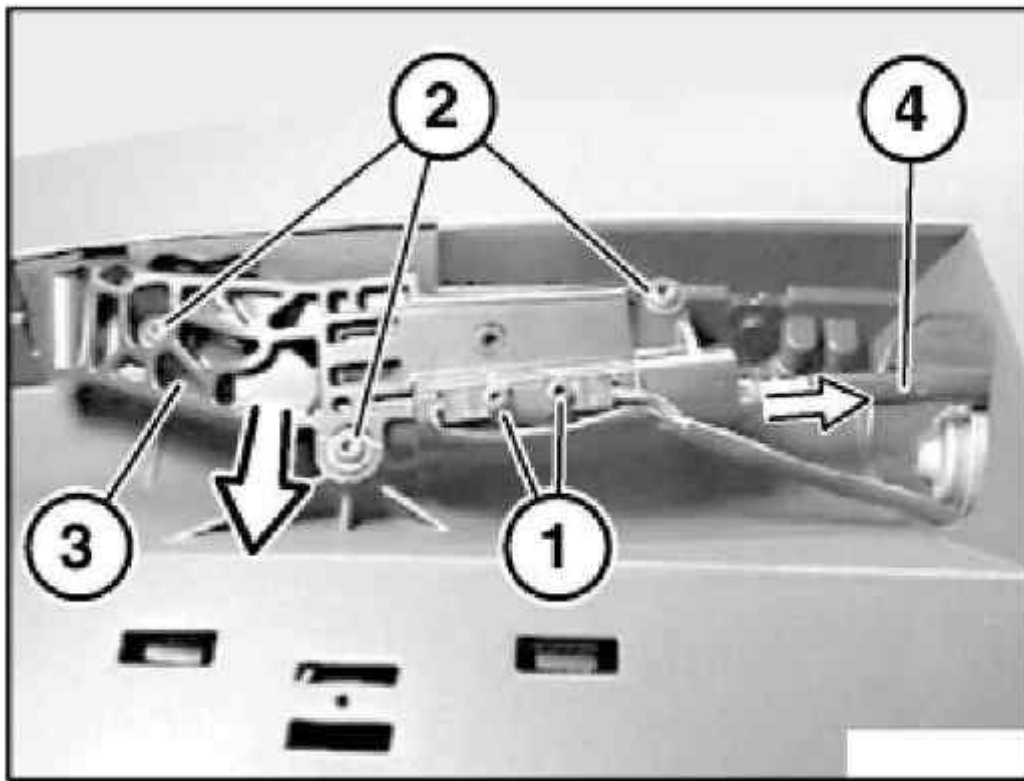
Release screws (1) and remove Hall sensor . See **61 31 798 REMOVING AND INSTALLING/REPLACING SENSOR ON CONVERTIBLE TOP LATCH** .

Loosen screws (2).

Feed out catch (3) towards rear top, detach flexible shaft (4) from catch in so doing.

Installation:

- Catch must be set to "open" before flexible shaft is pushed on. If necessary, turn accordingly by means of drive pinion.
- Replace screws (2).



G03298382

Fig. 181: Feeding Out Catch Towards Rear Top
Courtesy of BMW OF NORTH AMERICA, INC.

