

WORKSHOP MANUAL

PASSENGER SEAT

CIVIC

INDEX

1.- INTRODUCTION	
Presentation	1.1.0
2.- GENERAL INFORMATION	
Main features	2.1.0
Components description	2.2.0
3.- TROUBLESHOOTING	3.1.0
4.- REPAIR MODULES	
Upholstered cushion, cushion foam and cover	4.2.0
Handle/ seat finishing	4.2.0
Upholstered backrest, backrest foam and cover	4.3.0
Seat frame	4.3.0
Seat shell	4.3.0
Leg	4.4.0
Side fastening	4.4.0
Side plate/ triangle logo	4.4.0
Bar clamp	4.5.0
Armrest	4.5.0
Safety seat belt	4.5.0
5.- TIGHTENING TORQUE	5.1.0
6.- PLACEMENT IN SERVICE	6.1.0
7.- MAINTENANCE INTERVALS	7.1.0
8.- MAINTENANCE INSTRUCTIONS	
Maintenance and keeping of moquetes	8.1.0
Plastics cleaning	8.3.0
Paintings protection	8.3.0
9.- TABLE OF REPAIR TIMES	9.1.0

ALPHABETIC INDEX

A				R		
Armrest, change	4.5.0			Repair, modules of	1.1.0 4.1.0	
B				Repair, times table of	1.1.1 9.1.0	
Backrest cover, change	4.3.0			S		
Backrest foam, change	4.3.0			Seat, description of	2.2.0	
Bar flange, change	4.5.0			Stains, treatment of	9.1.0	
Backrest shell, change	4.3.0			Seat frame	4.3.0	
C				Safety seatbelt	4.5.0	
Control elements and components	2.1.0			Side frame panel, change	4.4.0	
Cushion cover, change	4.2.0			Side fastening, change	4.4.0	
Cushion, maintenance of	8.1.0			Service, placement in	1.1.1 7.1.0	
Cushion foam, change	4.2.0			T		
F				Tightening torque, table	5.1.0	
Fastenings, failures in	3.1.0			Textile, problems of	3.2.0	
Foams, maintenance of	8.1.0			Troubleshooting	1.1.0 3.1.0	
Frame, description of	2.2.0			U		
G				Upholstered cushion, change	4.2.0	
General information	1.1.0	2.1.0			Upholstered backrest, change	4.3.0
L						
Leg	4.4.0					
Legs and fastenings, description of	2.2.0					
M						
Main features	2.1.0					
Maintenance, instructions of	1.1.1	9.1.0				
Maintenance, intervals of	1.1.1	8.1.0				
Moquette, fading of	3.1.0					
Moquettes, periodical cleaning of	9.1.0					
Moquettes, regular cleaning of	9.1.0					
Moquettes, maintenance of	8.1.0	9.1.0				
P						
Paintings, protection of	9.3.0					
Plastics, cleaning of	9.3.0					

1.- INTRODUCTION

1.1 - PRESENTATION

This manual has been designed to provide the customer and the service personnel, with information as well as maintenance and repairing instructions of the ESTEBAN seats.

To get familiar with the different seat parts, with their assembly and disassembly is important for the service technician to study in detail these manual instructions and to use it as a reference item when making maintenance and repairing works.

This manual has a modular design containing the following sections:

- General information
- Troubleshooting
- Repair modules
- Tightening torque
- Placement in service
- Maintenance intervals
- Maintenance instructions
- Table of repair times

General Information

The main seat components are described.

Failings location

A guide chart is included in order to find out the failures with their solution guidelines. The information of the chart serves to localize and diagnose the most common failures. Some of the failures described in the chart could not occur on your specific seat, but they may occur in the same models of earlier versions.

Repairing modules

The disassembly operations of the different seat components are described.

Tightening Torque

The tightening pairs that should be applied to the screwed joints of the different seat elements & also to the ones of the seat with the bus anchorages, are indicated.

Putting into service

The guidelines to be followed after any important seats repair, as well as before the delivery of the equipment to the customer following the first assembly, are indicated.

