



WORKSHOP MANUAL

IRATI RANGE



REVISION 2
June 2013




MANUAL DE TALLER

GAMA IRATI

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1 - INTRODUCTION

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	WORKSHOP MANUAL	1 - INTRODUCTION
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1.1 DESCRIPTION OF THE MANUAL

This manual has been designed to provide customers and maintenance staff with information and instructions on maintaining and repairing the IRATI model from ESTEBAN seats.

In order to familiarise themselves with the various parts of the seat, and mounting and dismounting, it is important for the technical staff to study the instructions contained in the manual in detail and to refer to these when carrying out maintenance and repair work.

The manual is in module form, with the following sections:

1. Introduction
2. Description
3. Start up and Preventive Maintenance
4. Fault Finding
5. Repair Modules
6. Cleaning Manual

1.1.1 Introduction

The actual document.

1.1.2 Description

This includes different versions of the IRATI model and describes the main components of the seat.

1.1.3 Start up and Preventive Maintenance


- Start up: There is an explanation of guidelines to be followed after every large repair made to the seats, also before delivering the units to the customer after the first mounting.
- Preventive maintenance: The parts of the seat requiring regular maintenance or periodic inspections, with the intervals between these, are given. The information is presented in a double-column table. The vertical column contains all the components with the work to be carried out, and the horizontal one contains regular maintenance operations and checks. This helps to build a maintenance programme with very little effort, but ensuring that all points requiring regular attention will be checked.

1.1.4 Fault Finding

A guide table is given for finding faults and solving them. The information contained in the table can be used as a guide to find and diagnose the most common faults. Some of the faults described in the table will not occur in a specific seat, but they may arise in the previous versions of the same models.

1.1.5 Repair Modules

This describes how to dismount the various elements on the seat.

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1.1.5.1 Heading


Each module has a heading containing the following information:


- Model: This specifies the version of the IRATI model to which the module applies.
- Estimated time: This gives the average time per unit needed to carry out each operation.
- Tools: The tools and equipment needed to carry out the task (screwdriver, hammer, etc.).
- Supplies: This specifies the supplies and consumables needed to carry out the task (lubricants, glue, etc.).
- Spare parts: Includes a list of parts to be replaced during the operation, with the reference numbers.


1.1.5.2 Important instructions

Warnings in this section with the following symbols attached underline important instructions relating to safety.

The warnings are:


	<p>WARNING: IF THIS WARNING IS NOT HEDEED, OR THE INSTRUCTIONS CONTAINED HEREIN ARE NOT CARRIED OUT CORRECTLY, PERSONAL INJURY MAY BE CAUSED, OR DAMAGE TO THE SEAT COMPONENTS.</p>
--	--

	<p>Beware: If this warning is not heeded, or if the instructions contained herein are not carried out correctly, it may cause damage to parts of the seat.</p>
---	---

	<p>Note: It is recommended to follow this is warning / information.</p>
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1.1.6 Cleaning Manual

This describes the guidelines to follow to maintain the upholstery and leather correctly, and instructions for removing stains are give. There are also instructions to follow when cleaning plastics, ashtrays and protecting paintwork.

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2.1 GENERAL DESCRIPTION

Irati passenger seats are supplied in the following four models:

- Irati CL
- Irati CLH
- Irati CLUB (CL and CLH versions)
- Irati Imperial

Each of the above models are described in detail below.

2.1.1 IRATI CL

Ultra-light seat, ergonomic, reclining and comfortable, for high-class travel for tourism, where excellence in comfort and safety is the top priority.

The modern design, light weight and fully integrated safety belts conserve maximum interior space in the coaches. The comfortable back and head rest give passengers an excellent view, due to the high trapezium shape of the backrest.


The seat is highly functional, with the folding arm rest and rear handle providing easy access.

The smart, comfortable upholstery is greatly enhanced by the addition of leather head rests, elbow rests and trim.

There is a full and varied range of accessories available, sliding, folding, rotating, etc., also different cushion widths, to complete the IRATI CL range, depending on the vehicle they are destined for, catering for all needs.



Irati CL Model

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Specifications:

- Standardised to European Directives 2005/39, 2005/40, 2005/41 and 95/98EC
- Full aisle side with a folding arm rest
- Back shell with double grab handle, removable ashtray and/or coat hook
- Reclining seat with gas spring multi-positioning
- Central and side upholstery in velour
- Vandal-resistant material at the rear
- 25 kg double seat (with one leg and wall fixing)

2.1.2 IRATI CLH

Light seat, ergonomic, reclining and comfortable, for high-class travel for tourism, where excellence in comfort and safety is the top priority.

The modern design is classic, light weight and fully integrated safety belts conserve maximum interior space in the coaches. The adjustable head rest and ergonomic back rest ensure that passengers are comfortable and have good visibility.

The seat is highly functional, with the folding arm rest and rear handle providing easy access.

The smart, comfortable upholstery is greatly enhanced by the addition of leather head rests, elbow rests and trim.

There is a full and varied range of accessories available, sliding, folding, rotating, etc., also different cushion widths, to complete the IRATI range, depending on the vehicle they are destined for, catering for all needs.



Irati CLH Model

Specifications:

- Standardised to European Directives 2005/39, 2005/40, 2005/41 and 95/98EC
- Adjustable head rest
- Full aisle side with a folding arm rest
- Integrated unit has grab handle with net, ashtray (for both seats) and coat hook
- Reclining seat with gas spring multi-positioning
- Central and side upholstery in velour
- Vandal-resistant material at the rear
- 29 kg double seat (with one leg and wall fixing)

2.1.3 IRATI CLUB

High comfort seats for preferential and/or special services that require luxury.


Outstanding ergonomic design, with a large, height-adjustable head rest, anatomical structure ensures rest, there is an option for arm rests decorated in wood or upholstered in leather, folding on the aisle side to increase space and movement for the passenger.

The style and appeal of upholstery in real leather or piped wool velour is enhanced with a handmade, sprung overlay, soft to the touch and in harmonious colours, for full relaxation.

These are luxury fittings that can be personalised and adapted to the most demanding needs, and are provided with the most sophisticated and innovative accessories befitting its superior class.



Irati Club Model

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Specifications:

- Standardised to European Directives 2005/39, 2005/40, 2005/41 and 95/98EC
- Upholstered in natural leather or wool velour with an extra overlay
- Large, height adjustable head rest, for rest
- Bodyside, central and aisle arm rest decorated in wood
- Happich back shell with double grab handle, coat hook and /or removable ashtray
- Reclining seat with gas spring multi-positioning
- Net magazine rack
- 2-position foot rest
- Upholstered baseboard

2.1.4 IRATI IMPERIAL

Extreme comfort seats designed for exclusive, preferential and /or special services that demand only the very best.

These are in a class of their own. Oversized and with a double arm rest per person, they provide a roomy, individual seat, with only 3 passengers per row.

Ergonomically designed, with a large, height-adjustable head rest, anatomical structure ensures rest, there is an option for arm rests decorated in wood or upholstered in leather, folding on the aisle side to increase space and movement for the passenger.

The style and appeal of the upholstery overlaid in natural "epoch" leather can be further extended to "excellent" quality with "supreme" hand finishing, extra springs, soft to the touch and harmonious colours, creating an atmosphere of beauty and comfort.

These are luxury fittings that can be personalised and adapted to the most demanding needs, and are provided with the most sophisticated and innovative accessories befitting its superior class.



Irati Imperial Model

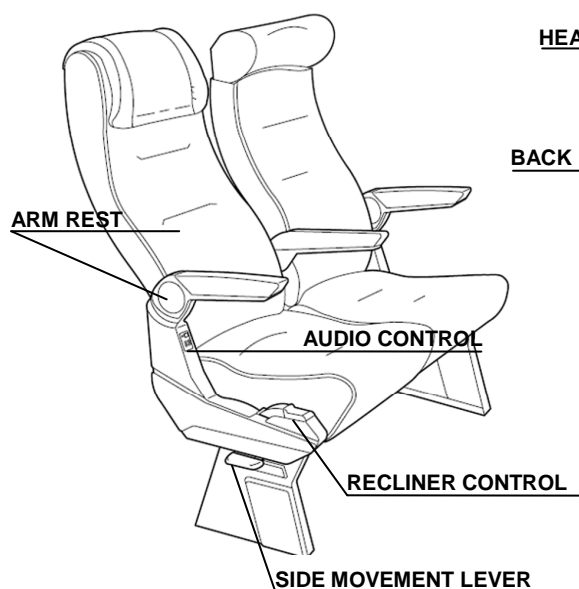
Specifications:

- Standardised to European Directives 2005/39, 2005/40, 2005/41 and 95/98EC
- Upholstered in natural leather with "epoch" or "supreme" extra overlay
- Large, height adjustable head rest, for rest
- Bodyside, central and aisle arm rest upholstered in natural leather
- Back shell with grab handle, coat hook and removable ashtray
- Central console with individual compartments
- Reclining seat with gas spring multi-positioning
- Net magazine rack
- 2-position foot rest
- Upholstered baseboard

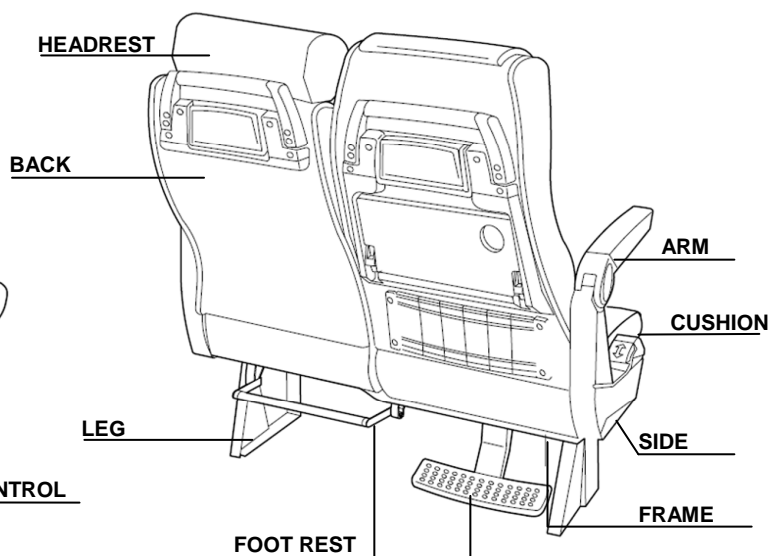
2.2 CONTROL ELEMENTS AND COMPONENTS


A seat consists of the following basic parts: frame, leg, side panels, arms, seat, back, headrests and accessories. The layout of the control elements and components is shown in the following figure:

CONTROL ELEMENTS



COMPONENTS



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2.2.1 Frame

This is a structure composed of two profiles and two angle brackets. The angle brackets act as the mount to which the side panels are fixed. There is a curved tube in the centre around which the backs turn.

They can be fixed or adjustable. Adjustable models mean that there may be a larger space between the two seats mounted on the frame.

They are painted in black epoxy powder.

2.2.2 Leg and Side Fastening

The leg is screwed to the frame. It is generally fixed on the aisle side. It is painted in coloured powder paint.

The side fastenings are fixed to the frame by four bolts. There are various types of fastening flanges to the wall profile.

2.2.3 Lateral

This serves both a structural and aesthetic purpose. It contains the seat reclining system inside and the recliner push-button on the outside. There is an option for including the audio control. It may also include the pivot bar for the arm-rest and the pivot bar for the back. Made in aluminium.

2.2.4 Seat

This consists of plastic pan acting as the base for the seat cushion. The platform is screwed to the frame. The cushion is made from polyurethane foam, lined by the cushion cover. The cushion lining is fastened to the seat cushion by plastic profiles housed in slots in the base. The pulls for the cushion lining are the ends of a "casing bar" set into the foam inserts.

2.2.5 Back

Structure in tubing and metal plate, painted in epoxy powder. As with the seat cushion, this structure acts as the mount for the foam which is glued to the back. The cushion lining is also fastened to the seat cushion by rigid cardboard profiles housed in two slots at the base of the back. The pulls are two "casing bars".

This enables various optional accessories to be added: magazine rack, table, ashtray, grab handle, coat hook, cup holder.


2.2.6 Head Rest

This consists of a structure formed by two bars and a flat plate to which the foam is fixed. The headrest cover is fastened by two plastic profiles. The headrest may have pillows for comfort, fastened by velcro.



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3.1 PUTTING INTO SERVICE

Before putting the seats into service, also after any large repairs, a series of tests must be made to check that all the components are functioning correctly and present a good appearance.

These are visual checks for external components and manual for elements containing mechanisms.

The full list of tests to be carried is given under the heading "Checks" in the table in Section 3.2.

3.2 PREVENTIVE MAINTENANCE

Table of preventive maintenance.

Operations to be carried out	Maintenance periods						
	Regular maintenance					Checks	
	Every week	Every 6 months	Every 1 year	Every 2 years	Every 3 years	Weekly	Every 3 months
Velour seat covers							
Gently clean with a vacuum cleaner to remove dust.	X						
Damp clean by the "spray-removal" method (wool pile velour and mixtures). Alternatively, clean with dry cleaning foam. See instructions for Maintaining and Conserving Velour.		X					X
Dry clean with suitable solvents (synthetic velour: acrylic, polyester, etc.). Alternatively, clean with dry cleaning foam. See instructions for Maintaining and Conserving Velour.		X					X
Check that there are no defects such as streaks or bald patches from lack of material or fading.							X
Check for stains or flattened pile.							X
Check that the seams are fully sewn, and there are no loose threads or frayed edges.							X
Check that the cover is not wrinkled or baggy.							X
Check that the direction of the pile is uniform.							X
Back							
Check that the back remains in any intermediate position both with and without load when the recliner control is not operated.						X	
Check that the back folds down gently under the weight of the passenger when the recliner control is operated.						X	
Check that the back returns to the vertical position when free of load and keeping the recliner control pressed.						X	
Check that there is no play in the back.							X
Check that the backs are aligned.							X
Check that no vibration noise occurs. This check can be made with the vehicle engine idling, or when stopped by hitting the back with your hand with a sharp blow from behind.							X
Lubricate and clean bolts and pivot bushes on the back.					X		



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3 - PUTTING INTO SERVICE AND PREVENTIVE MAINTENANCE

Operations to be carried out	Maintenance periods						
	Regular maintenance					Checks	
	Every week	Every 6 months	Every 1 year	Every 2 years	Every 3 years	Weekly	Every 3 months
Cushions							
Check that the cushions are firmly fixed.							X
Check that the casing bars have no sharp ends protruding.							X
Tighten the cushion to the base.					X		
Head rests							
Check that the head rests are not loose and can be removed and replaced correctly.							X
Check that the pillow is fastened and presents a good appearance.						X	
Foam							
Check that the foam is not flattened or mis-shapen.							X
Recliner mechanism							
Check that the action buttons/levers for the recliner operate smoothly.						X	
Check that the buttons/levers for the recliner are properly installed and have no lateral or vertical play.							X
Arms / Side panels / Arm rods							
Check that the reclining mechanism on the arm operates correctly i.e. it is locked in the horizontal position and can fold down.						X	
Check for play in the arms and change the friction pads if necessary.				X			X
Check the aisle side panels are aligned and that there is no play or defects.							X
Check for broken arm rods.							X
Tighten the side panel to the base.					X		
Tighten the bolt-shaft joining the arm rest to the arm rod spring.			X				
Tighten the bolt fixing the spring to the cross head.				X			
Tighten the pivot nut on the arm rest.			X				
Tighten the Philips screw on the fastening plate for the central arm.			X				
Tighten the hexagonal head screw on the fastening plate for the central arm.			X				
Tighten the screws fastening the plastic arm rest.			X				
Accessories							
Check that movable accessories (table, cup holders, ashtrays) open and close correctly.						X	
Check that the screws fastening the accessories to the back are covered by caps.							X
Check that the magazine racks are in good condition.							X
Check for loose grab handles.							X
Foot rest							
Check that the foot rests operate correctly.						X	
Tighten the foot rest fastenings to the seat frame.					X		
Tighten foot rest fastenings.					X		
Leg rest							
Check that the leg rest mechanism operates correctly						X	




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3 - PUTTING INTO SERVICE AND PREVENTIVE MAINTENANCE

Operations to be carried out	Maintenance periods						
	Regular maintenance					Checks	
	Every week	Every 6 months	Every 1 year	Every 2 years	Every 3 years	Weekly	Every 3 months
Position slide							
Check that the slide operates correctly.						X	
Tighten the rails for the sideways slide.			X				
Audio							
Check that the audio system operates correctly.						X	
Tighten the amplifier fastenings at the base of the cushion.					X		

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4 - FAULT FINDING


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4.1 FAULT FINDING

Fault finding table.