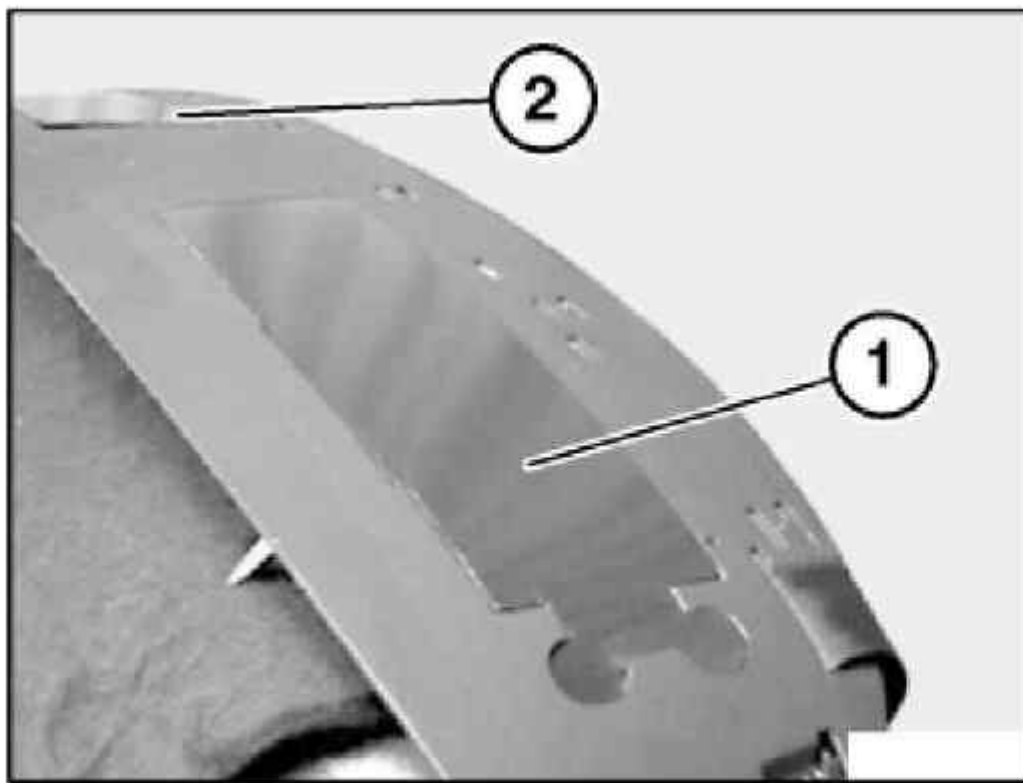
54 34 160 REMOVING AND INSTALLING/REPLACING RIGHT CONVERTIBLE TOP CATCH (AUTOMATIC)

Necessary preliminary tasks:

- Remove front convertible top fabric . See **54 34 120 Replacing Convertible Top Fabric** .

Remove cover (2).

1 = Left cover



G03298383

Fig. 182: Removing Left Cover

Courtesy of BMW OF NORTH AMERICA, INC.

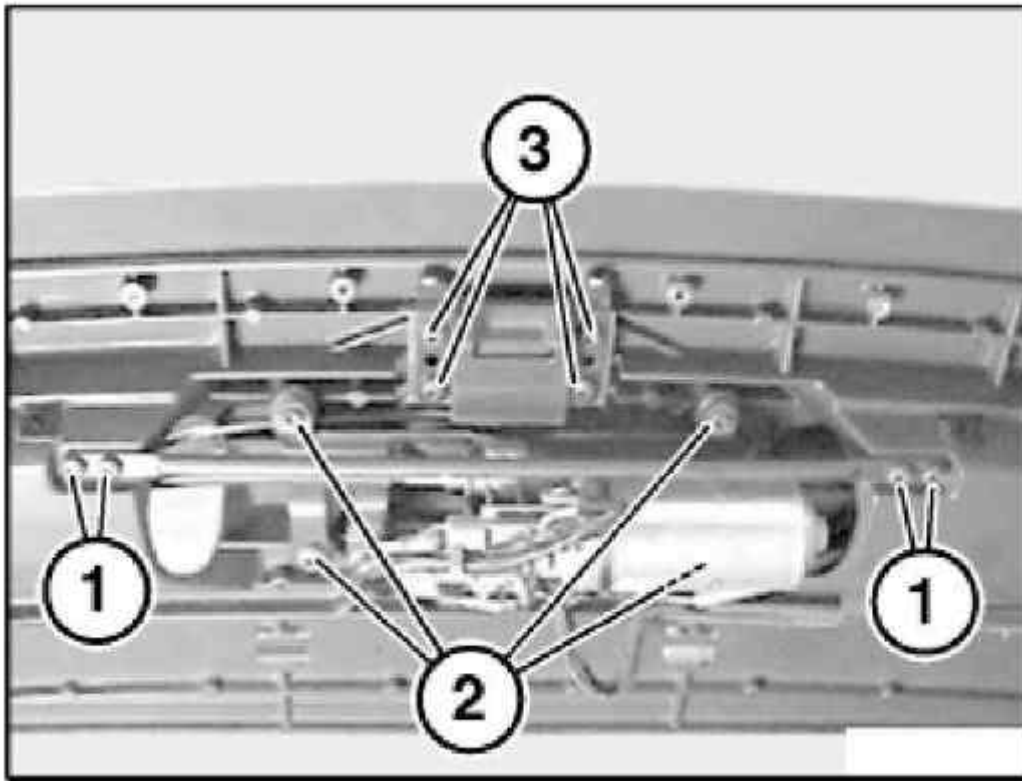
Release screws (1), turn reinforcement to one side.

