TECHNICAL INFORMATION

Interior Squeaks and Rattles

No: 76/20/03/NAS
Ref:
Issue: 1
Date: 10/31/03

AFFECTED VEHICLE RANGE:

Discovery Series II (LT) **See individual repair applicability**

SITUATION:

INTERIOR SQUEAKS AND RATTLES

A customer may complain of a variety of interior noises that can be hard to diagnose. Some may be the result of friction between various upholstery and trim parts and others may result from loosened components or fasteners.

RESOLUTION:

TROUBLESHOOT AND REPAIR SUSPECT AREAS

Use the troubleshooting guidelines and repairs outlined in this TIB, investigate the various squeaks and rattles. Once the noise ha been confirmed, perform the specific repair for the problem.

PROCEDURE	FAULT SYMPTOM	FAULT CAUSE
1	Creaking noise coming from the corner of the fascia and the bottom of the 'A' post trim.	Tweeter or co-axial cable trapped between fascia and lower screen rail.
2	Tapping noise from the 'A' post	• Tweeter cable connector not covered by a foam pad, or excessive cable tie clip left on cable tie. • Coaxial cable not held in body ties.
3	Tapping noise from the glove box.	Coaxial lead, airbag harness and light harness not clipped into the correct position in the fascia frame.
4	Constant or intermittent creaking from the forward edge of center console.	Contact between the forward edge of the console and the fascia.
5	3rd row seats: • Rattle from 3rd row seat catch when stowed • Metallic rattle from 3rd row seat when deployed but not occupied • Creaking noise from 3rd row seats when stowed	• No contact between the seat buffer and the rear quarter trim • Free play between 3rd row seat latch and keep • PVC piping on 3rd row seats contacts rear quarter trim
6	2nd row seats: • Creaking noise from left hand side rear seat squab. • Creaking noise from armrest when in stowed position. • High-pitched creak from 40/60-seat area when unoccupied.	• The left hand rear seat squab contacts the trim panel (leather only). • Contact between the leather seats and the PVC in the armrest and headrest (leather only). • Metal to metal contact between the hard stop and the cam within the squab frame pivot mechanism.
7	Rattle from behind the 2nd row seats.	The roller blind press-stud vibrates.

TIB	CIRCULATE:	Service Mgr	Warranty	Workshop	Body Shop	Parts
76/20/03/NAS	TO	X	X	X	X	X

8	• Creaking noise from rear left hand corner of vehicle • Creaking noise from rear roof area • Creaking noise from the front edge of 'D' post upper trim casing	• Contact of the sub woofer housing to the lower quarter trim • Back surface of rear header trim rubbing on Alpine trim • Front edge of the 'D' post upper trim casing contacting the Alpine glass
9	Tapping noise from in-between the alpine glass and the rear body side glass.	Loose harness or co-axial lead contacting the 'D' post trim.
10	Creak from rear seat area that is hard to trace.	Rear outrigger is contacting the front of the rear wheel arch.
11	Tapping noise from the center of the headlining when vehicle is driven or on door closure.	Loose electrical terminals tapping on head lining
12	Tapping noise from headlining above LH side 'B' post	Unused Ultrasonic connector tapping on blanking panel.
13	Noise from front cross member.	Gap between outboard plinth and front cross member.
14	Noise from rear track end-stop when seat is fully rearward.	Metal to metal contact between the front seat slide and the end-stop.
15	Noise from seat belt pre-tensioner	Seat belt stalk can deform and contact the center console.
16	If one or more of the following problems is confirmed, • Noise from the suspension mat area. Electric seat derivatives only. • Creak from slide latch when occupied. • Creak from rear of front seat. • Noise from the height-adjust cross-tubes. Power seat derivatives only. • Noise from cushion side channel. • A constant high pitched squeaking noise from the upper part of the front seat squab.	• Suspension mat may contact the rear tube. • Latch is contacting the seat frame. • Movement of the corner bracket. • Seat frame rubbing on pivot. • Side channel contacts the inboard slide-reinforcing bar. • The ends of the trim wire contacts the return edge of either side of the seat frame.