Description of the problem	Inspection	Cause	Solution	Note
Noise in the back rest.	The ashtray does not close correctly.	The catch on the ashtray is worn.	Change the catch.	
		The catch housing has broken.	Change the ashtray.	
	The arm rest knocks against the rear part of the aisle side panel.	No rubber stop on the aluminium panel.	Fit a rubber stop.	
	The noise is coming from the back frame.	The tube on the back frame and the internal reinforcement tube are loose.	Fit a 4mm spring pin in the back tube at 8 cm from the pivot shaft and facing the driving direction.	
			Press the back frame tube to a slight concave with a blow at 8 cm from the pivot bush axis and facing from front to back.	Consult the manufacturer.
	The noise lessens or disappears when the arm rod is pressed against the seat.		There is no washer on the pivot shaft of the central arm rod where the back reclines.	Fit a spring washer.
Too much play between the pivot shafts on the back.			Fit a flat blind washer to the pivot shaft on the central arm rod or the side panel preferably.	
Noise in the side panels.	There is play in the side panel.	The fastenings on the frame are loose.	Tighten the screws.	
	There is noise from the arm rest.	The screw housings are loose.	Change the arm rest.	
Noise in the fastenings.	A creaking can be heard from the fastenings in the side area when the seat is pushed.	The fastenings are loose.	Tighten the screws.	
	There is strong vibration when the seat is hit from behind.	The fastening has deformed and the set screws are touching against the wall rail.	Change the fastenings.	Check that the set screws do not touch the wall rail.
Noise in the slide.	The slide vibrates when the seat is empty and the vehicle is running.	The fastenings on the slide to the frame are loose.	Tighten the screws.	
		There is play in the slide.	Replace the slide.	
The arm pivot mechanism does not operate.	The arm pivot mechanism is locked or does not remain horizontal.	The cross head on the arm is broken or worn.	Change the cross head on the arm.	
The back does not recline.	The operating lever does not operate the gas spring.	The lever pin has bent or broken.	Change the lever.	
	The gas spring does not respond when the recliner lever is operated.	The recliner gas spring is faulty.	Change the gas spring.	

Description of the problem	Inspection	Cause	Solution	Note
The back does not return.	The back returns with help while operating the recliner lever.	The gas in the spring has run out.	Help the back to return to the upright position to recharge the spring.	
	The back does not return to the upright position when helped, or only with difficulty.	Too much pressure on the pivot shaft in the back because of tolerances.	Ease by moving repeatedly and lubricate.	
		Dirt / rust on the pivot shafts and bushes in the back.	Remove the back. Clean and rub down the pivot shafts and bushes. Lubricate these.	
	The back does not return to the upright position when the button is pressed.	The gas spring is badly adjusted.	Adjust the gas spring.	
The back returns without operating the lever.	The back does not remain in the reclined position.	The gas spring is badly adjusted.	Adjust the gas spring.	
Fabric is fading.	When the pile is pressed with a finger and brushed up, the colour inside is brighter.	Fabric is dirty.	Clean the fabric.	Use specialist cleaning companies.
	The less used parts of the fabric have brighter colours.	Fabric is dirty.	Clean the fabric.	Use specialist cleaning companies.
	The brightness of the colours of the fabric changes from different positions of observation.	The pile is flattened through poor maintenance.	Carry out corrective maintenance.	See instructions for Maintaining and Conserving Velour.
The fabric balls on the back of the back rest.		The back does not have sufficient waterproof coating.	Change the fabric on the back.	
The cushion pricks the passenger.	A prick can be felt through the fabric.	The insert for holding the casing has come loose.	Change the casing rod. Change the cushion foam and/or cover, as necessary.	
Seat belt is loose.	The fastening of the buckle / reel of the belt to the frame is loose.	The fastening lacks a toothed washer.	Fit a toothed washer, ref.: 06.257.01 and tighten.	

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5 - REPAIR MODULES

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INTRODUCTION

The instructions for repairing the seat given in the section are grouped into repair modules. The first part includes the whole seat, and then there is a description of different versions of particular models.

The modules are structured in layers, so that modules describing the dismantling of external parts are integrated as such into the modules describing the dismantling of interior parts.

Each module gives a detailed explanation of how to dismantle a specific element.

Mounting is done in reverse order to dismantling, therefore this will not be described except in cases where the mounting requires particular care, when a detailed description of mounting is given.

The figures in the manual will normally represent the right side of a double seat facing the direction of driving. The figures showing details of the sides normally show the right window side or the right aisle side. The repair of other seats is done in the same way.

The cable supports (audio system) and casings (e.g. brackets and staples) are not mentioned in detail; however, it is essential that the cables and their supports, also the casing fastenings, are replaced in their original position.

During transport and storage, the seat should rest on the metal structure and never on the cushion or back rest foam. It should also be properly protected from scratches to the paintwork or knocks to the components.

When parts are replaced, only use genuine parts as given in the spare parts list. If the spare parts are not genuine or not approved by ESTEBAN, they may cause the equipment to malfunction, or wear prematurely.

If genuine parts are not used, the guarantee may be cancelled and ESTEBAN will deny all responsibility for the damage caused through their use.

TORQUE VALUES

Screwed connections are tightened to the torque value shown on the table below, unless there is a specific value.

The specification for torque values is used for joints with hexagonal or cylindrical head bolts and steel nuts where the friction coefficient between the contact surfaces is 0.12 to 0.14.


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Torque values based on the diameter, thread and quality of the bolt

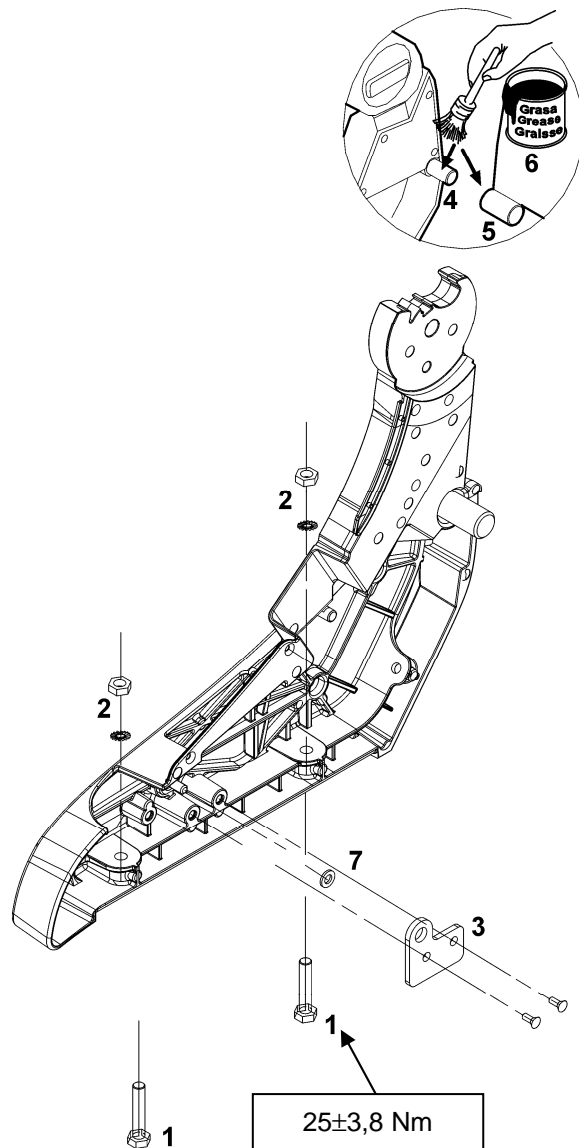
Rated diameter	Thread	Quality	
		Torque value (Nm)	
		5,6	8,8
M4	0,7	1,5 +/- 0,3	2,9 +/- 0,5
M5	0,8	3,0 +/- 0,5	6,0 +/- 0,9
M6	1	5,0 +/- 0,7	10 +/- 1,5
+M8	1,25	12,5 +/- 2	25 +/- 3,8
M10	1,5	24,5 +/- 4	49 +/- 7,4
SAE 7/16"	20 turns/inch		35 +/- 5,3


The quality of the bolt is shown on the bolt head. If in doubt when fitting a new bolt, use 8.8 quality.

The M4 set screws for the back accessories do not have the quality shown on the head. The torque value for 5.6 quality is applied.


Bolted connections on the seats	Rated diameter	Quality	Observations
Screw-shaft joining the arm rest to the arm spring	M10	5.6	
Fastening for the flange to the wall rail	M8	8.8	
Fastening for flange to base	M8	8.8	
Fastening for leg to base	M8	8.8	
Fastening for leg to floor	M8	8.8	
Fastening for foot rest to base	M8	8.8	
Hexagonal head screw on the fastening plate for the central arm.	M8	8.8	
Nut fastening spring base to the arm rest pivot.	M8	8.8	
Arm rest pivot nut	M8		Torque value: 20 Nm +/-2 Nm.
Phillips head screw on the fastening plate for the central arm.	M8		Torque value: 18 Nm +/-2 Nm.
Fastening for cushion to base	D5- DIN 7505 A	5.6	Par de apriete: 2Nm ± 0,5 Nm
Coach bolt for fastening plastic arm rest			Torque value: 3 Nm.
Coach bolt for cross head flange			Torque not specified.
Nut fastening spring to cross head			Torque not specified.
Safety belt fastening	SAE 7/16"		35 Nm +/-3,5 Nm.
	For bolt – plastic, bolt – aluminium, bolt – flange connections, greased connections and others situations not described above, the torque value will be set by Esteban.		

85.01.01	AISLE SIDE PANEL / WINDOW SIDE PANEL		
Model:	All	Estimated time:	15 minutes
Tools:	Screwdriver Socket spanner 12-13	Supplies:	Lubrication (Microlube GL261)
Spare parts:	Left side panel, no belt, no audio, with arm (Ref: 008504201) Right side panel, no belt, no audio, with arm (Ref: 008504202) Left side panel, with belt, no audio, with arm (Ref: 008504203) Right side panel, with belt, no audio, with arm (Ref: 008504204)		



	WORKSHOP MANUAL	5 - REPAIR MODULES
	IRATI RANGE	85.01.01


DISMOUNTING

	<p>The small free space between the arm and the wall of the coach is not enough to allow this operation to be carried out with the seats in place. Therefore, first remove the seat by releasing it from the base of the leg in the aisle and the fastenings to the wall.</p>
---	---

1. Remove the seat cushion. See module 85.02.01.
2. Release the two screws from the metal flange on the crosshead (3) and remove the disk spring (7) and the metal flange from the crosshead.
3. Loosen the two screws (1) holding the side panel to the frame and remove the washers (2).
4. Remove the side panel by pulling horizontally towards the outside of the back so that the pivot shaft (4) on the back is released from its housing in the sleeve (5) on the backrest (6).

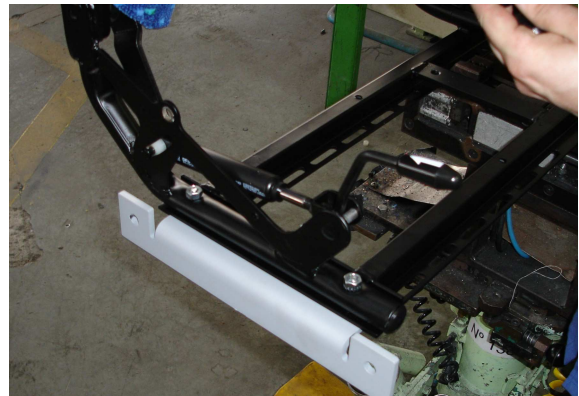
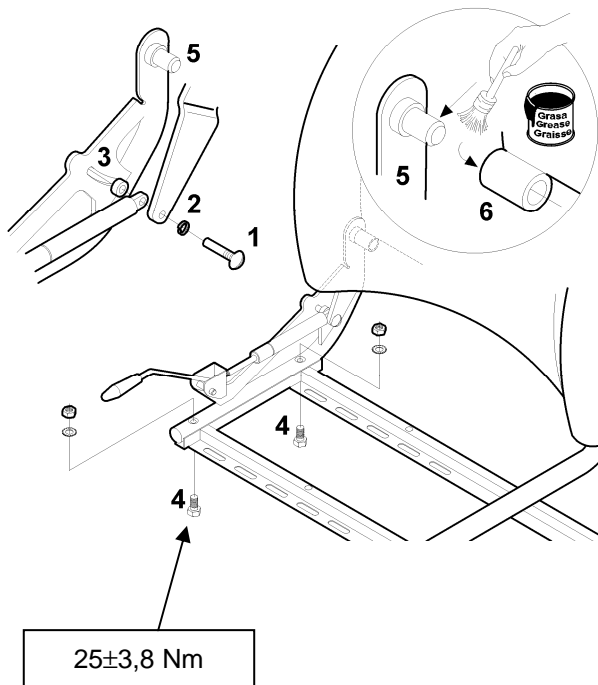
MOUNTING

Proceed in reverse order to dismantling.


	<p>The pivot shaft (4) and the pivot bush sleeve (5) on the backrest must be clean. If they are not, clean them and sand down, if necessary. Grease these lightly before assembly. Do not use too much grease, as the excess will leak out and stain the back part of the seat cushion.</p>
---	--

	WORKSHOP MANUAL	5 - REPAIR MODULES
	IRATI RANGE	85.01.02

85.01.02	WINDOW SIDE ARM		
Model:	All	Estimated time:	15 minutes
Tools:	Screwdriver Socket spanner 12-13	Supplies:	Lubrication (Microlube GL261)
Spare parts:	Side arm tube set (Ref. 0085018XX) depending on work number Right-hand recliner lever (Ref. 002104004) Left-hand recliner lever (Ref. 002104005) 500 N Gas spring (Ref. 000699302)		



DISMOUNTING

	<p>The small free space between the arm and the wall of the coach is not enough to allow this operation to be carried out with the seats in place.</p>
---	--

1. Remove the seat by releasing it from the base of the leg in the aisle and the fastenings to the wall.
2. Remove the seat cushion. See module 85.02.01.

	WORKSHOP MANUAL	5 - REPAIR MODULES
	IRATI RANGE	85.01.02


3. Fold the back almost, but not completely, to its limit in order to facilitate later mounting of the spring and bolts and nuts fastening the arm tube to the platform.
4. Release the bolt-shaft (1) joining the back to the recliner gas spring.
5. Remove the screw-shaft (1), the spacer bush (3) and the Grover washer (2).
6. Release and remove the two bolts (4) together with the washers and nuts that join the arm tube to the platform.
7. Remove the arm by taking out the pivot bar (5) from the arm and the bush (6) in the backrest.

MOUNTING

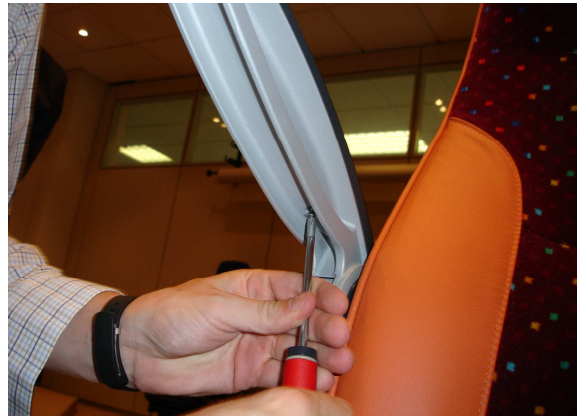
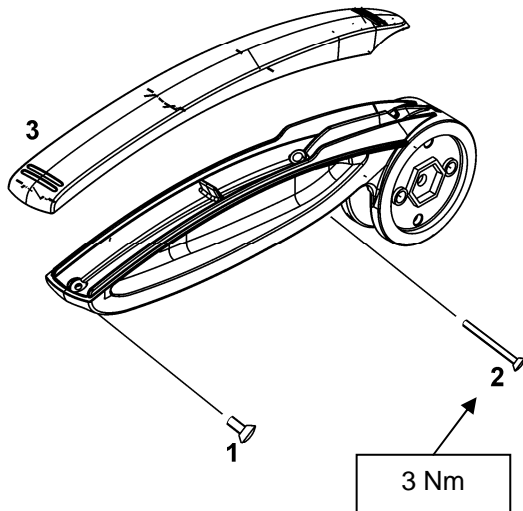
Proceed in reverse order to dismantling.



The pivot shaft (5) and the pivot bush (6) must be clean. If they are not, clean them and sand down, if necessary. Grease these lightly before assembly. Do not use too much grease, as the excess will leak out and stain the back part of the seat cushion.