Release screws (2), press engine frame downwards slightly.

Release screws (3), remove holder and lock.

Installation:

Replace screws (2).



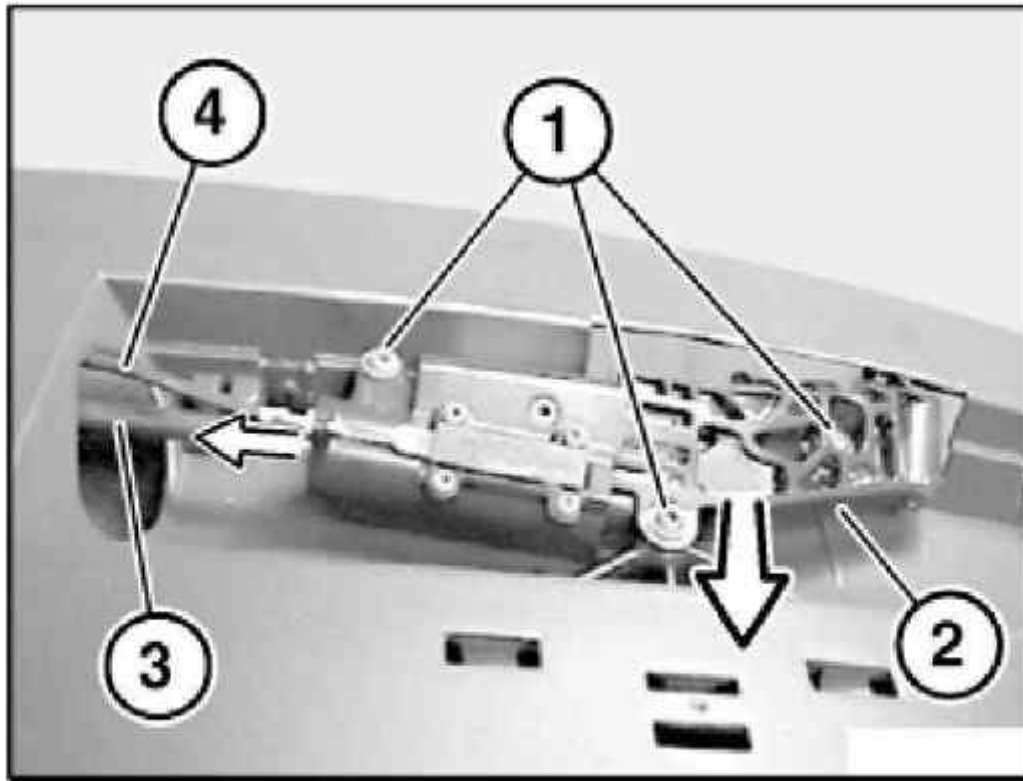
G03298384

Fig. 183: Releasing Screws Removing Holder And Lock
Courtesy of BMW OF NORTH AMERICA, INC.

Loosen screws (1).

Tightening torque, see 54 31 15AZ (replace screws) in **SLIDE/TILT ROOF AND CONVERTIBLE TOP - TIGHTENING TORQUES** .

Feed out catch (2) with Bowden cable towards rear top, detaching drive shaft (3) from catch and feeding out Bowden cable (4) with sensor.



G03298385

Fig. 184: Detaching Drive Shaft From Catch And Feeding Out Bowden Cable With Sensor
Courtesy of BMW OF NORTH AMERICA, INC.

54 34 205 REMOVING AND INSTALLING/REPLACING ALL HYDRAULIC LINES ON CONVERTIBLE TOP

IMPORTANT: Hydraulic fluid may emerge from the disconnected lines and the open connections on the hydraulic cylinder.
Protect components and work area with suitable materials (e.g. absorbent protective cover).
Have cleaning cloths ready to wipe away escaping oil.