PARTS INFORMATION:

STC4006.....Anti-Vibration Kit	**Qty 1**
STC3937.....Velour Pads	**Qty as required**
STC3118K .....Anti-creak tape	**Qty as required**
LRN100050S .....Krytox spray	**Krytox also in Kit STC4006**
HAK000010 .....Seat Vibration Kit	**Qty 1**

Locally Sources:

- **Electrical tape**

AS400 WARRANTY CLAIMS:

For each repair select Fault Code and only claim against the SROs from the table below. Times claimed should reflect the work carried out and the R.O. should be endorsed with the repair procedure reference. A separate claim line will be required for each Fault Code used.

Procedure	Fault Code	SRO	Time Allowance	VIN Applicability
1.	K	86.50.89/35	0.40 Hrs	Up to 1A720938
2.	J	76.13.89/35	0.10 Hrs	Foam pad and loose body ties, up to 1A717135 Excess on cable tie, up to 1A720749
3.	K	76.52.89/31	0.10 Hrs	Up to 1A720637
4.	K	76.25.89/31	0.30 Hrs	ALL
5.	K	78.85.89/50	0.10 Hrs	Up to 1A720700
6.	K	78.85.89/49	0.10 Hrs	Creaking noise from left hand side rear seat squab, up to 1A718709 Creaking noise from armrest when in stowed position, up to 1A720954 High-pitched creak from 40/60-seat area when unoccupied, up to 1A711408
7.	6	76.19.89/27	0.10 Hrs	ALL
8.	K	76.64.89/28	0.20 Hrs	Creaking noise from the front edge of 'D' post upper trim casing, up to 1A717670.
9.	W	86.50.89/33	0.40 Hrs	Up to 1A714320
10.	K	76.11.89/59	0.10 Hrs	ALL
11.	K	76.64.89/29	0.10 Hrs	Up to 1A714320
12.	K	86.77.89/42	0.10 Hrs	Up to 1A717670
13.	K	78.85.89/53	0.10 Hrs	Up to 2A743600
14.	K	78.70.89/36	0.10 Hrs	Up to 2A743600
15.	K	76.73.89/37	0.10 Hrs	ALL
16.	K	78.30.89/26	1.80 Hrs	Up to 1A293270

Normal warranty policy and procedures apply.
Material allowance is included in labor operation.

DDW WARRANTY CLAIMS:

DDW requires the use of causal part numbers. Labor only claims must show the causal part number with a quantity of zero.

For each repair procedure select SROs from the table below. Times claimed should reflect the work carried out and the R.O. should be endorsed with the repair procedure reference. A separate claim line will be required for each repair.

Job Description VIN Applicability	SRO	Time (Hours)	Part Number	Part Description	QTY
1. Up to 1A720938	**86.50.89/35**	**0.40**			
2. Foam pad and loose body ties, up to 1A717135 Excess on cable tie, up to 1A720749	**76.13.89/35**	**0.10**			
3. Up to 1A720637	**76.52.89/31**	**0.10**			
4. ALL	**76.25.89/31**	**0.30**			
5. Up to 1A720700	**78.85.89/50**	**0.10**			
6. Creaking noise from left hand side rear seat squab, up to 1A718709 Creaking noise from armrest when in stowed position, up to 1A720954 High-pitched creak from 40/60-seat area when unoccupied, up to 1A711408	**78.85.89/49**	**0.10**			
7. ALL	**76.19.89/27**	**0.10**			
8. Creaking noise from the front edge of 'D' post upper trim casing, up to 1A717670.	**76.64.89/28**	**0.20**			
9. Up to 1A714320	**86.50.89/33**	**0.40**			
10. ALL	**76.11.89/59**	**0.10**			
11. Up to 1A714320	**76.64.89/29**	**0.10**			
12. Up to 1A717670	**86.77.89/42**	**0.10**			
13. Up to 2A743600	**78.85.89/53**	**0.10**			
14. Up to 2A743600	**78.70.89/36**	**0.10**			
15. ALL	**76.73.89/37**	**0.10**			
16. Up to 1A293270	**78.30.89/26**	**1.80**			

Normal warranty policy and procedures apply.
Material allowance is included in labor operation.