	WORKSHOP MANUAL	5 - REPAIR MODULES
	IRATI RANGE	85.01.03

85.01.03	AISLE ARM REST (PLASTIC)		
Model:	All	Estimated time:	2,5 minutes
Tools:	Screwdriver	Supplies:	Lubrication (Microlube GL261)
Spare parts:	Arm rest cushion (Ref. 008540201) Threaded countersunk screw (Ref. 000619102) Self tapping screw (Ref. 62028)		




DISMOUNTING

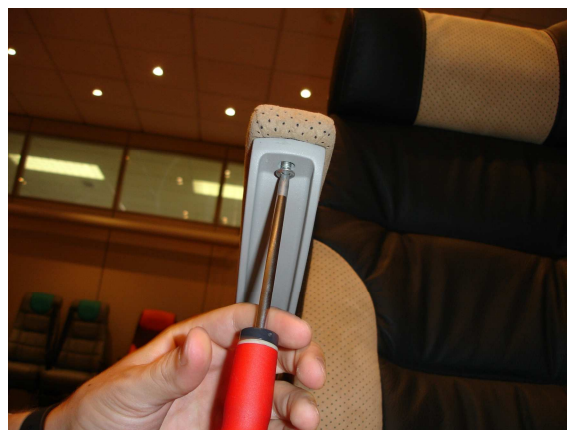
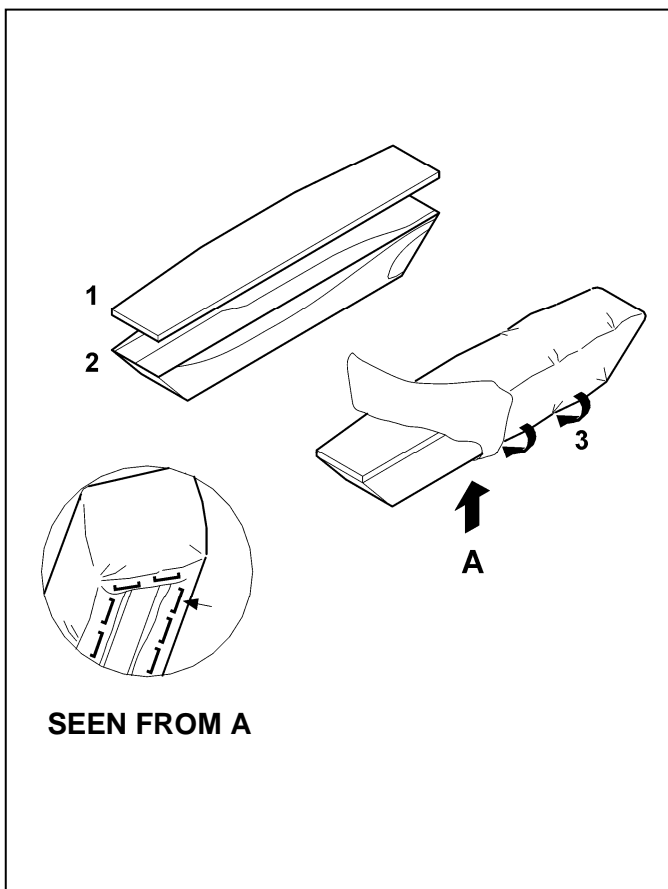
1. Place the arm in the raised position.
2. Release the two screws (1) and (2) that hold the arm rest cushion (3) and remove it.

MOUNTING

1. Fit the new cushion onto the arm rest body.
2. Use the two screws (1) and (2) to fix it, taking care to put each one in the correct position, as they are not the same.

	Put the shorter screw (1) in the hole nearest the end of the arm.
---	---

85.01.04	UPHOLSTERED ARM REST		
Model:	Club Imperial	Estimated time:	10 minutes
Tools:	Screwdriver Pneumatic stapler RT98JP (9886RT98JP)	Supplies:	Staples RT (000663003)
Spare parts:	Upholstered arm rest (Ref. depends on work number)		



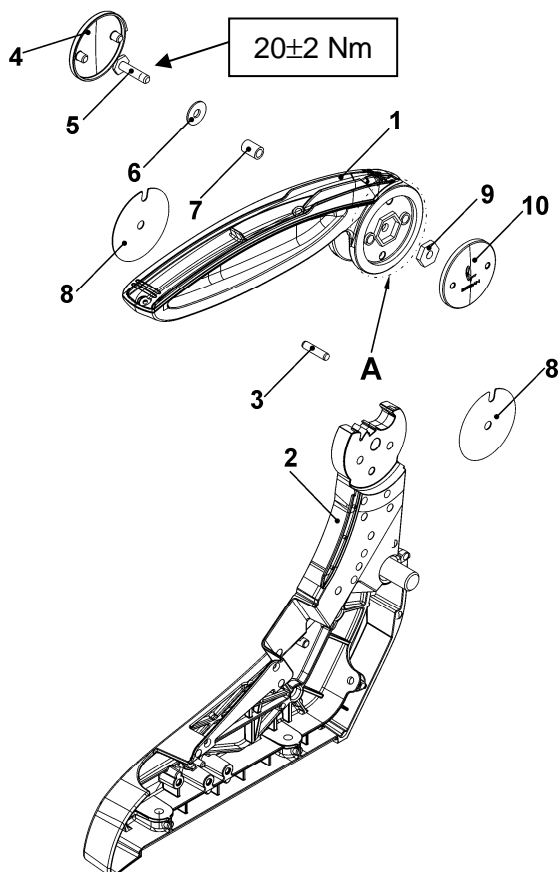
DISMOUNTING

1. Release the coach bolts fixing the arm rest to the arm rest body.
2. Remove the staples (4) holding the arm rest cover (3) to the wooden body of the arm rest (4).
3. Remove the foam (1) from the upper part of the wooden arm rest body (2).

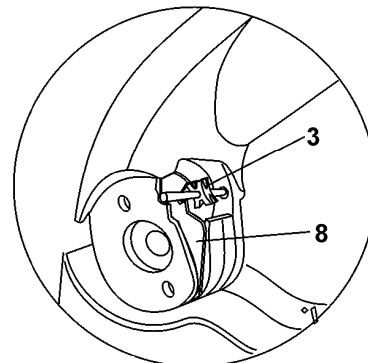
MOUNTING

Proceed in reverse order to dismantling.

85.01.05	AISLE ARM PIVOT MECHANISM		
Model:	All	Estimated time:	10 minutes
Tools:	Screwdriver	Supplies:	None
Spare parts:	Painted arm rest body (Ref. 008547201-G14) Right-hand side casing (Ref. 008547202-G14) Left-hand side casing (Ref. 008547203-G14) Arm rest cover (Ref. 008540414) Arm rest pivot screw (Ref. 008508201) 8 DIN9021 flat washer (Ref. 000622103) Arm rest pivot bush (Ref. 002508168) Aisle friction disc (Ref. 008540801) Arm rest pivot nut (Ref. 002508214) Star pivot pin (Ref. 008508301) Arm pivot star (Ref. 007546202) Arm rest cushion (Ref. 008540201)		



FRAGMENT A




	WORKSHOP MANUAL	5 - REPAIR MODULES
	IRATI RANGE	85.01.05

DISMOUNTING

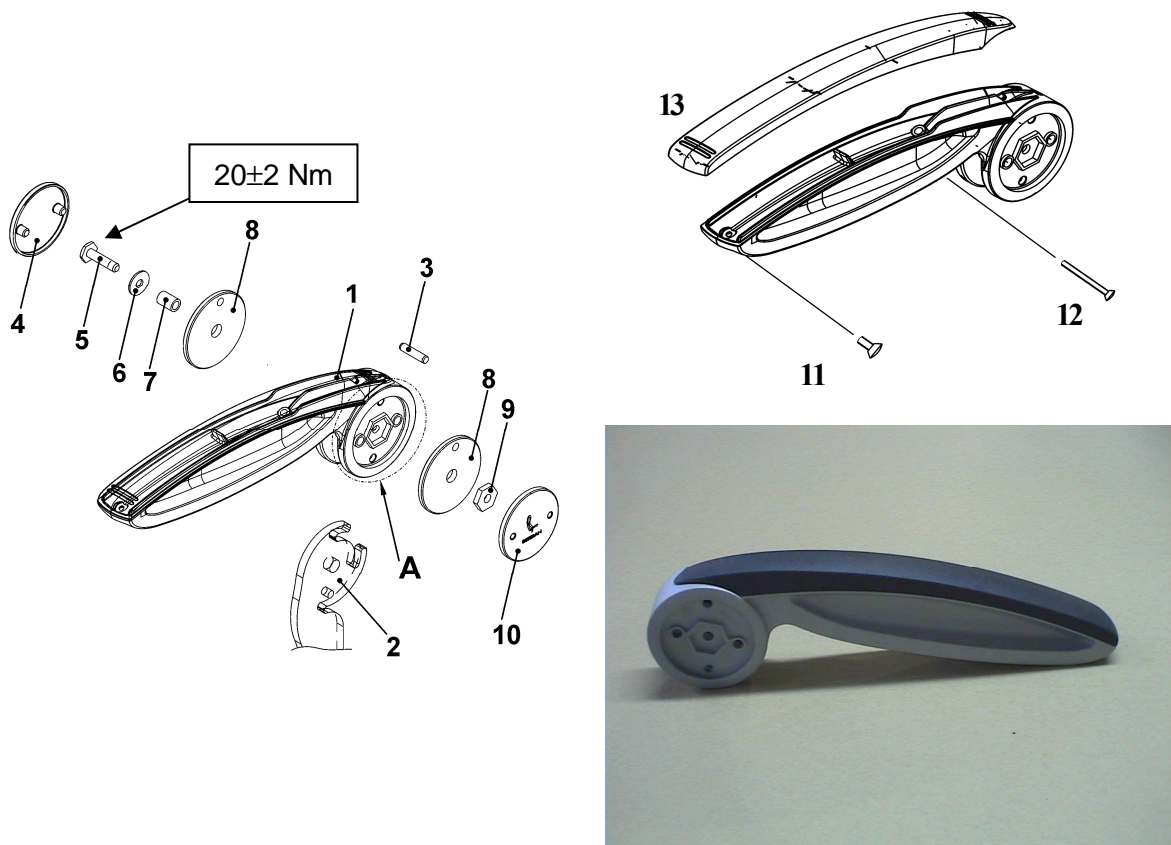
1. Remove the side panel. See module 85.01.01.
2. Use a screwdriver to remove the plastic covers on the arm rest, interior (10) and exterior (4).
3. Unscrew and remove the screw (5), the washer (6) and the hexagonal nut (9).
4. Remove the arm rest (1) upwards.
5. Remove the friction discs (8) and the bush (7).

MOUNTING

1. Place the bush (7) on the arm rest shaft (2) and the friction discs (8) one on either side, with the dark side facing inward. The flat part of the friction disc must be placed at an angle 90° to the base of the side panel.
2. Insert the arm so that the shaft holding the star (3) enters the slot on the friction discs, and the widest part of the star is opposite the pivot shaft on the arm rest. See Fragment A.
3. Fit the washer (6).
4. Place the screw (5) through the pivot shaft from the outside, fit the nut into the inner housing and tighten.
5. Press on the covers (10) and (4).
6. Check that it operates correctly. Change the position of the arm and lower until it catches in the horizontal position, or lowers to the folded position.

	WORKSHOP MANUAL	5 - REPAIR MODULES
	IRATI RANGE	85.01.06

85.01.06	CENTRAL ARM PIVOT MECHANISM / WINDOW		
Model:	All	Estimated time:	10 minutes
Tools:	Screwdriver	Supplies:	None
Spare parts:	Painted arm rest body (Ref. 008547201-G14) Star pivot pin (Ref. 008508301) Arm rest cover (Ref. 008540414) Arm rest pivot screw (Ref. 008508201) 8 DIN9021 flat washer (Ref. 000622103) Arm rest pivot bush (Ref. 002508168) Central / side arm friction disc (Ref. 008540802) Arm rest pivot nut (Ref. 002508214) Self tapping screw (Ref. 62028) Threaded countersunk screw 5x45 (Ref. 000619102) Arm rest cushion (Ref. 008540201)		



DISMOUNTING


1. Use a screwdriver to remove the plastic covers on the arm rest, interior (10) and exterior (4).
2. Unscrew and remove the screw (5), the washer (6) and the hexagonal nut (9).

	WORKSHOP MANUAL	5 - REPAIR MODULES
	IRATI RANGE	85.01.06

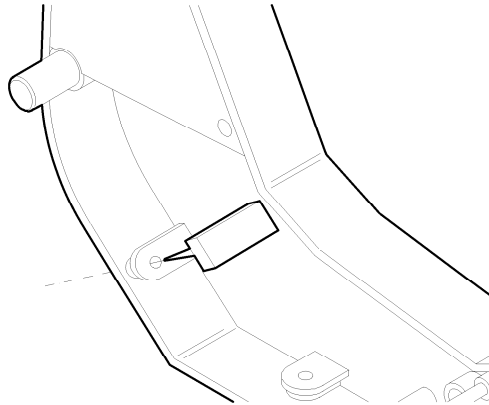
3. Remove the arm rest (1) upwards.
4. Remove the friction discs (8) and the bush (7).

MOUNTING

1. Place the bush (7) on the arm rest shaft (2) and the friction discs (8) one on either side, with the dark side facing inward. The flat part of the friction disc must be placed at an angle 90° to the base of the side panel.
2. Insert the arm so that the shaft holding the star (3) enters the slot on the friction discs, and the widest part of the star is opposite the pivot shaft on the arm rest. See Fragment A.
3. Fit the washer (6).
4. Place the screw (5) through the pivot shaft from the outside, fit the nut into the inner housing and tighten.
5. Press on the covers (10) and (4).
6. Check that it operates correctly. Change the position of the arm and lower until it catches in the horizontal position, or lowers to the folded position.

	WORKSHOP MANUAL	5 - REPAIR MODULES
	IRATI RANGE	85.01.07

85.01.07	ARM REST STOP		
Model:	All	Estimated time:	3 minutes
Tools:	Knife Pliers	Supplies:	None
Spare parts:	Rubber stop (Ref. 002140703)		




DISMOUNTING

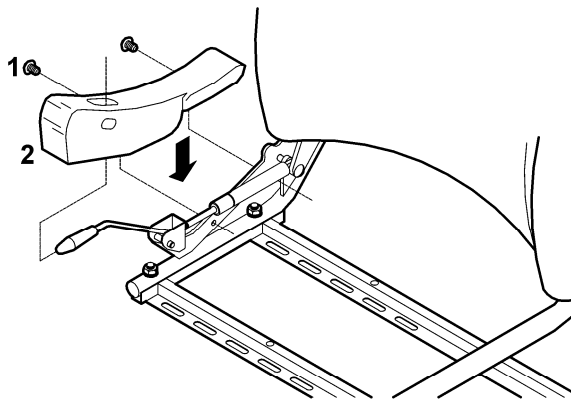
Remove the rubber stop from its hole with the help of a knife.

MOUNTING

1. Insert the pointed end of the stop into the hole of the side panel until the end juts through to the other side.
2. With the help of pliers, pull the end sharply.
3. Cut of the excess on the side panel side.

	WORKSHOP MANUAL	5 - REPAIR MODULES
	IRATI RANGE	85.01.08

85.01.08	SIDE ARM TUBE TRIM		
Model:	All	Estimated time:	3,5 minutes
Tools:	None	Supplies:	None
Spare parts:	Black right hand side mechanism cover (Ref. 006140002-N50) Black left hand side mechanism cover (Ref. 006140003-N50)		



006140002-N50



006140003-N50



DISMOUNTING

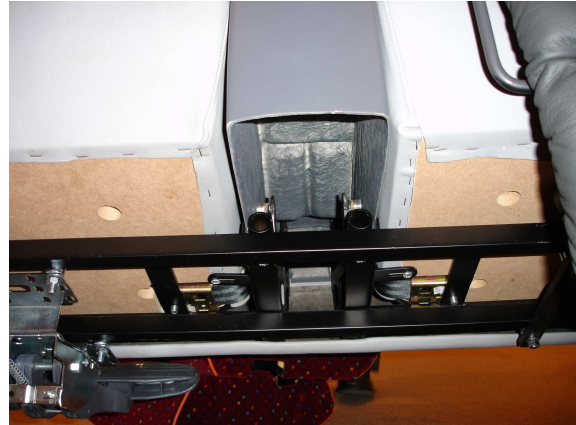
1. Remove the two clips (1) holding the trim on the side arm tube.
2. Remove the trim.

MOUNTING

Proceed in reverse order to dismantling.