Follow repair instructions for hydraulic system. See **54 34... Repair Instructions For Hydraulic System Of Convertible Top And Convertible Top Compartment Lid**.

Necessary preliminary tasks:

- Remove convertible top . See **54 34 101 Removing and installing complete convertible top** .

- Detach lines from hydraulic unit. See **54 34 012 Removing And Installing/Replacing Hydraulic Cylinder For Convertible Top** .

Detaching lines from hydraulic cylinder:

Connection, top

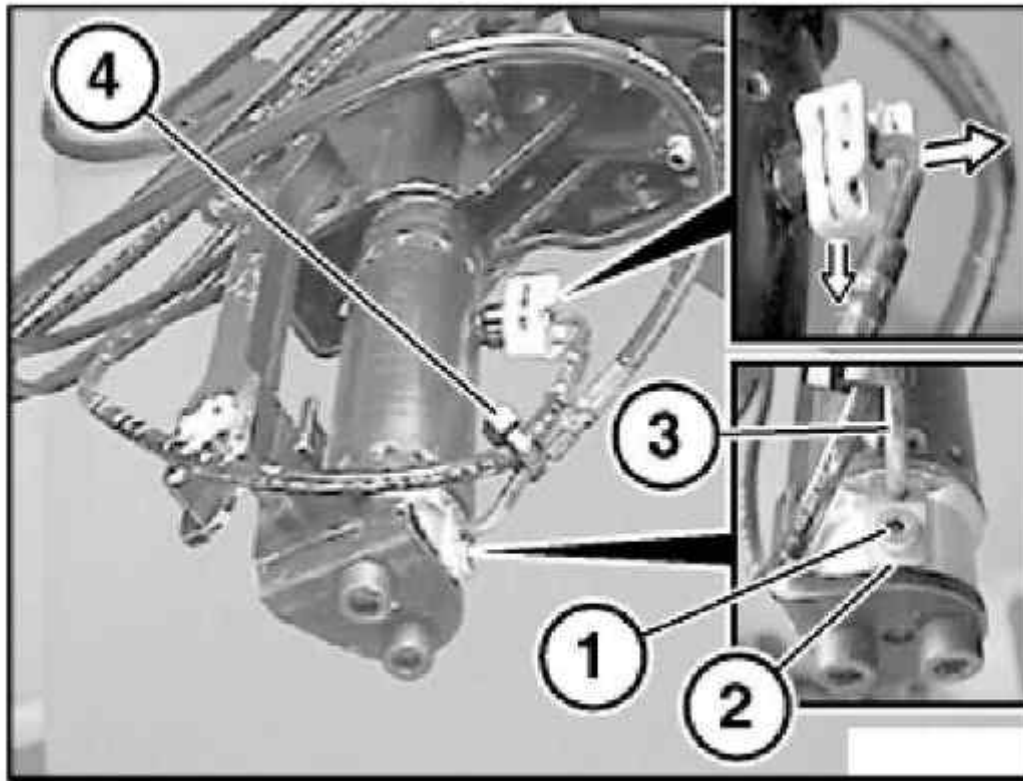
- Left line 12, right line 14
- Detach clip
- Pull line carefully out of cylinder

Connection, bottom

- Left line 11, right line 13
- Release screw (1).
- Replace tab washer (2).
- Pull line (3) carefully out of cylinder.

If necessary, cut cable tie (4).

Disconnect hydraulic lines for right and left sides (insulating tape).



G03298386

Fig. 185: Detaching Lines From Hydraulic Cylinder
Courtesy of BMW OF NORTH AMERICA, INC.

Installation:

Line 12 or 14 at upper connection (clip).

Line 11 or 13 at lower connection (plate).