Maintenance Intervals

The seat parts requiring regular maintenance or periodical reviews with the time intervals between ones the others are indicated. The information is shown by a chart with two entrances. Vertically, all the components with the operation to be performed and horizontally the operations are set forming groups of regular maintenance and checking operations, in order to carry out a programmed maintenance with a minimum effort, having the guarantee that all points requiring a regular attention will be revised.

Maintenance Instructions

The guidelines to be followed in order to achieve a correct upholsteries and leather maintenance are indicated, providing the instructions to remove stains, for the plastics and ashtrays cleaning and for the paintings protection.

Chart of repairing times

The average unit times spent in the operations of the most common components change are indicated. These times will be used to invoice the services for guarantee repairs.

2.-GENERAL INFORMATION

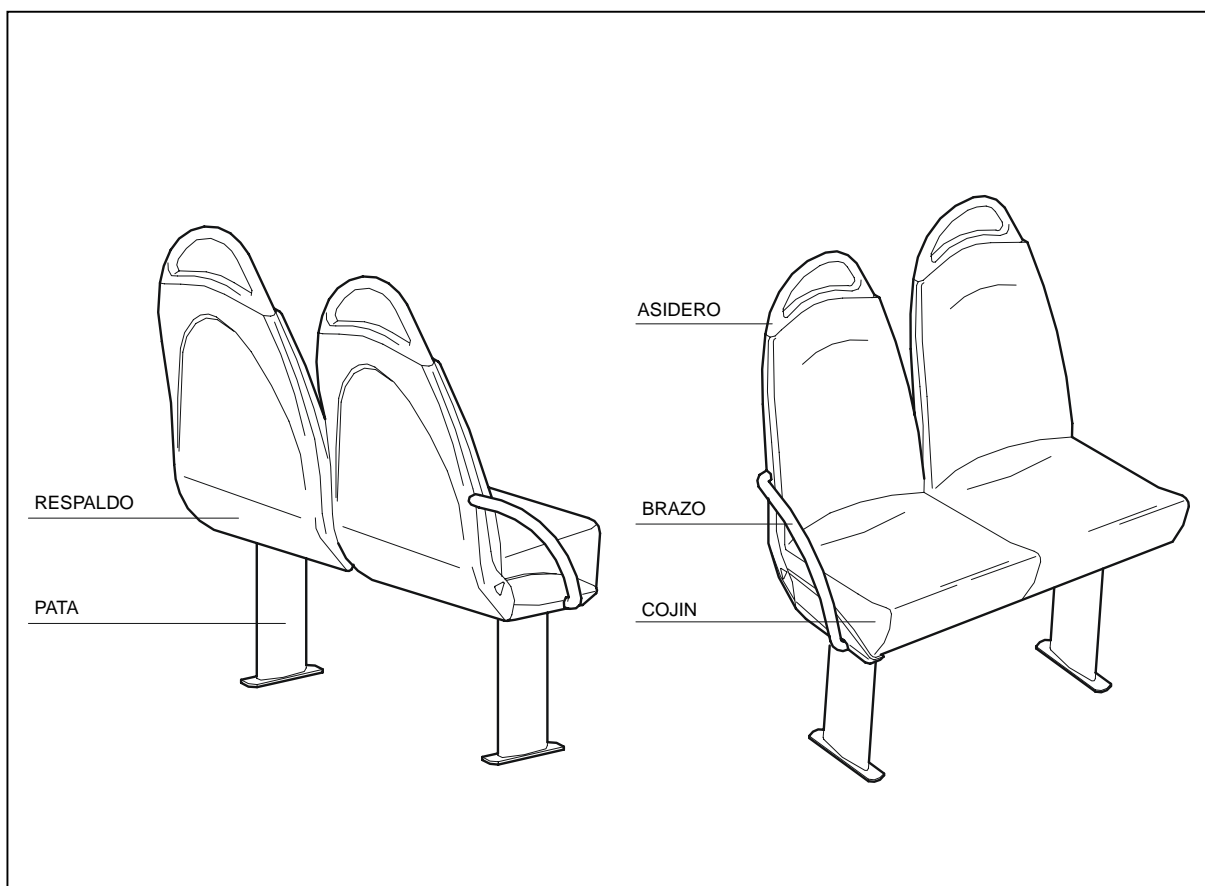
2.1- MAIN FEATURES

TYPE: Passenger seat for bus
MODEL: CIVIC

MATERIALS:

- Structure: *Made of steel.*
- Paint: *Electrostatic*
- Filling: *Injected with polyurethane foam.*
- Upholstery: *Made of wool pile and mixtures or synthetic pile.*

CONTROL ELEMENTS AND COMPONENTS



2.2.- DESCRIPTION OF COMPONENTS

The seat comprises the following elements: platform, leg, seat cushion, handle and armrest.

2.2.1. PLATFORM

- It is an structure, formed by metallic longitudinal beams, welded between them to which a frame is also welded where the components of the backrest, seat cushion, headrest, leg, fastenings and side parts are fixed.
- Painted in black epoxy powder.

2.2.2. LEG

- The leg is joined to the trestle by means of screws to the seat frame.
- Painted in epoxy powder.

2.2.3. SEAT

- Is formed by two plastic shells, one for the backrest and the other for the seat cushion, with their corresponding foams and covers.
- The cushion stuck to the cushion plate and upholstered with a seat cushion cover.
- The cover closes the cushion by means of profiles located at the rear cushion plate.
- The backrest is produced of polyurethane foam, containing a metallic insert and upholstered with a backrest cover.
- The cover closes the backrest with velcro in the lower cushion part.
- He straps of the covers are made by a cloth in which is placed a wide hem rib, located below the ribs inserted in the foams.

2.2.4. HANDLE

- Is made of a metallic structure formed by two ribs and a plastic handle, screwed to th structure.

2.2.5. ARMRESTS

- Is a plastic piece with two metallic inserts just on its joint point to the seat.
- This piece is fixed to the frame by screws.

3.- TROUBLESHOOTING

TABLE FOR TROUBLESHOOTING

Description of the problem	Nº	Inspection	Cause	Solution	Remark
Noises from the trestle	1	The shells securing is loose	Screws have come loose.	Retighten screws.	
	2	Armrests securing is loose.	Screws have come loose.	Retighten screws.	
		Side cover securing is loose.	Screws have come loose.	Retighten screws.	
	3	Leg securing is loose.	Screws have come loose.	Retighten screws.	
	4	Side securing is loose.	Screws have come loose.	Retighten screws.	
Noises from the fastenings	5	A creaking is heard in the side securing area on pushing the backrest.	The securing screws are loose.	Retighten screws.	
	6	A strong vibration on hitting the backrest from behind	Securing is deformed and securing screws touch wall rail.	Change securings.	Check securing screws do not touch wall rail.
Fitted carpet loses its colour.	7	When pressing the pile with the finger and displacing it in the inverse direction to the pile, inner colour is deeper.	The fitted carpet is dirty.	Clean the fitted carpet	Please go to specialised companies.
	8	The most protected parts of the fitted carpet have more vivid colours	The fitted carpet is dirty.	Clean the fitted carpet	Please go to specialised companies
	9	The colour of the fitted carpet changes depending on the angle from which it is observed.	The pile is flat due to incorrect maintenance.	Undertake correct maintenance.	See instructions for maintenance and conservation of fitted carpets.

4.- REPAIR MODULES

The instructions for the repair of seats as described under this section, are grouped under repair modules.

Modules are structured into layers, in such a way that modules describing disassembly of external parts are incorporated as such under the modules describing disassembly of internal parts.

Each module gives a detailed description of the disassembly operation for a specific element.