REPAIR PROCEDURE

PROCEDURE 1 - CORRECT CREAKING NOISE COMING FROM THE CORNER OF THE FASCIA AND THE BOTTOM OF THE 'A' POST TRIM.

1. Release three clips securing the upper trim to the 'A' post and disconnect tweeter multi-plug.
2. Remove the 'A' post upper trim.
3. Open glove box, align stops with cutouts in fascia and remove glove box.

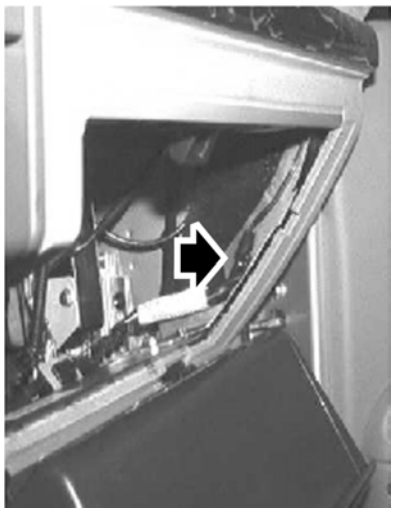
NOTE: It may be necessary to loosen the fascia to free the cable,

4. Holding both ends of the trapped tweeter or co-axial cable, work the cable towards the 'A' post until it is free.
5. If loosened, tighten bolts securing fascia to body to **26 Nm (xx lbf.ft.)**.
6. Raise glove box, align stops with cut outs in fascia and close glove box.
7. Install the 'A' post upper trim.

PROCEDURE 2 - TAPPING NOISE FROM THE 'A' POST.

1. Release three clips securing the upper trim to the 'A' post and disconnect tweeter multi-plug.
2. Remove the 'A' post upper trim.
3. If not fitted, fit foam pad available in kit STC4006 to the tweeter multi-plug.
4. Cut off excess from cable tie.
5. Position coaxial cable to body clips.
6. Push body clips fully into recess in the 'A' post.
7. Fit the 'A' post upper trim.

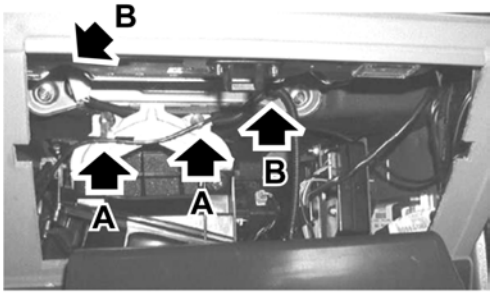
Figure 1



PROCEDURE 3 - TAPPING NOISE FROM THE GLOVEBOX

1. Open the glove box, align stops with cutouts in fascia and remove the glove box.
2. Ensure the light harness clip is fitted to appropriate hole in fascia frame (Arrowed in Figure 1).
3. Ensure the aerial coaxial lead is fitted as shown ('A' in Figure 2).
4. Ensure the airbag harness is fitted in the 'Y' frame ('B' in Figure 2).
5. Raise the glove box, align stops with cut outs in fascia and close the glove box.

Figure 2



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PROCEDURE 4 - CORRECT CONSTANT OR INTERMITTENT CREAKING FROM THE FORWARD EDGE OF CENTRE CONSOLE.

1. Release clips securing the transfer box lever gaiter to the centre console and remove knob and gaiter from the gear lever.
2. Remove the foam pad.
3. Move selector lever to the 'D' position.
4. Release clips securing selector lever panel and raise the panel.
5. Open the rear console lid.
6. Remove two screws securing the rear of the console.
7. Remove two bolts securing the front of the console.
8. Move console rearwards approximately 15-20 mm (½ to ¾ inch).
9. Fit velour pads (STC3937) to recesses in fascia ('B' in Figure 3) and then move pad into position ('A' in Figure 3).
10. Align console and install and tighten screws and bolts.
11. Close the rear console lid.
12. Secure selector panel and move selector lever to the 'P' position.
13. Install foam pad.
14. Install transfer box lever gaiter and knob, secure gaiter.