Pay attention to routing of lines:

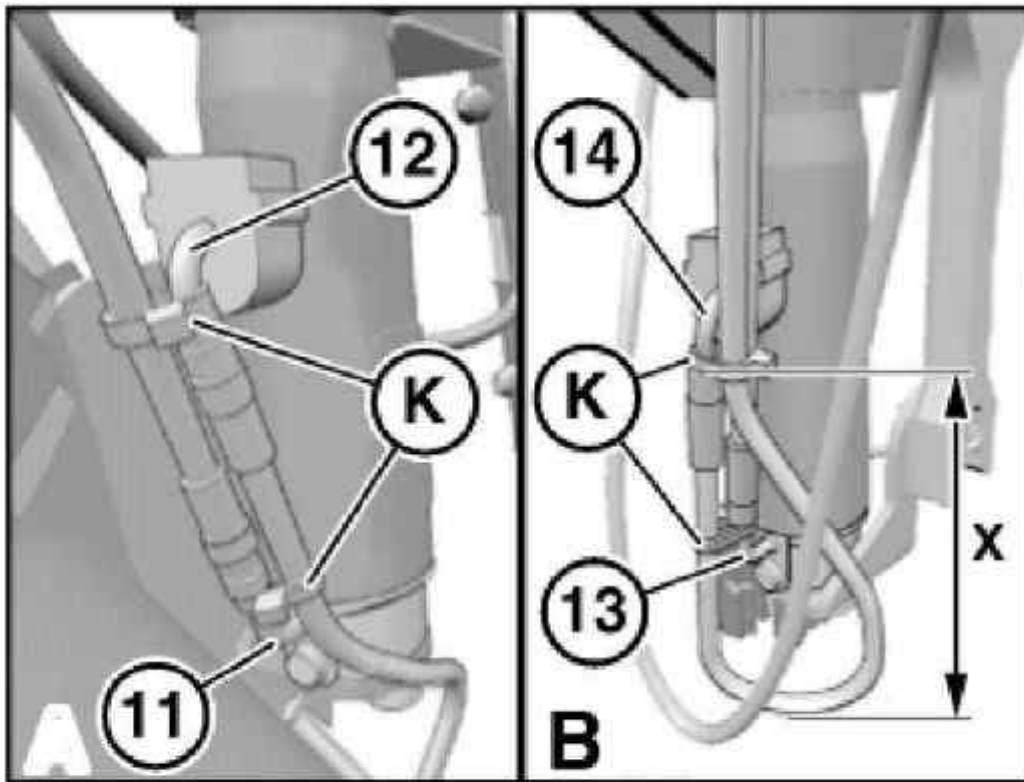
- Left (A):

Secure opposite each other with 2 cable ties (K)

- Right (B):

First secure opposite each other with 2 cable ties (K), then feed upper line with a loop (x = 100 cm)

upwards again.