	WORKSHOP MANUAL	5 - REPAIR MODULES
	IRATI RANGE	85.01.09

85.01.09	CENTRAL CONSOLE		
Model:	Imperial	Estimated time:	4,5 minutes
Tools:	Screwdriver	Supplies:	None
Spare parts:	Central console (Ref. 004540401) Rear cover for central console (Ref. 004540402)		



DISMOUNTING

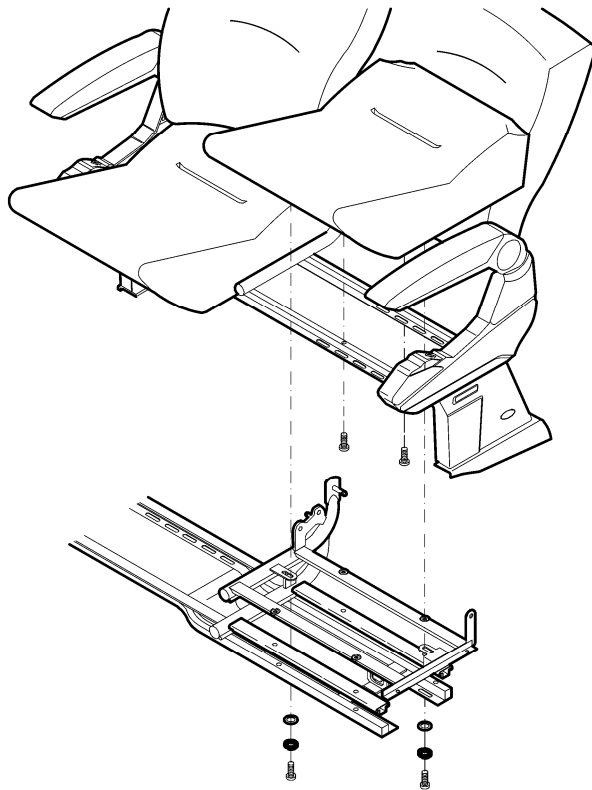
1. Release the two fastenings holding the central console to the frame.
2. Remove the console.

MOUNTING

Proceed in reverse order to dismantling.

	WORKSHOP MANUAL	5 - REPAIR MODULES
	IRATI RANGE	85.02.01

85.02.01	SEAT CUSHION		
Model:	All	Estimated time:	5 minutes
Tools:	Screwdriver Pneumatic stapler RT98JP (9886RT98JP)	Supplies:	Staples RT (000663003)
Spare parts:	Cushion unit (Ref. 0085044XX) depending on work number Screw D5 DIN 7505 A (Ref. 000619101)		



DISMOUNTING


Fixed Seat

1. Release the two screws placed lengthways to the lower part of the seat.
2. Remove the seat cushion.

Sliding Seat

1. Release the two screws placed sideways to the lower part of the seat and also remove the Grover and flat washers.

	WORKSHOP MANUAL	5 - REPAIR MODULES
	IRATI RANGE	85.02.01

	It may be necessary to remove the sliding seat first in order to gain better access.
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2. Remove the seat cushion.

Rear Seat (Fastened with Staples)

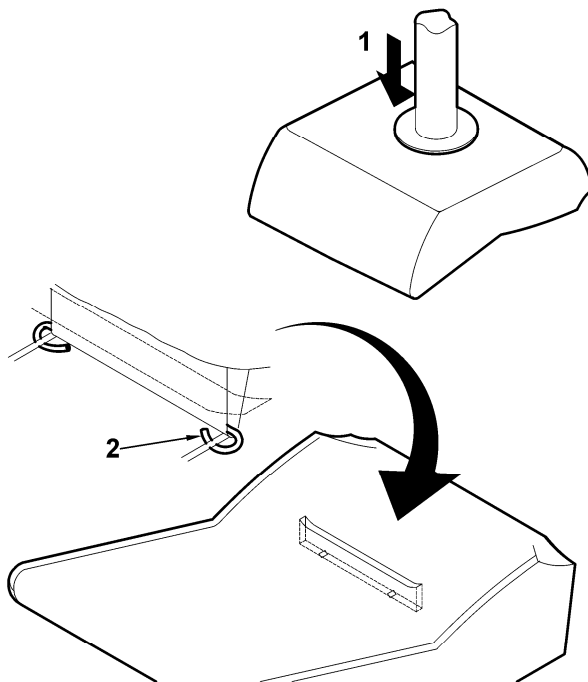
1. Lever the seat cushion upward to loosen the clips fastening the seat cushion to the frame.
2. Remove the seat cushion.


MOUNTING

Proceed in reverse order to dismantling.

	<p>Torque has to be 2 Nm ± 0,5 Nm.</p> <p>For a higher torque there is a risk of stripping.</p> <p>Lower torque does not assure a correct fixation.</p>
--	--

85.02.02	CUSHION COVER		
Model:	All	Estimated time:	12 minutes
Tools:	Screwdriver Press	Supplies:	None
Spare parts:	Cushion cover (Ref. 0085044XX) depending on work number Cushion cover (Ref. 008540401) Cushion foam (Ref. 008510401)		




	WORKSHOP MANUAL	5 - REPAIR MODULES
	IRATI RANGE	85.02.02

DISMANTLING

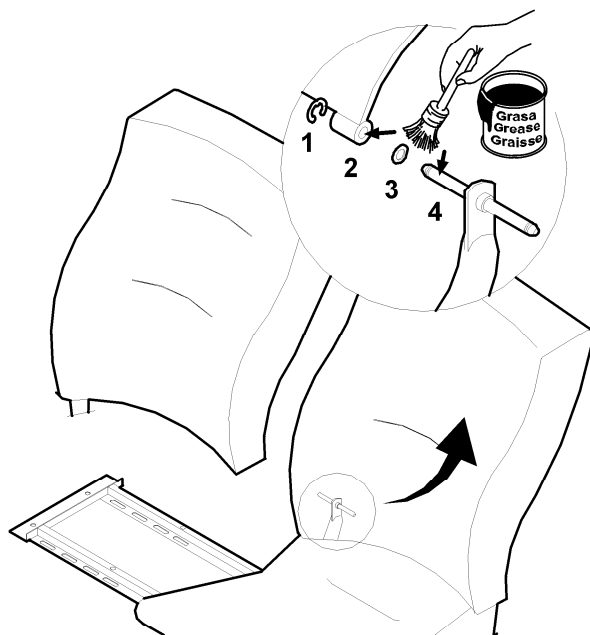
1. Remove the seat cushion. See module 85.02.01.
2. Remove the profiles. Use a screw driver if necessary.
3. Use a press (1) to compress the foam and keep it compressed.
4. Remove the ends of the seat cushion cover from the U guides on the seat cushion plate by pulling the cardboard in the cover to the outside and drawing the foam out of the cover.
5. Remove the seat cushion from the press.
6. Use a screwdriver as a lever to release the bar in the casing on the cover (2) from the bars in the foam and remove the cushion cover.

MOUNTING

1. Take a new cushion cover.
2. Take some new cushion foam and place it in the cover.
3. Place the bar in the casing of the new cover.
4. Remembering to place the cover the correct way up, hook the ends of the bar in the casing to the bars in the foam in the insert. Do the first one by hand, and use a screwdriver as a lever to do the second one.
5. Fit the front part of the cover onto the seat cushion and draw the cover towards the rear, taking care not to tear the material.
6. Use a press (2) to compress the foam and keep it compressed.
7. Bend the cardboard parts of the cover and fit them into the U guides around the seat cushion base, taking care to remove any wrinkles.
8. Remove the seat cushion from the press.
9. Cover with fabric and fit the profiles.
10. Mount the seat cushion on the frame and screw in position. See module 85.02.01.

	WORKSHOP MANUAL	5 - REPAIR MODULES
	IRATI RANGE	85.03.01

85.03.01	BACK		
Model:	All	Estimated time:	18,2 minutes
Tools:	None	Supplies:	Lubrication (Microlube GL261)
Spare parts:	Lower back unit (Ref. 0021043XX) depending on work number Upper back unit (Ref. 0085043XX) depending on work number		



DISMOUNTING

1. Dismount the side panel (see module 85.01.01) or else dismount the window side arm (see module 85.01.02).
2. Release the fastening for the gas spring to the back. See module 85.07.03.
3. From the rear of the backrest, remove the safety split pin (1) from the pivot shaft (4) in the centre arm.
4. Remove the spring washer (3).

	WORKSHOP MANUAL	5 - REPAIR MODULES
	IRATI RANGE	85.03.01

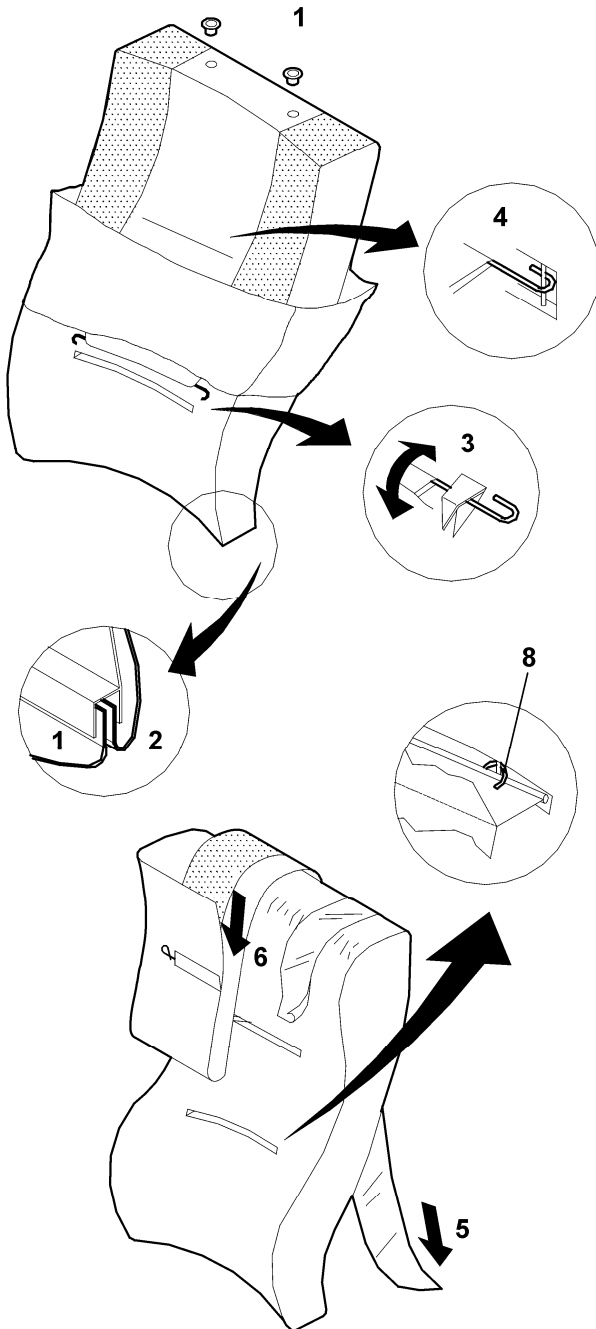
MOUNTING

Proceed in reverse order to dismantling.




The pivot shaft (4) and the pivot bush (2) must be clean. If they are not, clean them and sand down, if necessary. Grease these lightly before assembly. Do not use too much grease, as the excess will leak out and stain the back part of the seat cushion.

85.03.02	BACK COVER		
Model:	All	Estimated time:	19,5 minutes
Tools:	Pneumatic stapler RT98JP (9886RT98JP)	Supplies:	Staples RT (000663003)
Spare parts:	Back cushion cover (Ref. 0085033XX) depending on work number		



	WORKSHOP MANUAL	5 - REPAIR MODULES
	IRATI RANGE	85.03.02


	<p>This procedure applies to low backs (CLH models) and also high backs (CL models). With high backs, remember that:</p> <ul style="list-style-type: none"> • There are no head rest caps, or a head rest. • The casings in the cover do not contain a metal bar but a hard plastic U-profile (7) sewn to the material of the casing.
---	---

DISMOUNTING


1. Remove the backrest. See module 85.03.01.
2. With low backs, remove the head rest and head rest guide bushes (1).
3. Remove the lower flaps on the cover (2) which hold it to the back.
4. Cut the staples (8) fastening the back cover.
5. Remove the cover completely.

MOUNTING

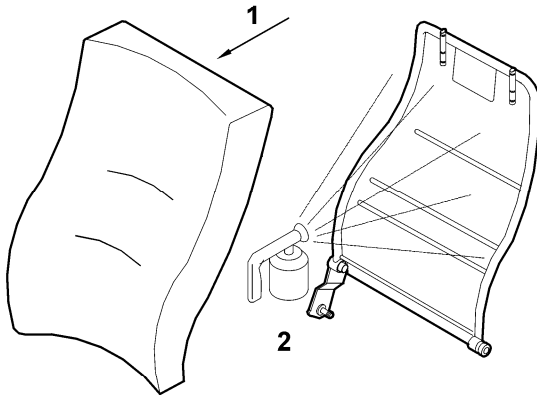
1. Raise the back to a vertical position.
2. Place two strips of plastic (5) on the foam top help the material to slide down.
3. Turn the cover right side out down to approximately halfway and start to draw the cover over the back by pushing it with the hands from inside the pouch made when turning the cover from inside out (6).

	<p>It is important to start re-covering with the cover in a central position.</p>
---	--

4. Staple the cover to the back.
5. Remove the plastic strips (5) by pulling them downward.
6. Finish covering and insert the lower overlapping flaps on the cover into the slots on the back. Tap the overlapping edges to make sure they are in place.
7. On the low seats, fit the two guide bushes for the head rest and the fastening buttons.
8. Check that the velour is wrinkle-free, and if necessary, remove with a steam cleaning machine.
9. Mount the backrest. See module 85.03.01.

	WORKSHOP MANUAL	5 - REPAIR MODULES
	IRATI RANGE	85.03.03

85.03.03	BACK REST FRAME		
Model:	All	Estimated time:	21,5 minutes
Tools:	None	Supplies:	Glue (Nycoil polyurethane 10x6.5x5 mts)
Spare parts:	Low seat frame (Ref. 0021013XX) depending on work number High seat frame (Ref. 0085013XX) depending on work number		




DISMOUNTING


1. Remove the backrest. See module 85.03.01.
2. Remove the head rest.
3. Remove the cover. See module 85.03.02.

MOUNTING

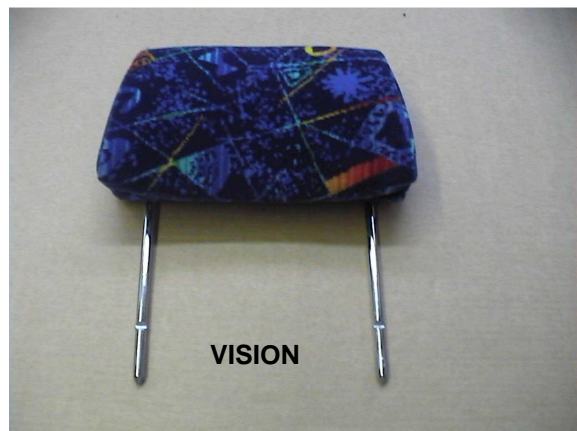
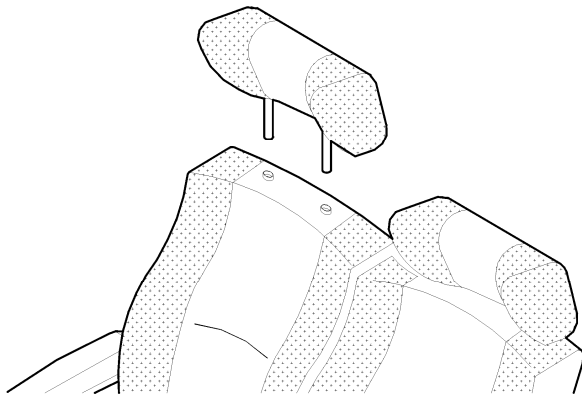
1. Apply glue (2) to the rear part of the back foam (1).
2. Apply glue (2) to the metal plate of the back frame facing the foam.

	WORKSHOP MANUAL	5 - REPAIR MODULES
	IRATI RANGE	85.03.03

3. Glue both surfaces together and leave to dry for a few minutes.
4. Fit the cover. See module 85.03.02.

	WORKSHOP MANUAL	5 - REPAIR MODULES
	IRATI RANGE	85.04.01

85.04.01	HEAD REST		
Model:	CLH Club Imperial	Estimated time:	0,8 minutes
Tools:	None	Supplies:	None
Spare parts:	Vision foam head rest (Ref. 002110515) not covered Intermedio foam head rest (Ref. 002110517) not covered Descanso head rest (Ref. 002110516) not covered Imperial head rest (Ref. 002310501) not covered		




DISMANTLING

Remove the head rest from the back by pulling it upward.