Figure 3

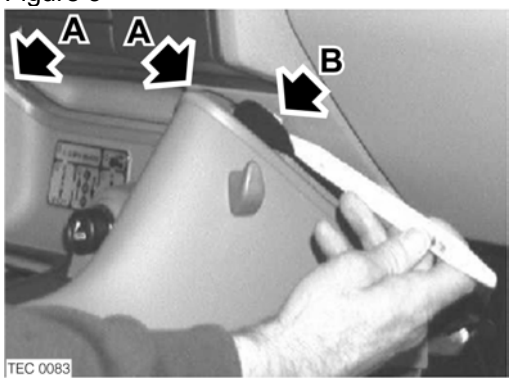


Figure 4

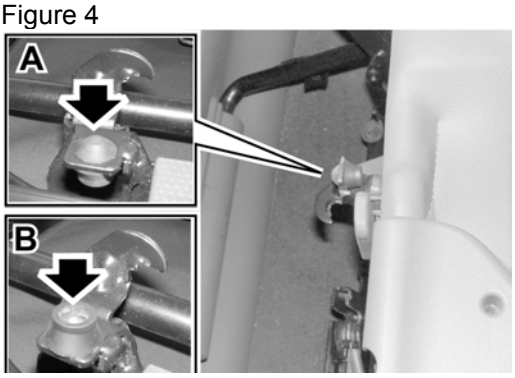
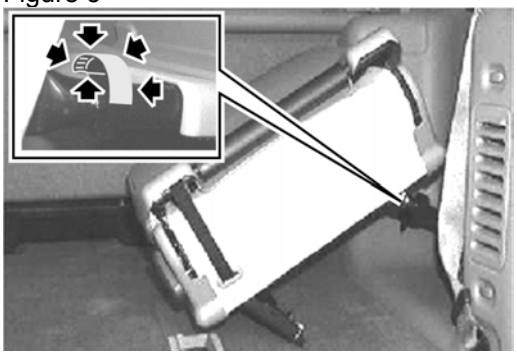


Figure 5



PROCEDURE 5 - THIRD ROW SEATS RATTLES AND CREAKS

1. Release the 3rd row seat from the stowed position.
2. Remove the rubber buffer and refit in reversed position (from 'A' to 'B' in Figure 4)
3. Remove backing from tape (STC3118K) and fit pad to the top and the underside of the hook on seat frame (See Figure 5).
4. Fully deploy the seat and apply Krytox to seat piping (Arrowed in Figure 6).
5. Stow seat.
6. Repeat procedure for the other side.

Figure 6

PROCEDURE 6 – SECOND ROW SEATS RATTLES AND CREAKS

1. Fold the LH and RH rear seat squabs forward.
2. Apply Krytox to the upper area on the LH side of the LH rear seat squab.
3. Cut two velour pads (STC3118K) to the dimensions detailed in Figure 7.
4. Remove backing from the valour pads and install one pad to the LH seat cam ('A' in Figure 8) and one pad to the RH seat cam ('B' Figure 8).
5. Secure seat squab into fixed position.
6. Lower center armrest and apply Krytox to areas between armrest and seat bolsters (Figure 9).
7. Fold center armrest back into position.

Figure 7

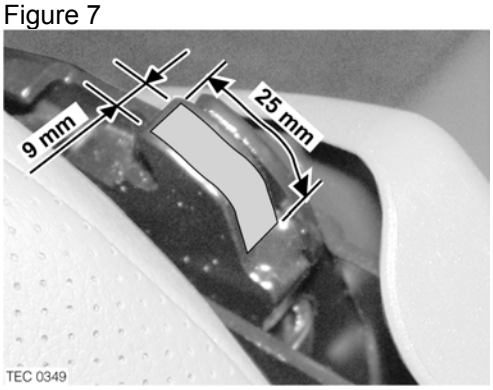
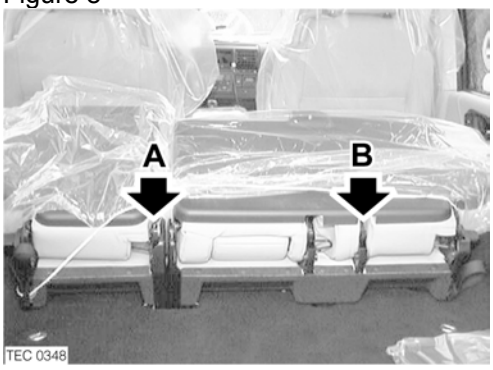