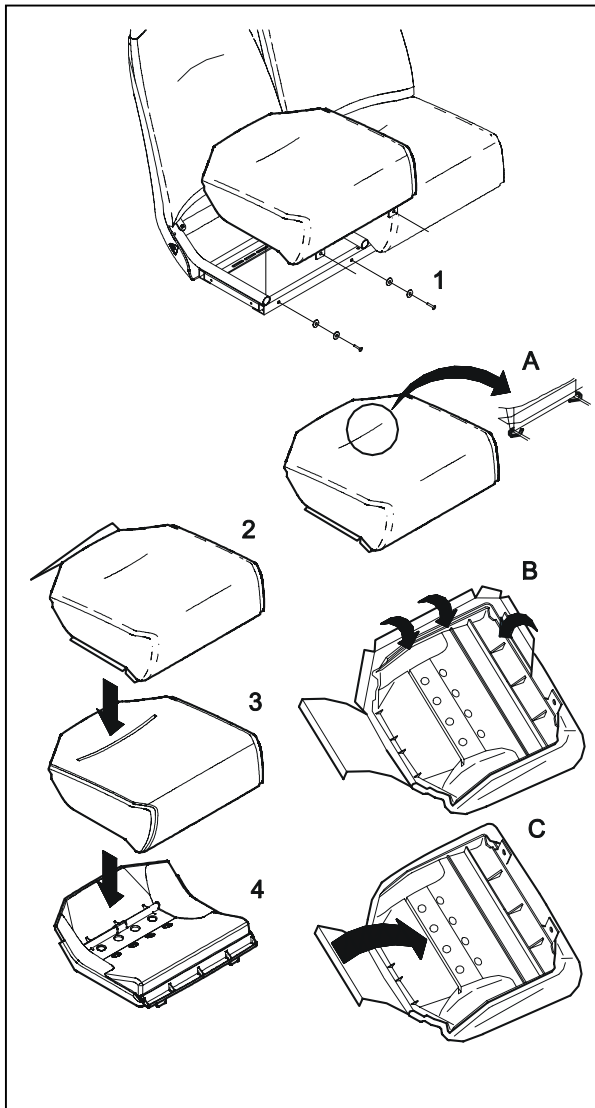
Assembly operations are the exact steps, but in reverse, hence they are not described except for those cases where assembly requires special care, in which case, a detailed description of the assembly is included.

The diagrams contained in this manual normally represent the double seat on the right side, in the direction of the movement of the bus. The diagrams corresponding to details on the side panels normally represent the right side by the window, or the right-hand side of the aisle. Repair of the other seats is undertaken in the same manner.

As regards transport and storage, care must be taken to ensure that the seat is placed so that it rests on the metal structure, and never on the cushion or foam of the backrest, and it must be conveniently protected so that the painted parts do not scratch and that components do not bang against anything.

When substituting parts, only original spares will be used, according to indications contained in the corresponding manual for spare parts. Utilisation of spares that are either not original, or else not approved by ESTEBAN, can result in incorrect performance of the equipment, or else a premature deterioration of the same.

Utilisation of spares that are not original, may entail the loss of guarantee of the seat and ESTEBAN shall decline any responsibility for the damages that may arise due to such a use.



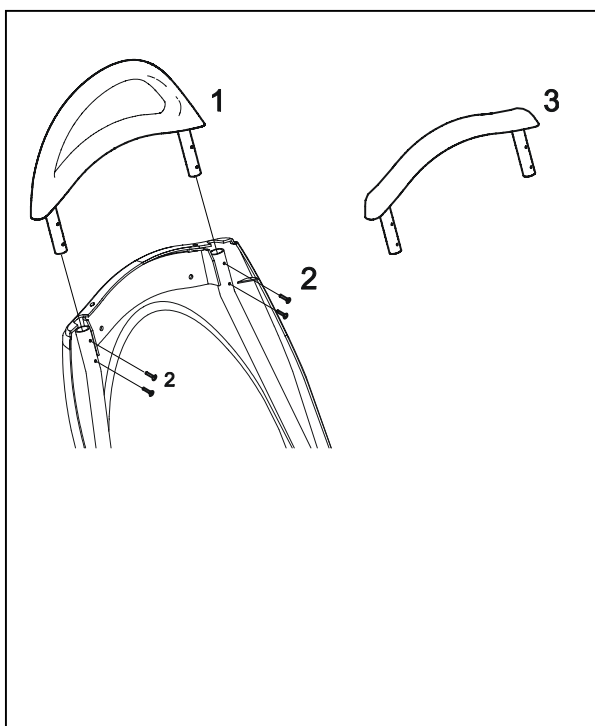
4.01.-Uppholstered cushion, foam and cushion cover