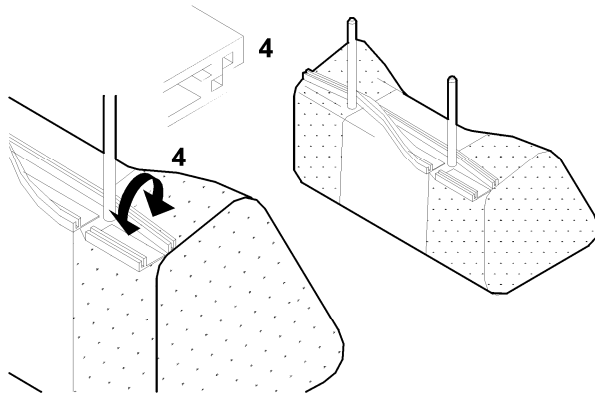
MOUNTING

Fit a new head rest onto the back.

	<p>Make sure there is an audible “click” when inserting the head rest and check that it is properly in place.</p>
---	---

	WORKSHOP MANUAL	5 - REPAIR MODULES
	IRATI RANGE	85.04.02

85.04.02	HEAD REST COVER		
Model:	CLH Club Imperial	Estimated time:	4,3 minutes
Tools:	Screwdriver Steam cleaning machine	Supplies:	None
Spare parts:	Head rest cover (Ref. 0021035XX) depending on work number		




DISMOUNTING

1. Remove the head rest from the back.
2. Separate the plastic profile with a screwdriver.
3. Remove the cover.

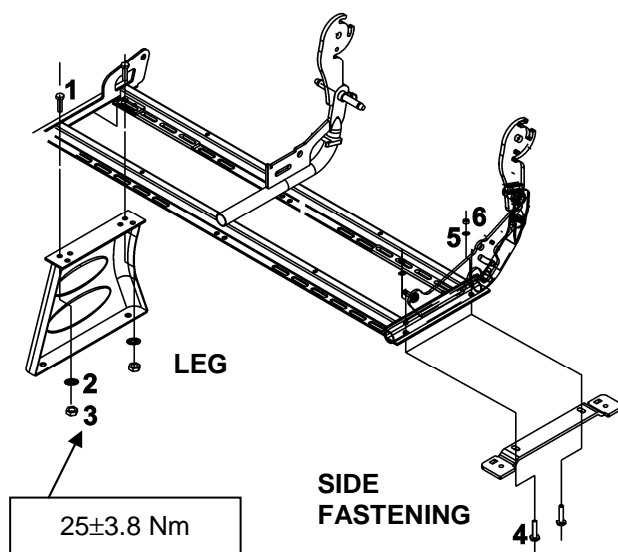
MOUNTING

1. Place the new cover inside out on the foam and turn it to the right side as it is fitted over the head rest foam.
2. Close the plastic profiles.

	WORKSHOP MANUAL	5 - REPAIR MODULES
	IRATI RANGE	85.04.02

3. Fit the head rest onto the back.
4. Go over the material with a steam machine to remove any wrinkles.

85.05.01	AISLE LEG / FASTENING TO THE SIDE		
Model:	All	Estimated time:	8 minutes
Tools:	Socket spanner 12-13 Screwdriver	Supplies:	None
Spare parts:	Leg (Ref. 0085017XX) depending on work number Fastening to the side (Ref. 0085059XX) depending on work number		



DISMOUNTING

Leg

1. Remove the seat cushion. See module 85.02.01.
2. Remove the screws (1), star washers (2) and nuts (3) fastening the leg.



Take note of the position of the flanges (1) holding the leg so that they can be re-mounted correctly later.

3. Remove the leg.

Fastening to the Side

	WORKSHOP MANUAL	5 - REPAIR MODULES
	IRATI RANGE	85.05.01

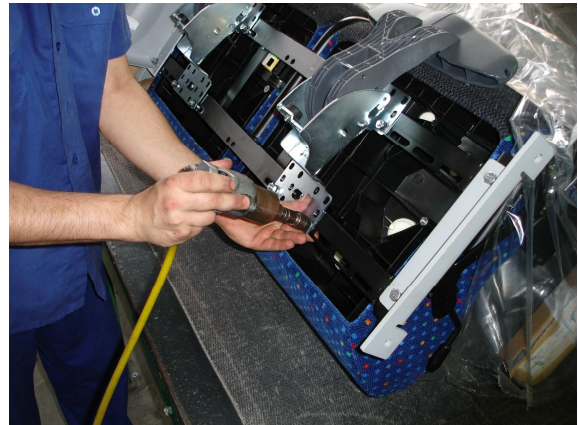
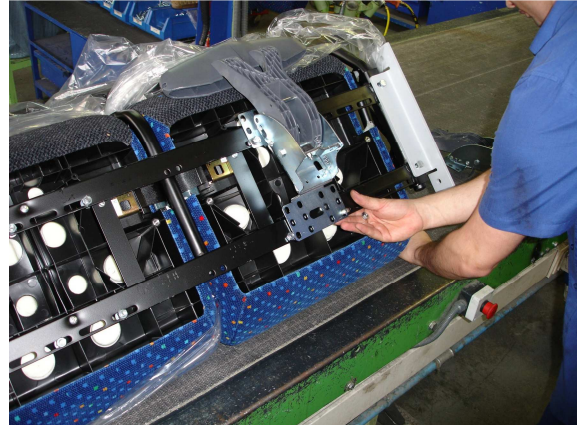
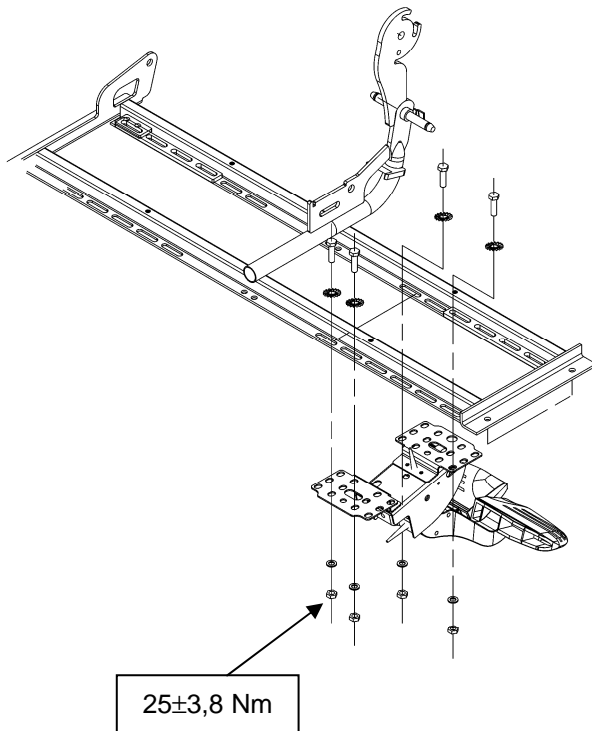
1. Remove the screws (1), star washers (2) and nuts (3) fastening to the side.
2. Remove the fastening.

MOUNTING

Proceed in reverse order to dismounting.

	WORKSHOP MANUAL	5 - REPAIR MODULES
	IRATI RANGE	85.06.01

85.06.01	FOOT REST R2/ R4		
Model:	All	Estimated time:	5 minutes
Tools:	Socket spanner 12-13 Screwdriver	Supplies:	None
Spare parts:	Foot rest R2 positions (Ref. 002102501) Foot rest R4 positions (Ref. 002102502)		



DISMOUNTING

Fixed Seats



Take note of the position of all the screws (1) that hold the footrest, so that they may be mounted correctly later.

1. Release and remove the screw with the star washer on the upper part, and the nut and flat washer on the lower part.
2. Remove the foot rest.


	WORKSHOP MANUAL	5 - REPAIR MODULES
	IRATI RANGE	85.06.01

Sliding Seats

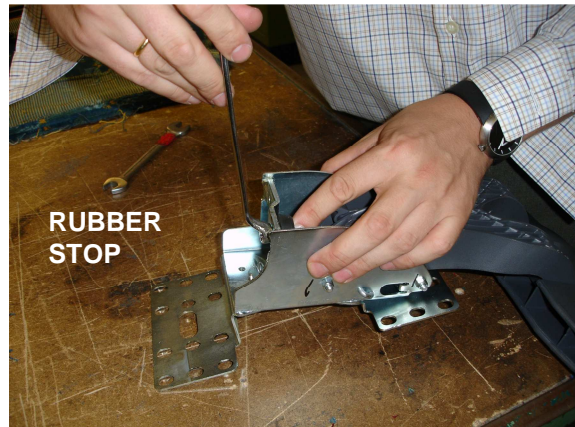
Proceed in the same way as for fixed seats, remembering that in the fixed part of sliding seats there is a supplementary bush (2) on every joint held by screws on the foot rest fastenings (Bush Ref. 008865101).

MOUNTING

Proceed in reverse order to dismantling.

	WORKSHOP MANUAL	5 - REPAIR MODULES
	IRATI RANGE	85.06.02

85.06.02	PAWL / RUBBER STOP ON FOOT REST R2/ R4		
Model:	All	Estimated time:	3,5 minutes
Tools:	Spanner 10-11 Screwdriver	Supplies:	None
Spare parts:	Pawl (Ref. 000040406-G07) Rubber stop (Ref. 008140718)		



DISMOUNTING

Pawl


1. Release the bolt and the nut fastening the pawl and spring to the foot rest.
2. Remove the pawl.

Rubber Stop

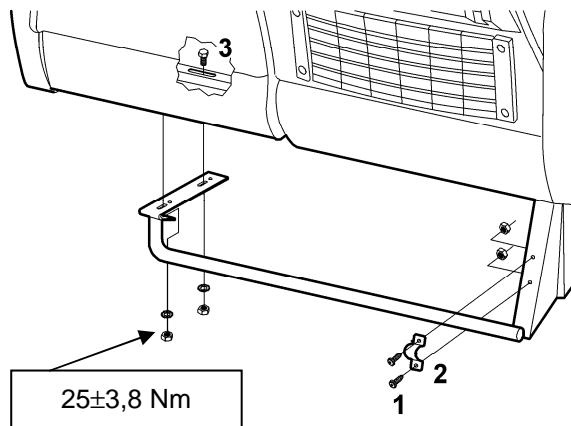
1. Release the screw and nut fastening the rubber stop to the foot rest.
2. Remove the rubber stop.


MOUNTING

Proceed in reverse order to dismounting.

	WORKSHOP MANUAL	5 - REPAIR MODULES
	IRATI RANGE	85.06.03

85.06.03	FIXED FOOT REST		
Model:	All	Estimated time:	5 minutes
Tools:	Socket spanner 12-13 Screwdriver	Supplies:	None
Spare parts:	Right hand fixed foot rest, 2 seats (Ref. 002107614) Left hand fixed foot rest, 2 seats (Ref. 002107615)		




	<p>Take note of the position of all the screws (1) that hold the footrest, so that they may be mounted correctly later.</p>
---	--

DISMOUNTING

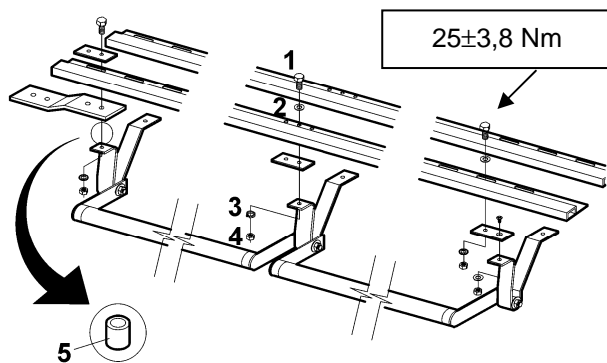
1. Remove the two screws (1) holding the bracket (2).
2. Remove the bracket.
3. Release the two screws (3) fixing the foot rest to the frame.
4. Remove the foot rest.

MOUNTING

Proceed in reverse order to dismounting.

	WORKSHOP MANUAL	5 - REPAIR MODULES
	IRATI RANGE	85.06.04

85.06.04	TWO-POSITION FOOT REST (U2 POSITIONS)		
Model:	All	Estimated time:	17,5 minutes
Tools:	Socket spanner 12-13 Screwdriver	Supplies:	None
Spare parts:	Two-position U foot rest (2 seats) (Ref. 008802501)		



DISMOUNTING

1. Remove the cushions. See module 85.02.01.
2. Release the screws holding the foot rest to the frame.



Take note of the correct position of the flanges (4, 5 and 6) and the bushes (3) so that they can be re-mounted correctly.

3. Remove the foot rest.
4. Release the countersunk head cap screw (2) fastening the flange to the foot rest.

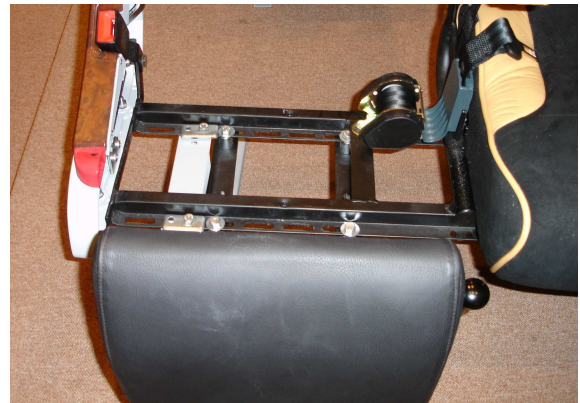
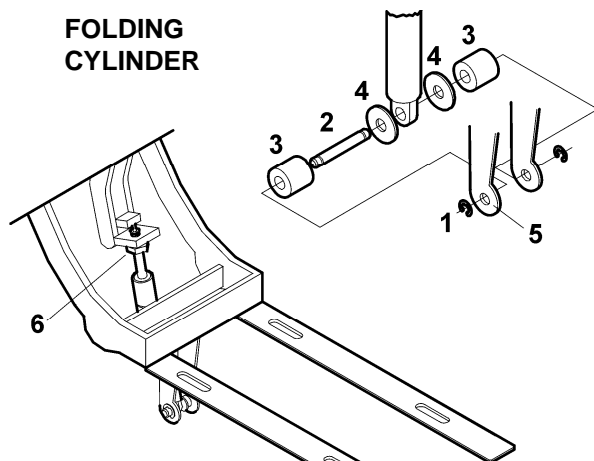
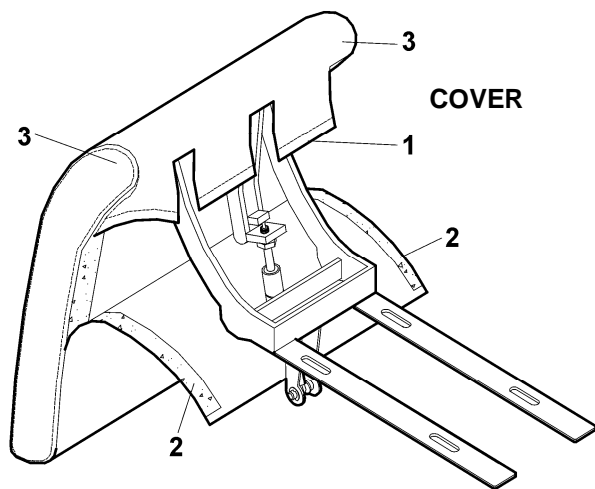
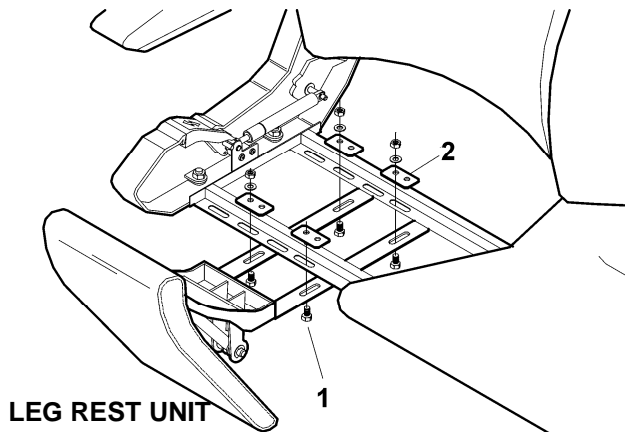
MOUNTING

Proceed in reverse order to dismounting.

85.06.05

LEG REST

Model:	All	Estimated time:	11 minutes
Tools:	Screwdriver	Supplies:	None
Spare parts:	Left hand leg rest (Ref. 002102661) not covered Right hand leg rest (Ref. 002102660) not covered		



	WORKSHOP MANUAL	5 - REPAIR MODULES
	IRATI RANGE	85.06.05

DISMOUNTING

Leg Rest Unit



Take note of the position of the screws (1) and the flanges (2) so that they can be mounted correctly later.