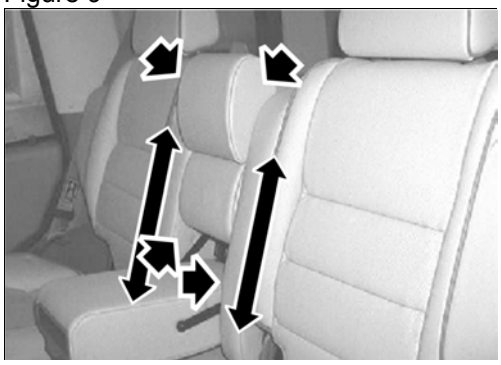
Figure 8



PROCEDURE 7 - RATTLE FROM BEHIND THE SECOND ROW SEATS.

1. Release the load space roller blind from the seat back.
2. Remove backing from the foam pad (Available in kit STC4006) and insert into the female press-stud.
3. Secure the load space roller blind to the seat back.

Figure 9



PROCEDURE 8. CREAKING NOISE FROM REAR LEFT HAND CORNER OF VEHICLE

1. Check for slight discolouration on the rear quarter trim ('A' in Figure 9).
2. Carefully push on the bottom of the rear quarter trim ('B' in Figure 9) to create a clearance gap between the subwoofer and the rear quarter trim.
3. Release six clips securing the tail door aperture upper trim casing and remove the upper trim casing.
4. Remove the backing from the tape (STC3118K).
5. Install the tape to both ends of the trim casing. (Arrowed in Figure 10)
6. Remove two trim studs ('A' in Figure 11) from 'D' post upper trim casing and ease casing away from the glass.
7. Remove backing from velour pad (Available in kit STC4006).
8. Install pad to edge of trim casing ('B' in Figure 11).
9. Install studs to trim casing and secure casing.
10. Install and secure the tail door aperture upper trim casing.

PROCEDURE 9 - TAPPING NOISE FROM IN-BETWEEN THE ALPINE GLASS AND THE REAR BODY SIDE GLASS.

1. Refer to RAVE section 76.13.73 and remove the ‘D’ post trim casing.
2. Tape any loose wires to the main harness and secure harness in the body clips.
3. Install the ‘D’ post-trim casing.

Figure 9

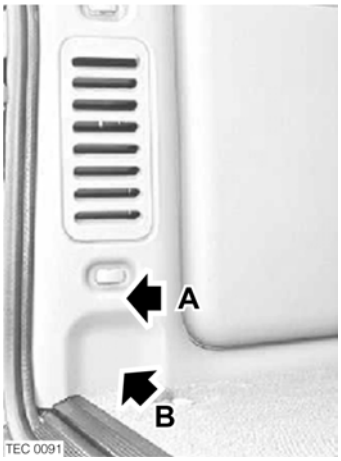


Figure 10

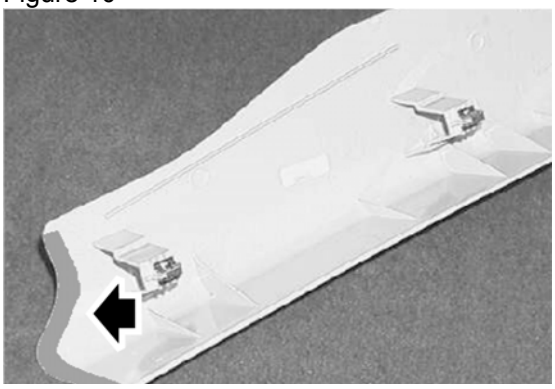
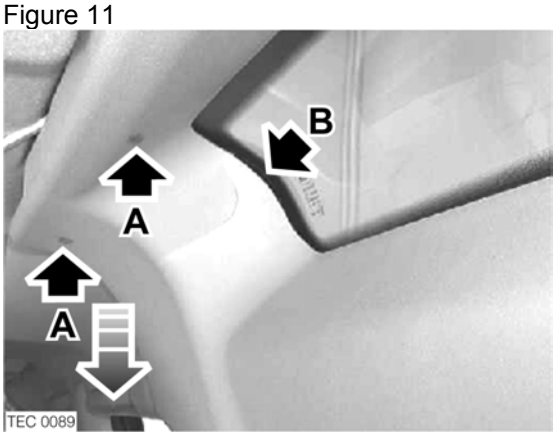