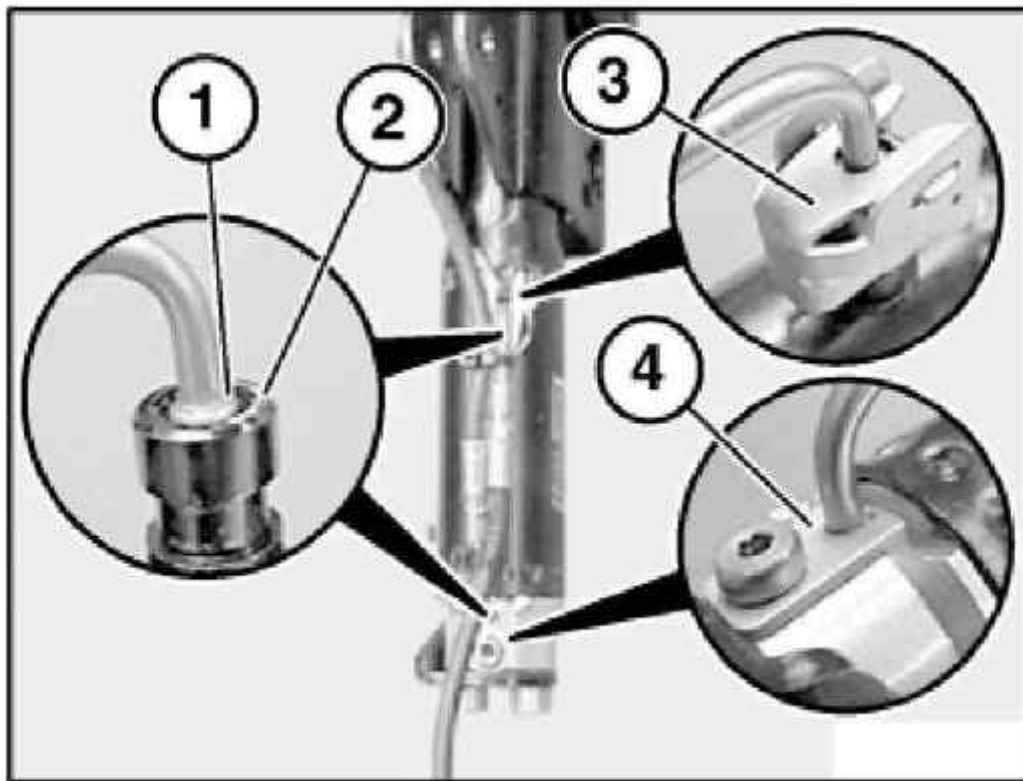
G03298387

Fig. 186: Identifying Connection Of Hydraulic Line
Courtesy of BMW OF NORTH AMERICA, INC.

Installation:

Make sure lines are completely inserted into cylinder. The edge of the line bead (1) must be below the cylinder edge (2).

Make sure the clip (3) or the plate (4) is correctly seated on the connections.



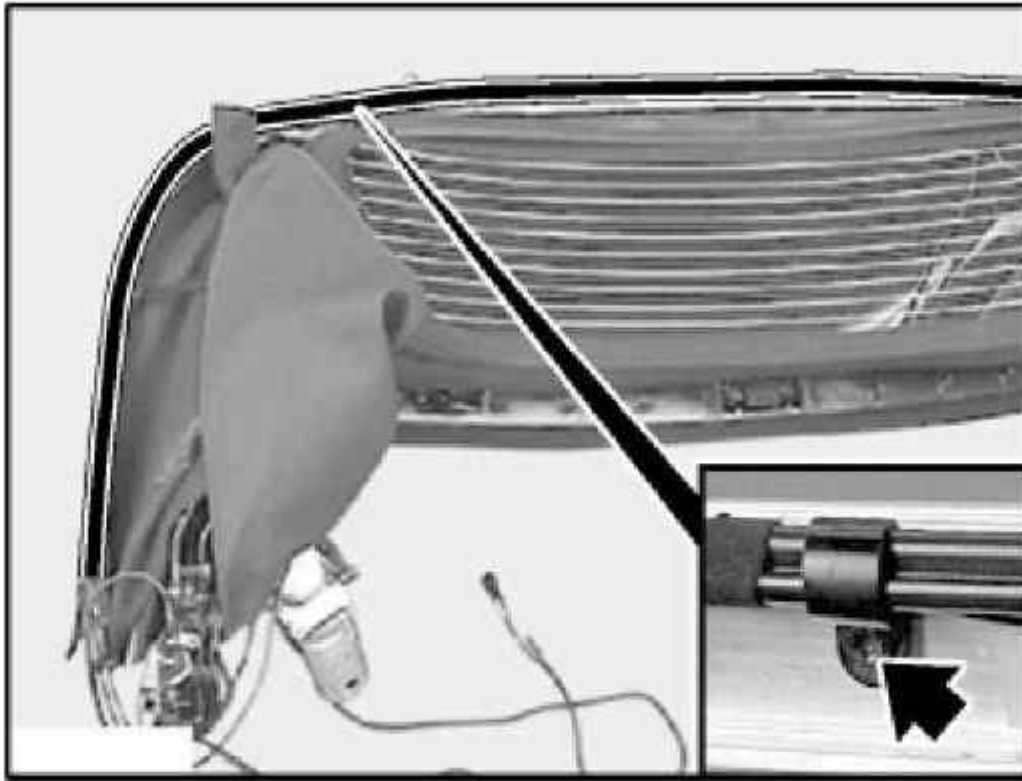
G03298388

Fig. 187: Making Sure Clip Or Plate Is Correctly Seated On Connection
Courtesy of BMW OF NORTH AMERICA, INC.

For Right Hydraulic Lines Only:

Release screws in area (1) on sealing frame.

Feed lines out of cable holder.



G03298389

Fig. 188: Releasing Screws In Area On Sealing Frame
Courtesy of BMW OF NORTH AMERICA, INC.