Release the screws and remove the leg rest.

Folding Cylinder


1. With the leg rest up, remove the split pin (1) from the spring shaft to free the spring from the leg rest support (5).
2. Remove the shaft-spring, bushes (3) and washers (4).
3. Release the spring (6).

Cover

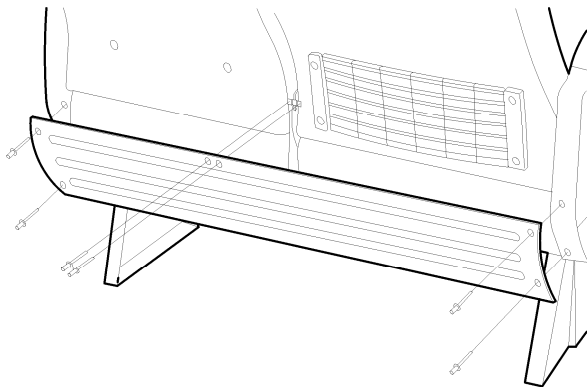
1. Put the leg rest into the extended position.
2. Open the cover at the upper Velcro fasteners (1).
3. Continue opening all the side Velcro fasteners (2).
4. Roll down the cover from the upper corners (3).
5. Remove the cover.

MOUNTING

Proceed in reverse order to dismounting.

	WORKSHOP MANUAL	5 - REPAIR MODULES
	IRATI RANGE	85.06.06

85.06.06	BASE BOARD		
Model:	All	Estimated time:	5,8 minutes
Tools:	Drill Riveter	Supplies:	Rivets (6)
Spare parts:	Base board (Ref. 002125103) not covered		



DISMOUNTING

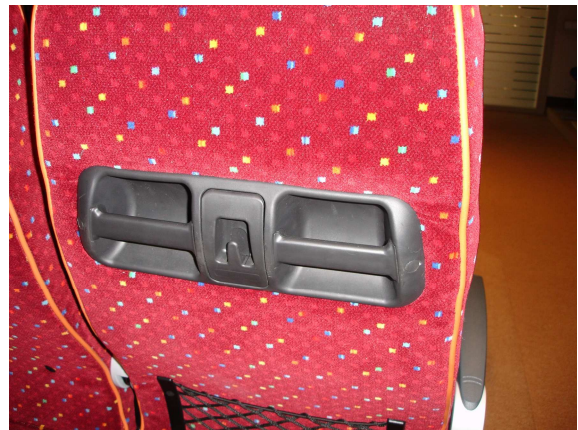
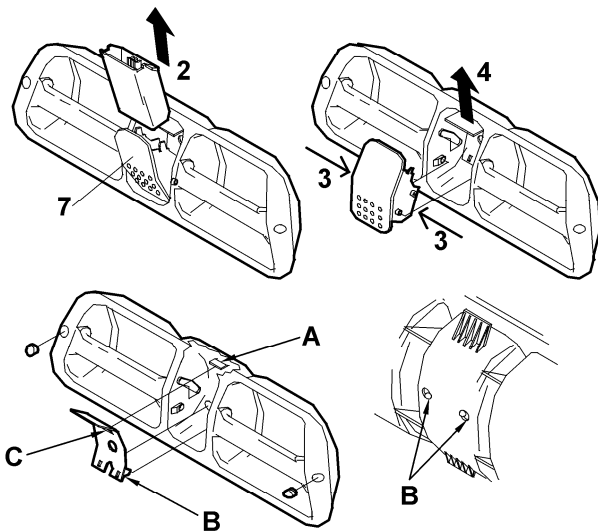
1. Drill the rivets holding the base board.
2. Remove the base board.

MOUNTING

Place the new base board and fix with six rivets.

	WORKSHOP MANUAL	5 - REPAIR MODULES
	IRATI RANGE	85.06.07

85.06.07	HAPPICH INTEGRATED UNIT		
Model:	CL CL Club	Estimated time:	5 minutes
Tools:	Screwdriver	Supplies:	None
Spare parts:	Happich unit with ashtray (Ref. 000699416) Happich unit with coat hook (Ref. 000699418) Happich screw cap (Ref. 000699417) Happich ashtray bowl (Ref. 000699419) Happich lid and catch (Ref. 00581A559)		



DISMOUNTING

Happich Integrated Unit

1. Break the two caps covering the screws and remove the integrated unit.
2. Remove the integrated unit.

Bowl and Cigarette Extinguisher Tab

1. Fully open the ashtray lid (7) and remove the bowl (2).
2. Press the sides (3) of the lid and remove it.

	WORKSHOP MANUAL	5 - REPAIR MODULES
	IRATI RANGE	85.06.07

3. Pull the tab (4) upward and remove it.

MOUNTING

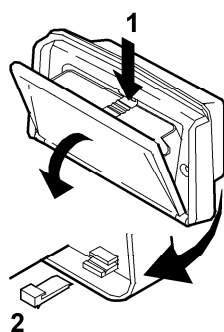
Happich Integrated Unit

1. Mount the integrated unit.
2. Screw in the unit and press in the two caps.

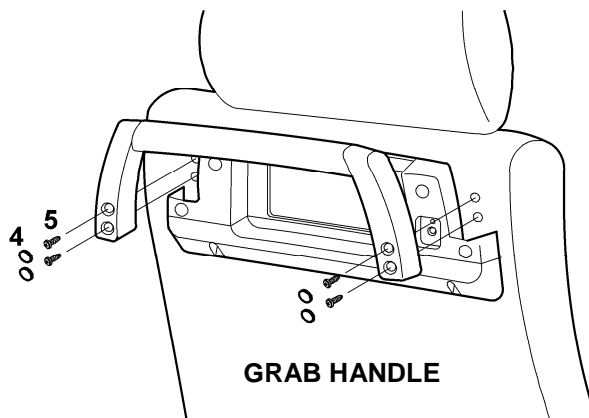
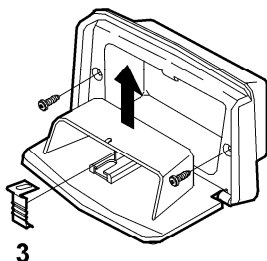
Bowl and Cigarette Extinguisher Tab

1. Insert the new tab by fitting slot C in guide A and clips B in the holes on the integrated unit.
2. Mount the lid and bowl and check they operate correctly.

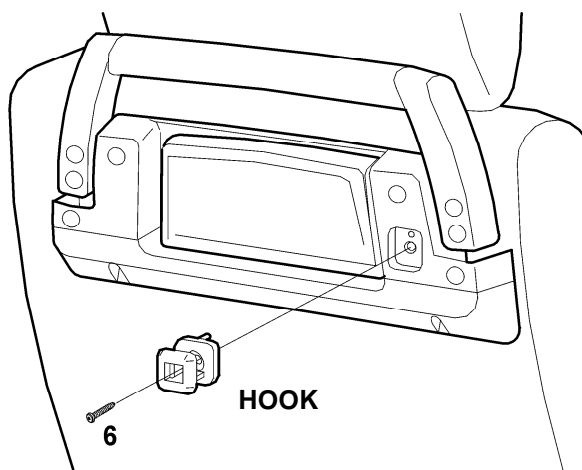
85.06.08	ASHTRAY / GRAB HANDLE / COAT HOOK / ASHTRAY FRAME / TABLE FRAME		
Model:	CLH Club Imperial	Estimated time:	3,5 minutes
Tools:	Screwdriver	Supplies:	None
Spare parts:	Ashtray (Ref. 000699214-N50) Black gas grab handle (Ref. 002140419-N50) Black cover (Ref. 002140106-N50) Bag hook (Ref. 001240005-N50) Ashtray frame (Ref. 002140405-N50) Ashtray frame with hollow cover (Ref. 002140414-N50) Trimmed ashtray frame (Ref. 002140415-N50) Trimmed ashtray frame with hollow cover (Ref. 002140413-N50) Table frame (Ref. 002140404-N50) Ruspa grab handle (Ref. 000699401-N50) Ruspa grab handle cover (Ref. 000699426-N50) Black Ruspa hook (Ref. 000699403-N50)		



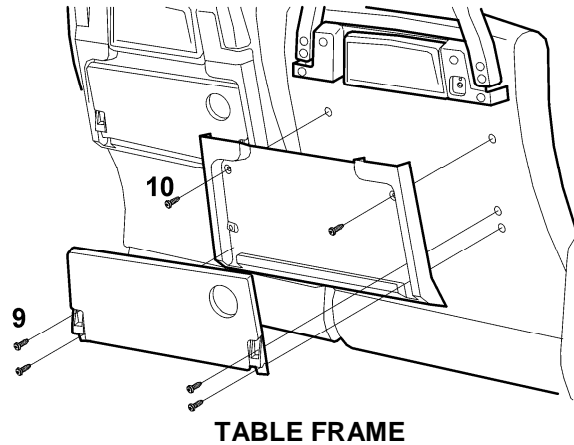
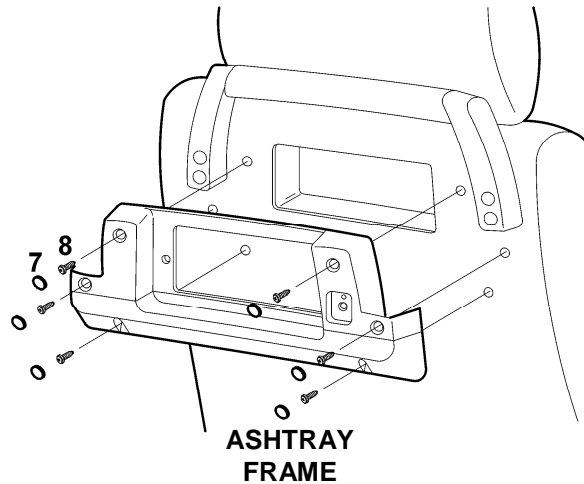
ASHTRAY



GRAB HANDLE



HOOK



DISMOUNTING

Ashtray

1. Open the ashtray. Press the metal spring (1) in the bowl of the ashtray until it opens fully.
2. Release the ashtray and remove it.
3. If necessary, remove the metal spring (3) and fit a new one.
4. If the bowl has to be replaced:
 - a. Use a screwdriver to remove the 2 anti-theft clips (2) in the rear of the ashtray.
 - b. Remove the ashtray bowl.
 - c. Fit the new bowl to the ashtray and insert the anti-theft clips (2).

Grab Handle

1. Break the four caps (1) covering the four screws (2).
2. Release and remove the grab handle.

Hook

1. Release the screw (6) fastening the hook.
2. Remove the hook.

Ashtray Frame

1. Remove the ashtray, as described above.
2. Remove the hook, as described above.
3. Break the six caps (7) covering the screws (8).

	WORKSHOP MANUAL	5 - REPAIR MODULES
	IRATI RANGE	85.06.08

4. Release the frame and remove it.

Table Frame

1. Remove the four screws (9) holding the table.
2. Remove the table.
3. Remove the ashtray frame, as described above.
4. Release the two screws (10) fastening the table frame and remove it.

MOUNTING

Ashtray

1. Take a new ashtray and open it.
2. Screw the new ashtray to the back.
3. Close the lid by pressing downward on the edge of the metal spring while at the same time pressing the lid toward the inside.
4. Check that it opens and closes correctly.

Grab Handle

1. Place the new grab handle and screw into place.
2. Cover the screws with new caps.

Hook


Proceed in reverse order to dismounting.

Ashtray Frame

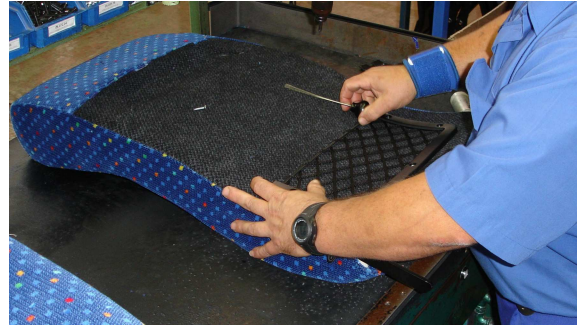
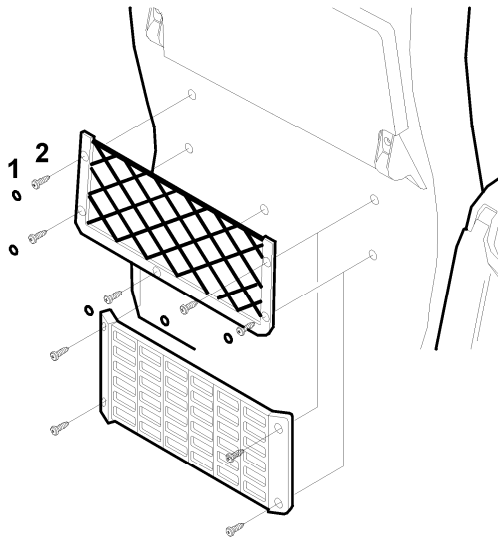
1. Fit the new frame and screw it into place.
2. Insert new caps.
3. Install and screw the ashtray.
4. Screw in the hook.

Table Frame

Proceed in reverse order to dismounting.

	WORKSHOP MANUAL	5 - REPAIR MODULES
	IRATI RANGE	85.06.09

85.06.09	MAGAZINE RACK		
Model:	All	Estimated time:	3,5 minutes
Tools:	Screwdriver	Supplies:	Screw caps
Spare parts:	Ruspa "L" magazine rack (Ref. 000699701-N50) Magazine net (Ref. 000699712-N50)		




DISMOUNTING

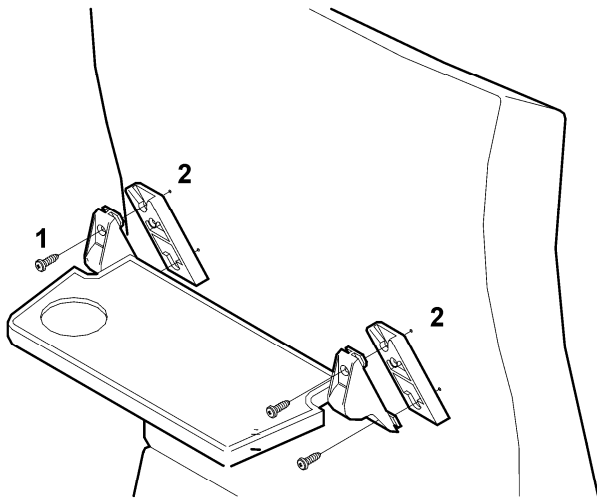
1. Break the five caps (1) covering the screws (2) on the magazine rack.
2. Release and remove the magazine rack.

MOUNTING

1. Place the new magazine rack and screw into place.
2. Insert five new caps.

	WORKSHOP MANUAL	5 - REPAIR MODULES
	IRATI RANGE	85.06.10

85.06.10	TABLE		
Model:	All	Estimated time:	4,5 minutes
Tools:	Screwdriver	Supplies:	None
Spare parts:	Ruspa table (Ref. 002102601-N50) Inverse Ruspa table (Ref. 000699702-N50)		




DISMOUNTING

1. Release the four screws(1) from the table and remove it.
2. Remove the fitting (2) from the table guides by pressing downward.

MOUNTING

Proceed in reverse order to dismounting.

	WORKSHOP MANUAL	5 - REPAIR MODULES
	IRATI RANGE	85.06.11

85.06.11	CUP HOLDER		
Model:	All	Estimated time:	3,5 minutes
Tools:	Screwdriver	Supplies:	None
Spare parts:	Ruspa cup holder (Ref. 000699703-N50)		




DISMOUNTING

Ruspa Cup Holder

1. Release the two screws fastening the Ruspa cup holder to the back.
2. Remove the cup holder.

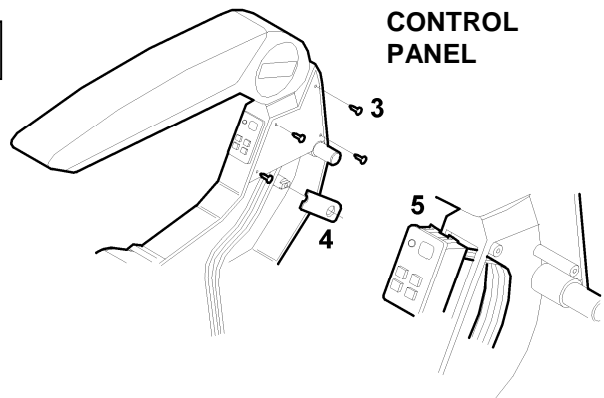
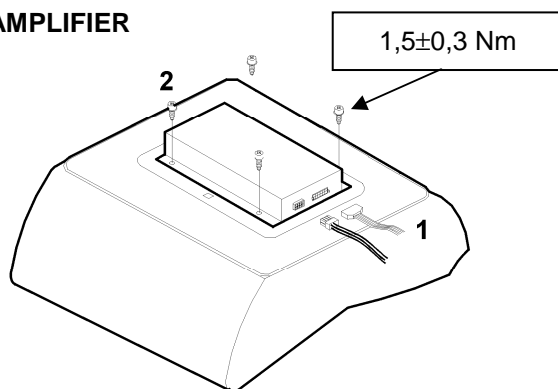
MOUNTING

Proceed in reverse order to dismounting.