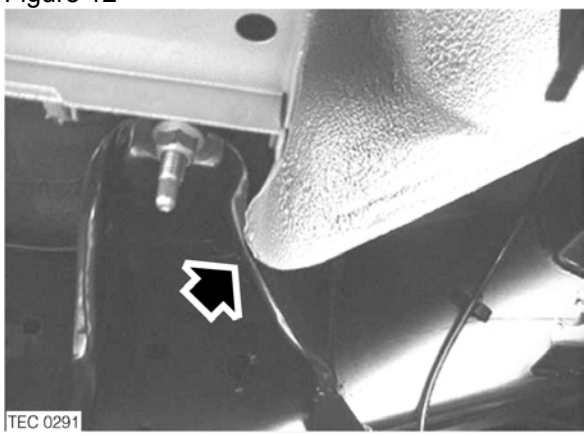
Figure 11



PROCEDURE **10 - CREAK FROM REAR SEAT AREA THAT IS HARD TO TRACE.**

1. Ease the wheel arch away from the chassis outrigger to create a 2-3mm gap (Arrowed in Figure 12).
2. Apply underbody sealer to the damaged area.

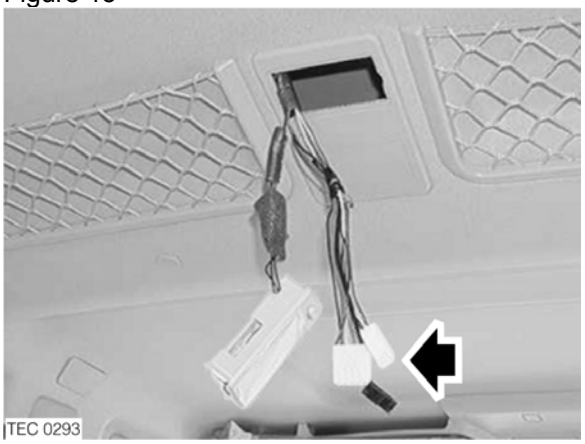
Figure 12



PROCEDURE 11 - TAPPING NOISE FROM THE CENTRE OF THE HEADLINING.

1. Remove the lens from interior lamp.
2. Remove two nuts securing interior lamp to roof.
3. Release the interior lamp from the headlining and locate the unused loose connectors (Figure 13).
4. Wrap all connectors and harnesses with foam tape available in kit STC4006.
5. Position connectors behind the headlining and under the other harness running along the headlining.
6. Install the interior lamp and lens
7. Tap the headlining to verify noise has been eliminated.

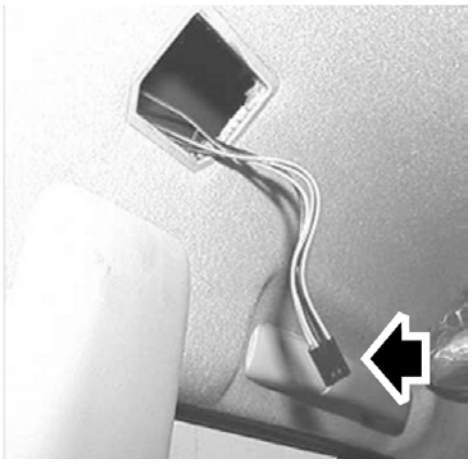
Figure 13



PROCEDURE 12 - TAPPING NOISE FROM HEADLINING ABOVE LH SIDE 'B' POST.

1. Remove the blanking panel from headlining,
2. Locate the unused alarm ultrasonic sensor connector (Arrowed in Figure 14).
3. Wrap foam tape available in kit STC4006 around the connector.
4. Position the connector behind the headlining.
5. Install the blanking panel.