54 34 210 REMOVING AND INSTALLING/REPLACING TENSION CABLE

Necessary preliminary tasks:

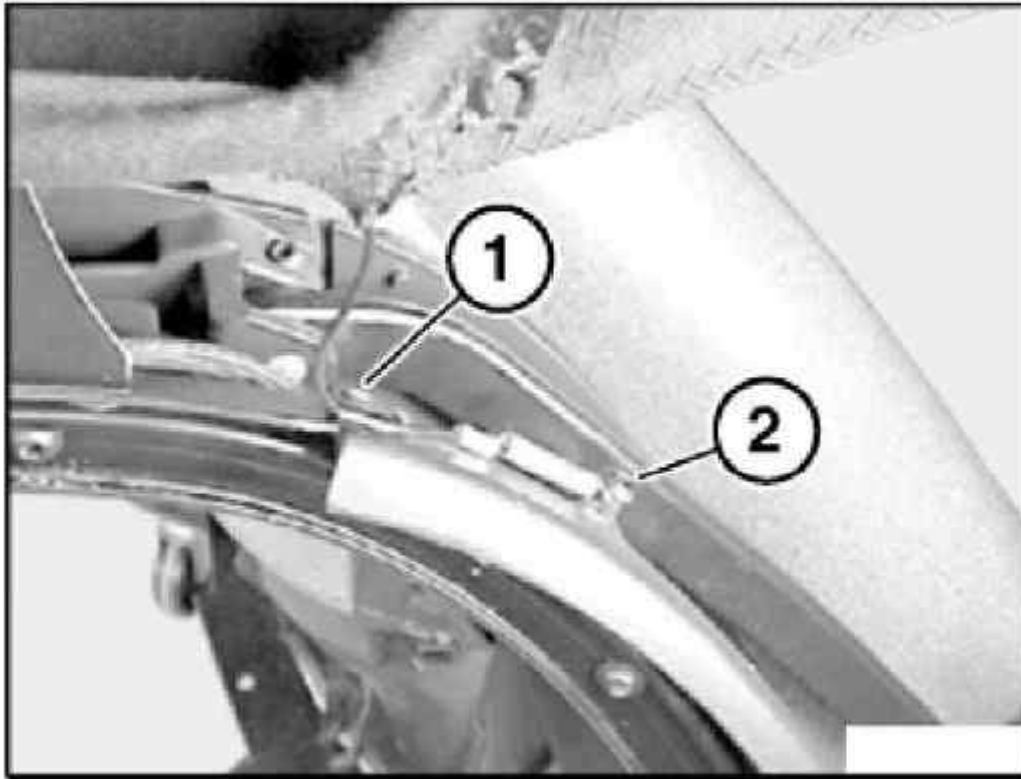
- Remove convertible top fabric at front up to main support (without last bow) (without convertible top removal)

Drill out rivet joint (1) from rear tension cable bearing on left/right.

Release screw (2).

Remove tension cable from cable.

Feed tension cable out of fabric towards front.



G03298390

Fig. 189: Removing Tension Cable From Cable
 Courtesy of BMW OF NORTH AMERICA, INC.

Installation:

Use a pull-in aid (e.g. welding wire).

Replace shims.

54 90... TROUBLESHOOTING, AUTOMATIC CONVERTIBLE TOP

TROUBLESHOOTING, AUTOMATIC CONVERTIBLE TOP

Fault	Cause	Movement	Remedy
Convertible top does not open or close	Battery voltage is < 10.5 V	Opening and closing	Charge battery or run engine
	Terminal "R" not switched on	Opening and closing	Switch on terminal "R", check fuse terminal "R"

2005 BMW Z4**2003-05 ACCESSORIES & EQUIPMENT Sliding/Tilt Roof - Repair Procedures - Z4 (E85)**

	Convertible top not unlocked	Opening and closing	Emergency actuation
	Vehicle rolls > 5 km/h	Opening and closing	Slow vehicle down to complete standstill
	Convertible top compartment middle in upper position	Opening	Move convertible top compartment middle downwards
	Microswitch (convertible top compartment middle guide) faulty	Opening	Replace microswitch
	Microswitch setting not O.K.	Opening	Fit or adjust microswitch correctly
	Fuses defective	Opening and closing	Check fuses
	Leads interrupted	Opening and closing	
	Plug connections interrupted	Opening and closing	Check plug connections, repair if necessary
	Control unit defective	Opening and closing	
	Hall sensor fault	Opening and closing	