	WORKSHOP MANUAL	5 - REPAIR MODULES
	IRATI RANGE	85.06.12

85.06.12	AUDIO SYSTEM		
Model:	All	Estimated time:	10 minutes
Tools:	Screwdriver	Supplies:	None
Spare parts:	Audios (Part made by the coach builder, it is not supplied by Asientos Esteban) Blaupunkt side audio mount (Ref. 008501001) Videobus Actia side audio mount (Ref. 008501002) Aisle side panel trim (Ref. 0085404XX) depending on work number		

AMPLIFIER



DISMOUNTING

Amplifier

1. Disconnect the cables from the amplifier (1).
2. Release the amplifier box (2).

Control Panel

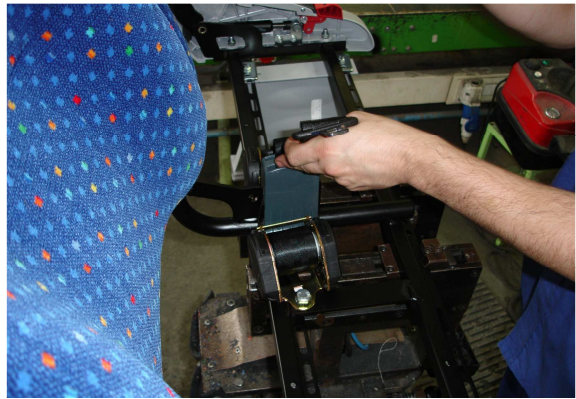
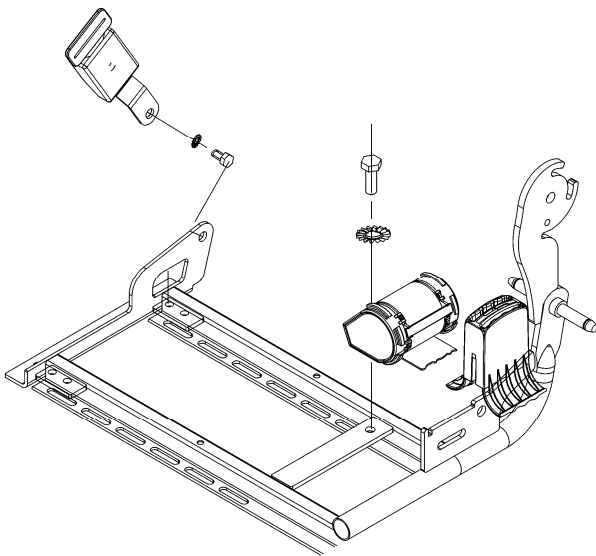
1. Remove the seat cushion. See module 85.02.01.
2. Push the audio unit from the inside and remove it from the outside.
3. Release the metacrylic part to free the wiring.
4. Press the clips fastening the audio control (5) to the side panel and pull the audio control outwards.
5. Release the wiring connection on the audio control.
6. Remove the wiring by releasing the clips.

MOUNTING

Proceed in reverse order to dismounting.


	WORKSHOP MANUAL	5 - REPAIR MODULES
	IRATI RANGE	85.07.01

85.07.01	SEAT BELT		
Model:	All	Estimated time:	6,8 minutes
Tools:	Screwdriver Socket spanner 16-17	Supplies:	None
Spare parts:	Aisle clasp (Ref. 000699913) Side clasp (Ref. 000699907) 2 point roller pin (Ref. 000699835) Double belt guide (Ref. 008540701) Movable belt guide (Ref. 008540702)		




DISMOUNTING

1. Remove the seat cushion. See module 85.02.01.
2. Release the screw with the Grover washer and free the reel (A) and/or clasp (B).
3. Remove the belt from the guide (through the front slot), with the aid of a screwdriver, if necessary.

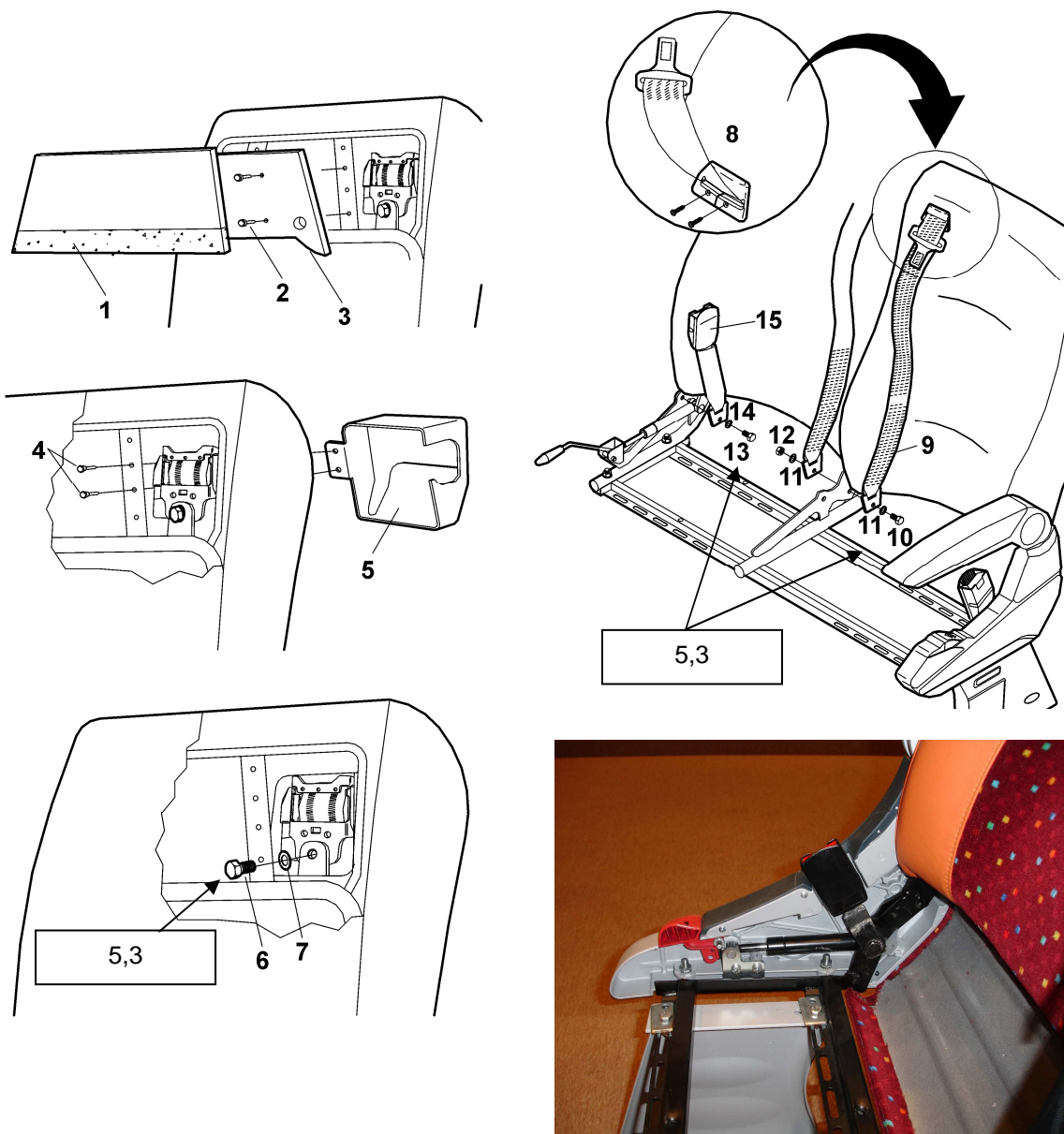
	WORKSHOP MANUAL	5 - REPAIR MODULES
	IRATI RANGE	85.07.01

MOUNTING

Proceed in reverse order to dismounting.

	WORKSHOP MANUAL	5 - REPAIR MODULES
	IRATI RANGE	85.07.02


85.07.02	3-POINT SEAT BELT		
Model:	CL CL Club	Estimated time:	29,5 minutes
Tools:	Socket spanner 16-17 Screwdriver Drill and Ø4 bit Riveter	Supplies:	Glue (Nycoil polyurethane 10x6,5x5 mts) 4x15 rivets
Spare parts:	Retractable belt 3p right (Ref. 000699832) Retractable belt 3p left (Ref. 000699833) Side clasp (Ref. 000699907) Aisle clasp (Ref. 000699913) Right hand reel cover (Ref. 009840408) Left hand reel cover (Ref. 009840409) Outer belt guide (Ref. 002540723)		



DISMOUNTING

Belt

1. Dismount the seat from the coach.
2. Remove the cushions. See module 85.02.01.
3. In the central arm tube, release the end of the seat belt by removing the screw (10), the toothed washers (11) and nut (12).
4. Remove any accessories from the back. Remove the back cover (see module 85.03.02).
5. Remove the outer guide from the belt by releasing the two screws (8).

	WORKSHOP MANUAL	5 - REPAIR MODULES
	IRATI RANGE	85.07.02

6. Remove the secondary upper plate on the back (1) with the aid of a knife.
7. Remove the back plate (3) by drilling the rivets with the Ø4 bit.
8. At the rear of the back rest, release screw (6) and the toothed washer (7) fastening the belt to the back.
9. Remove the plastic case (5) (only if necessary) by drilling the rivets with a Ø4 bit.

Clasp

1. Remove the cushions. See module 85.02.01.
2. Remove the set screw (13) and toothed washer (14).
3. Remove the clasp (15).

MOUNTING

Belt

Proceed in reverse order, remembering the following:

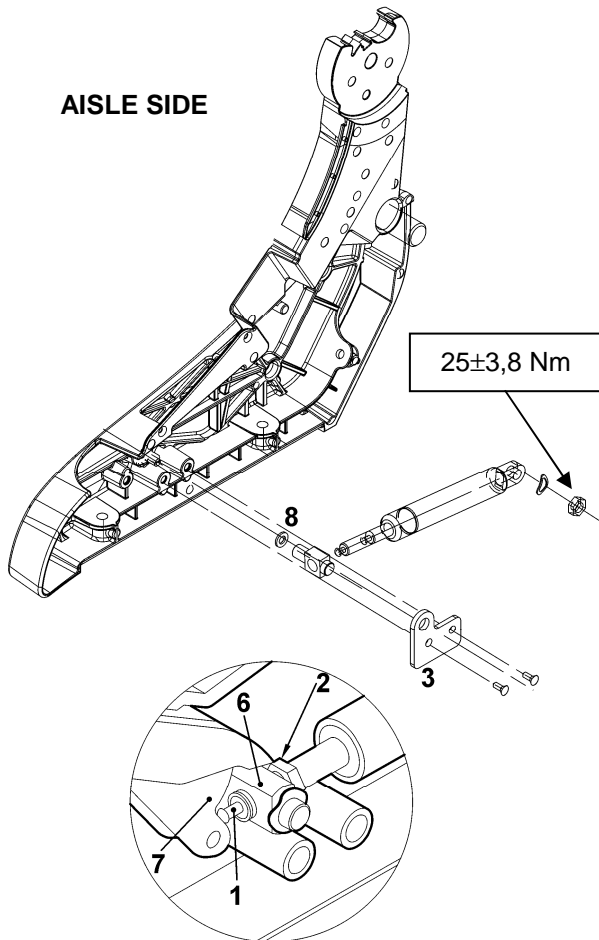
1. The side fitting of the belt should fit into the side gap on the reel cover (5).
2. Fit the rear plate (3) with 4x15 rivets.
3. Brush glue onto the rear plate (3) and fit the secondary plate (1).

Clasp

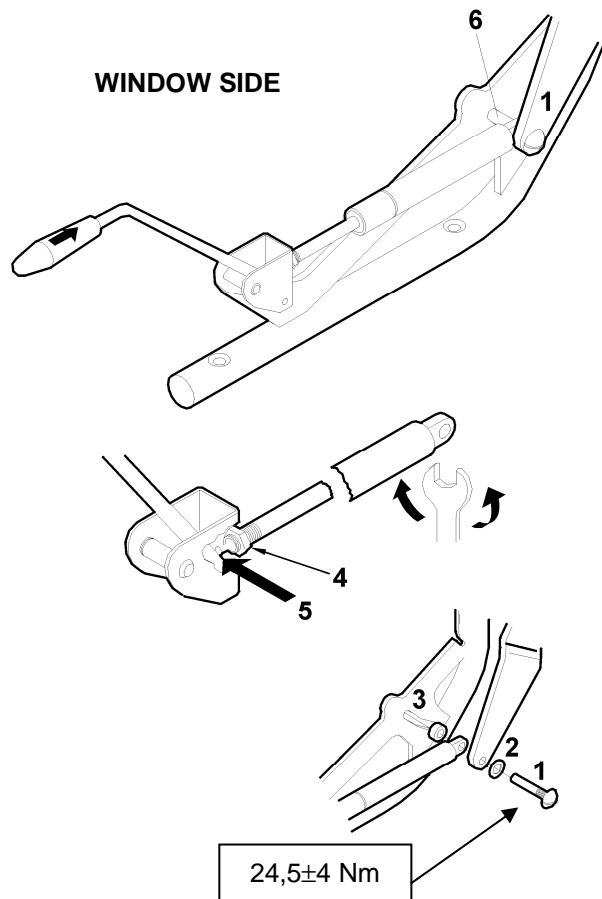
Proceed in reverse order to dismounting.

85.07.03	AISLE SIDE GAS CYLINDER / WINDOW SIDE ARM		
Model:	All	Estimated time:	9 minutes
Tools:	Screwdriver Spanner 10-11	Supplies:	Lubrication (Microlube GL261)
Spare parts:	Gas cylinder (Ref. 000699302)		

AISLE SIDE



WINDOW SIDE



	WORKSHOP MANUAL	5 - REPAIR MODULES
	IRATI RANGE	85.07.03

DISMOUNTING

Aisle Side

1. Remove the seat cushion. See module 85.02.01.
2. Loosen and remove the safety nut (5) and the disk spring (4).
3. Release the two screws on the metal crosspiece fastening (3) and remove it together with the disk spring (8).
4. Remove the gas spring with the crosshead attached.
5. Loosen the screw (2) and undo the crosshead (6).

Window Side

1. Remove the seat cushion. See module 85.02.01.
2. Release the screw (1) from the arm rest and remove it. Remove the Grover washer (2) and the spacer bush (3).
3. Fold the back to free the base of the spring sleeve.
4. Loosen the lock nut (4) and undo the gas spring.

MOUNTING

Aisle Side

1. Screw the new spring into the crosshead until one or two threads show above.
2. In order to adjust the position of the new gas spring, mount the spring and crosshead unit, checking that the long arm of the crosshead enters the housing on the side panel and leaves the other end of the spring free, i.e. it is not placed in the backrest bolt.
3. Turn the gas spring until the rod (1) rests against the recliner control (7) with no clearance space between these. Tighten the screw (2) and remove the unit again.
4. Grease the long arm of the crosshead and its housing, also the backrest bolt.
5. Mount the spring and crosshead unit, but this time, place the backrest bolt in the hole at the base of the spring.
6. Place the disk spring (8) in the crosspiece (6), mount the metal crosspiece fastening (3) and tighten.
7. Mount the washer (4) and tighten the nut (5). Turn the nut (5) back sufficiently to allow the spring to turn freely in the back.
8. Check that it operates correctly.
9. Remove the seat cushion. See module 85.02.01.