Figure 14



PROCEDURE 13 - NOISE FROM FRONT CROSS MEMBER

1. Slide seat fully forward.
2. Apply non silicone based grease available in kit HAK000010 to the mating surfaces of the cross member and outboard plinth bracket. (Arrowed in Figure 15)
3. Return seat to original position.

PROCEDURE 14 - METAL TO METAL NOISE FROM REAR TRACK END-STOP WHEN SEAT IS FULLY REARWARD.

1. Switch ignition to the on position.
2. Slide seat fully forward and apply grease available in kit HAK000010 to both slide end-stops. (Arrowed in Figure 16)
3. Return seat to original position.
4. Switch off ignition.

PROCEDURE 15 - NOISE FROM SEAT BELT PRE-TENSIONER

1. Trim and fit velour strips (STC3118K) to the seat belt stalks. (Arrowed in Figure 17)

Figure 15

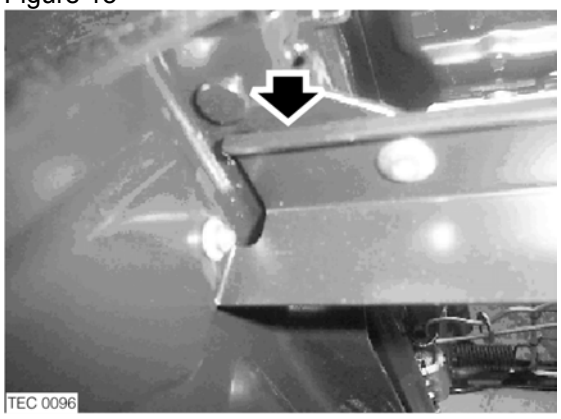


Figure 16

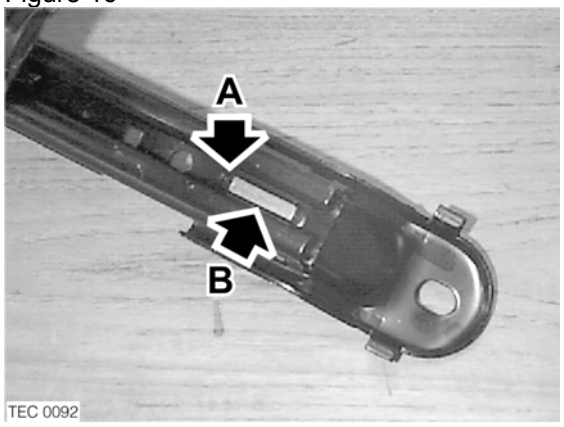
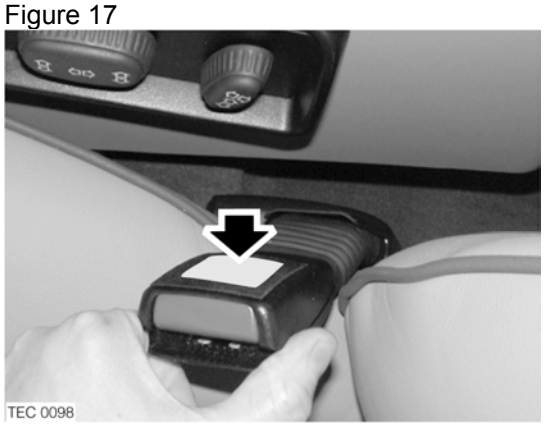


Figure 17



PROCEDURE 16 – CORRECTION OF VARIOUS NOISES WITHIN SEATS:

- **NOISE FROM THE SUSPENSION MAT AREA FROM CONTACT WITH REAR TUBE**
- **CREAK FROM SLIDE LATCH CONTACTING FRAME WHEN SEAT OCCUPIED.**
- **CORNER BRACKET CREAK FROM REAR OF FRONT SEAT.**
- **NOISE FROM THE HEIGHT-ADJUST CROSS-TUBES.**
- **NOISE FROM CUSHION SIDE CHANNEL.**
- **A CONSTANT HIGH PITCHED SQUEAKING NOISE FROM THE UPPER PART OF THE FRONT SEAT SQUAB FROM TRIM WIRE CONTACT WITH THE RETURN**