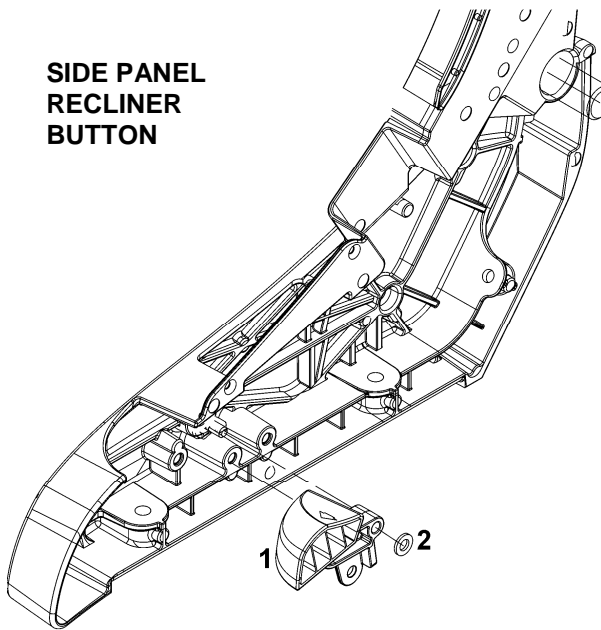
	WORKSHOP MANUAL	5 - REPAIR MODULES
	IRATI RANGE	85.07.03

Window Side

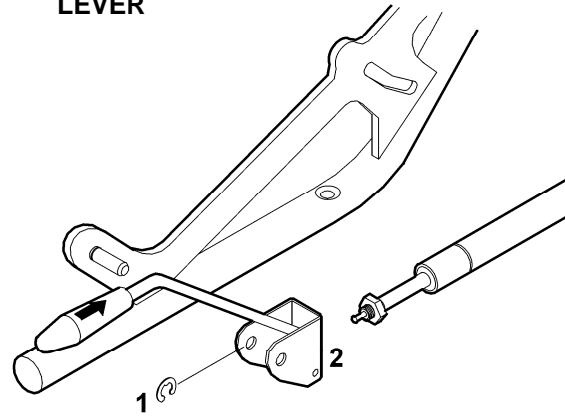
1. Screw the new spring into the lever until the rod on the spring rests against the recliner lever and there is no clearance space between them (5).
2. Tighten the lock nut (4).
3. With a spanner, turn the spring sleeve until the hole at the base faces the slot (6) in the arm.
4. Thread the screw (1) with the washer (2) on the arm rest so that the shaft of the screw catches the spring and enters the slot (6) on the arm, with the spacer bush (3) resting between them.
5. Check that it operates correctly.
6. Replace the seat cushion. See module 85.02.01.


85.07.04	SIDE RECLINER BUTTON / ARM RECLINER LEVER		
Model:	All	Estimated time:	8 minutes
Tools:	Screwdriver Spanner 10-11	Supplies:	None
Spare parts:	Left-hand recliner lever (Ref. 002104004) Right-hand recliner lever (Ref. 002104005) Left hand aisle recliner handle (Ref. 008566401) Right hand aisle recliner handle (Ref. 008566402) Aisle recliner mechanism (Ref. 008506101)		

**SIDE PANEL
RECLINER
BUTTON**



**ARM
RECLINER
LEVER**



	WORKSHOP MANUAL	5 - REPAIR MODULES
	IRATI RANGE	85.07.04

DISMOUNTING

Side Panel Recliner Button

1. Remove the seat cushion. See module 85.02.01.
2. Remove the gas cylinder. See module 85.07.03.
3. Remove the two snap-on washers (2) that hold the recliner button (1) and remove it.

Arm Recliner Lever

1. Remove the seat cushion. See module 85.02.01.
2. Remove the gas spring. See module 85.07.03.
3. Remove the safety washer (1) fastening the recliner lever to the arm.
4. Remove the recliner lever unit (2) – arm bolt.

MOUNTING

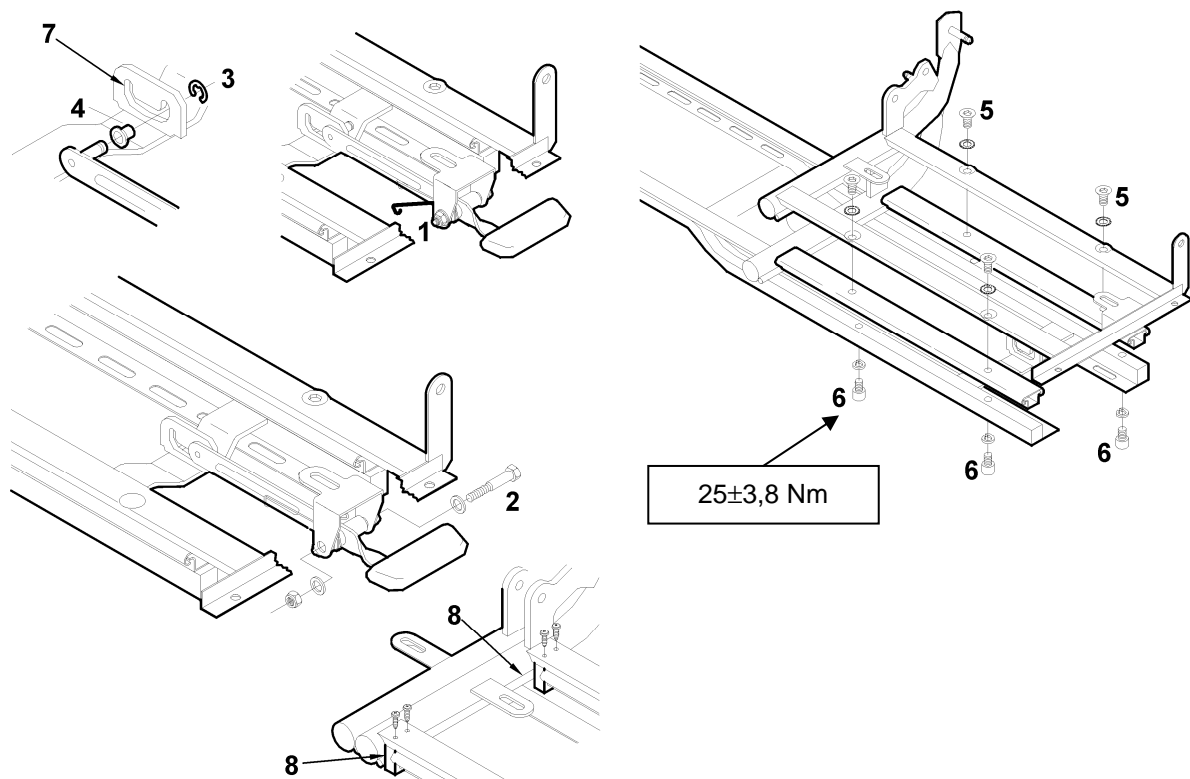
Side Panel Recliner Button

1. Place the button (1) in the shaft.
2. Insert the two snap washers (2).
3. Mount the gas cylinder. See module 85.07.03.
4. Check that it operates correctly.
5. Replace the seat cushion. See module 85.02.01.

Arm Recliner Lever

Proceed in reverse order to dismounting.

85.07.05	SLIDING SEAT FRAME		
Model:	All	Estimated time:	11,5 minutes
Tools:	Screwdriver	Supplies:	None
Spare parts:	Platform (Ref. 0085011XX) depending on work number Movable seat guide (Ref. 001206201) Sliding stop (Ref. 002143701) Fastening spring (Ref. 009509401) Black grab handle (Ref. 009940029-N50) Zinc runner (Ref. 002101004-ZNB)		



DISMOUNTING

1. Remove the seat cushion. See module 85.02.01.
2. Use a tool to release the spring (1) from the lever.
3. Release the screw-shaft (2) from the lever and take out the spring.
4. Remove the split pin (3) from the spring lever and remove the lever. Remove the bush (4).
5. Remove the four screws with toothed washers (5) that hold the sliding platform to the slides.
6. Remove the fixed runners by undoing the four screws and washers (6).

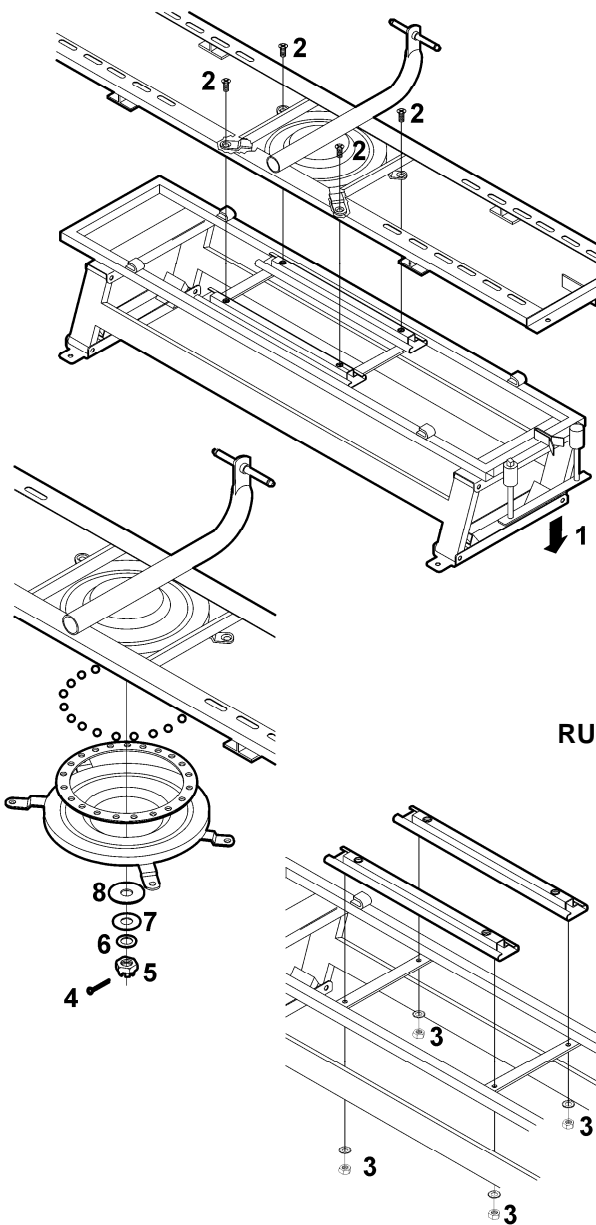
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MOUNTING

1. Grease the slot (7) where the lever pin is housed.
2. Place a bush (4) in the lever pin.
3. Fit the lever into its housing, but first place the pin and bush into the slot (7). Fit the split pin (3).
4. Mount the lever and the spring (1) by fixing these with the screw-shaft (2), two washers and a safety nut.
5. Check that it operates correctly.
6. Mount the runners on the frame with four Allen screws and safety washers (6).
7. Mount the sliding platform on the runners with four screws (5) and toothed washers.
8. Fit two plugs (8) between the arm and the runners and tighten.
9. Check that it operates correctly.

85.07.06	SWIVEL SYSTEM		
Model:	All	Estimated time:	30 minutes
Tools:	Screwdriver Socket spanner 12-13	Supplies:	Lubrication (Microlube GL261)
Spare parts:	Swivel platform (Ref. depends on work number)		

SLIDE



BEARING
CAGE

RUNNERS

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DISMOUNTING

Slide

1. Remove the cushions. See module 85.02.01.
2. Release the seat by pressing the anchoring pedal (1). Rotate the seat $\frac{1}{4}$ turn.
3. Remove the swivel mechanism by undoing the 4 screws (2) fastening it to the guides.
4. Remove the slides.

Runners

1. Dismount the slide, see above.
2. Release the 2 screws and toothed washers (3) fastening each runner from the lower part of the frame.

Bearing Cage

1. Dismount the sliding seat mechanism, see above.
2. On the lower part of the frame, raise the pin (4) and remove it.
3. Unscrew the cotter pin (5), remove the flat washer (6), friction washer (7) and the spring from the disc (8) and remove the lower cover carefully to prevent the bearing cage and bearings from falling.

MOUNTING

Proceed in reverse order to dismounting.




Check that the guides and the bearings are well lubricated.



6 – CLEANING MANUAL

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6.1 MAINTAINING AND CONSERVING VELOUR

6.1.1 Regular Cleaning

Gentle cleaning every week with a vacuum cleaner will clean and prolong the life of the velour.

Take care not to rub excessively with the vacuum cleaner attachments, and to move the cleaner backward and forward (in the direction of and against the pile) with smooth, regular movements.

6.1.2 Periodic Thorough Cleaning

A thorough cleaning is recommended approximately every six months, depending on the amount of accumulated dirt. We recommend for this:

- For wool pile velour and mixtures, damp cleaning is advised by the "spray-removal" method, which should preferably be carried out by specialist cleaners using the best method for each case (wool shampoo for woollen fabric, or similar).
- Synthetic velour (acrylic, polyester, etc.) can be dry cleaned using the appropriate solvents. It is also advisable to consult dry cleaning specialists in this case to carry out the cleaning.
- Another alternative for natural and synthetic velour is to clean with dry foam. Make sure it is a good quality and read the instructions for use. Once again, it is advisable to consult a specialist.
- When using steam cleaning machines, "Vaporetta" or similar, take great care not to let drops of water forming in the attachments on the machine to fall onto the velour and mark it. The best thing to do is consult a specialist cleaner.

6.1.3 Treating Stains

When stains are found, the most important thing is to act quickly before it dries, as they are very difficult to remove once dry.


If the stain is liquid or oily, it must be absorbed quickly using a clean cloth or sponge. With solids or semi-solids, first remove the excess with a spatula, or similar.

If the stain has already dried, brush it lightly to remove the excess, and then wipe with a damp sponge or cloth.


Always work from the edge to the centre of the stain in order to stop it from spreading.

A list of treatments for the most common stains is given below as a continuation of the actions described above:

- **Oil.** Cover the fresh stain with talcum powder or stain paste. Leave for a few hours. Brush. If the stain is dry, use stain remover.
- **Tar or pitch.** With benzene or stain removing solvent.
- **Biro.** Locally with alcohol.
- **Shoe polish.** Dissolve with ethylic alcohol, press with a damp cloth and wash with neutral soap.

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	IRATI RANGE	

- **Coffee/Cocoa.** With benzene or stain removing solvent.
- **Cola.** Several times with acetone or nail varnish remover and then wash.
- **Grease.** Use methylated spirits, white spirit, or similar. If it persists, use stain remover.
- **Glue.** Compounds are very difficult to remove, once dry; therefore, treat before drying, if possible, with acetone.
- **Lipstick.** Locally with alcohol.
- **Perfume / Make-up.** Locally with warm glycerine and rinse with water and a neutral detergent.
- **Paint.** Clean immediately with a clean cotton cloth soaked with solvent; if it is an oil based paint, use turpentine or a substitute; for synthetic paint: use a suitable solvent. Dust with talcum powder and brush when dry.
- **Chewing gum.** Treat with ethyl alcohol and remove the remains of the gum carefully.
- **Chocolate.** Use warm water and soap or neutral shampoo and then rinse.
- **With stubborn cases.** use benzene or stain remover.
- **Nail varnish.** Clean with acetone or nail varnish remover. Then wash and rinse.
- **Fruit.** Wash with a neutral detergent solution. Use dry foam if the stains persist.
- **Milk.** With detergent or neutral upholstery shampoo.
- **Ice cream.** Wash with warm water and treat with stain remover, if necessary.
- **Rust stains.** With special rust stain remover or lemon juice.
- **Grass.** Dampen with alcohol and wash.
- **Urine.** Use a neutral upholstery detergent. If stains persist, consult a specialist.
- **Resin.** Remove the solid part and treat with solvent (turpentine oil) and wash.
- **Blood.** Wash rapidly with warm water and neutral detergent. If it has dried, repeat the treatment several times.
- **Sweat.** Brush with vinegar or diluted alcohol.
- **Tea.** See coffee and cocoa.
- **Ink.** Soak in alcohol and wash with a neutral detergent solution.
- **White wine.** Rinse with cold water immediately and then wash.
- **Red wine.** Wash immediately after treating the the stain locally with lemon juice.
- **Vomit.** Wash with detergent or upholstery shampoo and rinse.

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6.2 MAINTAINING LEATHER

In order to prevent a build-up of dirt, it is essential to clean leather periodically with a clean cloth dampened with distilled water. In case of spillage, wipe up immediately with a cloth, but do not press on the leather. It is recommended to use professional products and leather cleaners that do not contain alcohol.

6.3 CLEANING PLASTICS

On seats with plastic frames. Carry out preliminary cleaning with a sponge wettened in soapy water. Once dry, spray the surface to be treated with a high Ph alkaline detergent for plastic surfaces, rubbing energetically with a dry, clean cloth. On specially rough surfaces, also brush to remove ingrained dirt. Polish periodically with a plastic renovator.

6.4 PROTECTING PAINTWORK

When cleaning the interior of the vehicle, use water only or with a neutral household cleaning product heavily diluted. Do not use acids or strong liquids such as bleach or sal volatile. Do not use abrasive or caustic products, nor organic solvents.

6.5 CLEANING ASHTRAYS

Open the lid by pressing the spring downward (if there is a catch). Rock the holder (ashtrays, anti-theft) or remove it (removable ashtrays) and empty the contents. Remove the residues by rubbing the walls with detergent diluted in water. Replace the cleaned holder, fitting it into the ashtray slot, back first, and close the lid.



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