2. Refer to RAVE section 78.30.01/81 and remove the front seat cushion.
3. Remove the cable tie securing the recline motor harness.
4. Release four springs and two clips securing the suspension mat to the frame.
5. Remove the seat cushion suspension mat.
6. Install spacers from the service kit (HAK000010) to the new suspension mat.
7. Position the suspension mat and secure with two clips and four springs.
8. Secure the recline motor harness with a cable tie.
9. Hold the release catch fully open and apply grease to the teeth on both latches (arrowed in Figure 18).
10. Drill out the rivet and open out hole to fit an M6 bolt (arrowed in Figure 19).
11. Insert a new bolt (supplied in kit HAK000010) with the head of the bolt on the outside of the seat frame, apply a thread lock compound and torque to 14 Nm (xx lbf.in.).
12. Apply grease to both mating surfaces of the rear cross-tube and wipe off excess. (Arrowed in Figure 20)
13. Replace nut and washer (supplied in kit HAK000010), and torque to 19 Nm.
14. Remove any weld spikes from the bearing surfaces.

Figure 18

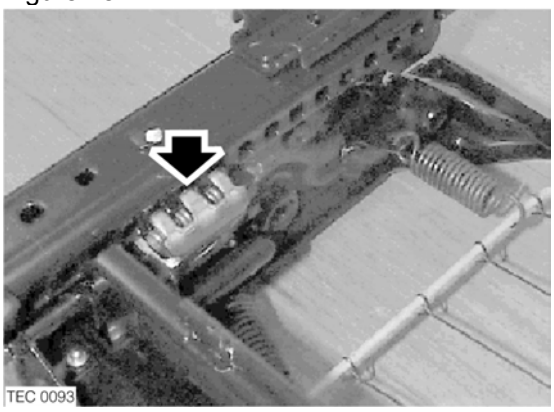
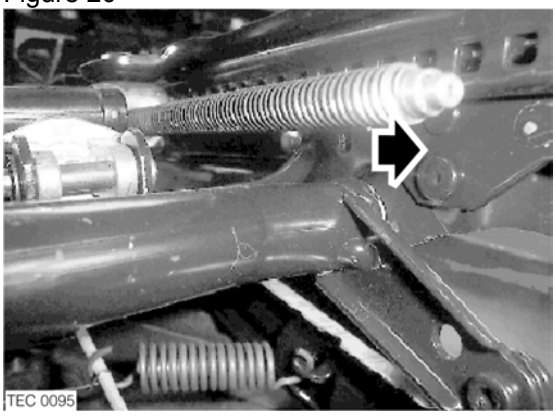


Figure 19

Figure 20



15. Using a flat-bladed screwdriver, create a 2-3mm (1/8 inch) gap between the side channel and slide reinforcing bar. (Arrowed in Figure 21)
16. Refer to RAVE section 78.30.01/81 and remove the front seat squab cover.
17. Inspect the seat frame for evidence of paint removal caused by the trim wire contacting the seat frame. ('A' in Figure 22)
18. Apply rattle tape to cover the marks on the seat frame or the area identified as 'B' in Figure 22 as follows:
    - Measure and cut a piece of tape to cover the area.
    - Clean the area on the seat frame for fitting the rattle tape.
    - Remove backing from the rattle tape and install on the area identified as 'B' in Figure 22.
19. Install the front seat squab cover.
20. Install the front seat.

Figure 21

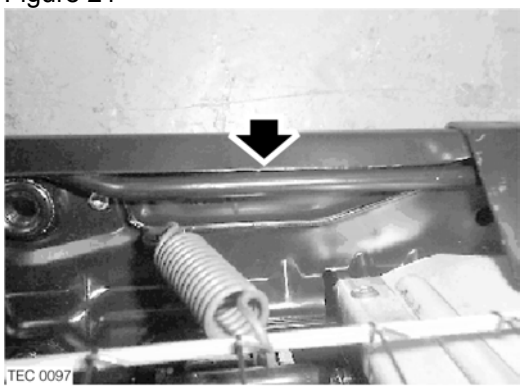


Figure 22