Disassembly

- 1.-Loosen the screws of M4x15 and their star and flat nuts of the cushion set from the frame and remove it (1).
- 2.-Extract the profiles securing the cover to the cushion plate (B)
- 3.-Remove foam (3) with the cover (2) of the cushion plate (4).
- 4.-Remove cover (2), taking care of removing the hem rod from its hollow (A).

Assembly

Reverse the procedure, taking care when placing the upholstered cushion introducing first the bottom part fondo.



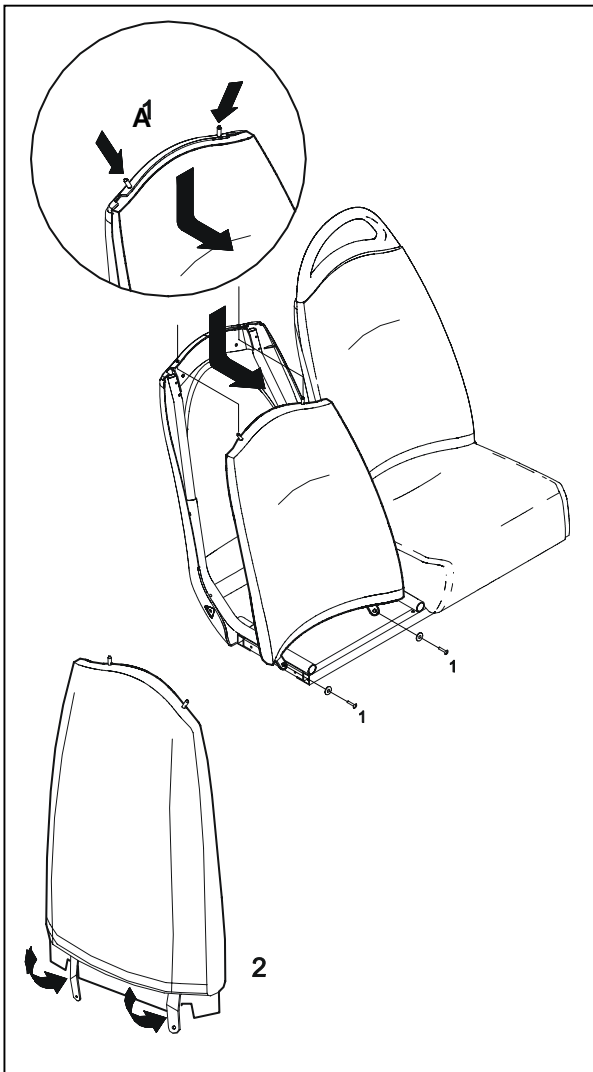
4.02.-Frame handle

Disassembly

- 1.-Disassemble upholstered cushion (module 4.01).
- 2.-Disassemble upholstered backrest (module 4.03).
- 3.-Unscrew the four threaded screws 8 x 1/2" (2) securing the handle (2) or the seat top (3) to the structure and remove it away.

Assembly

Follow reverse process.



4.03.- Upholstered backrest, foam and backrest cover

Disassembly

- 1.-Disassemble upholstered cushion (module 4.01).
- 2.-Unscrew the two screws M6X16 (1) securing the upholstered backrest to the frame and remove it.
- 3.-Loosen velcro (2) fastening the cover to the backrest plate
- 4.-Separate the cover of the backrest foam taking care of extracting the rod hem from its hollow.

Assembly

Follow reverse process, fitting the upper rods of the upholstered backrest (A) in the upper part of the frame set and fixing the slots of the backrest lower sideburns to the screws welded of the frame.

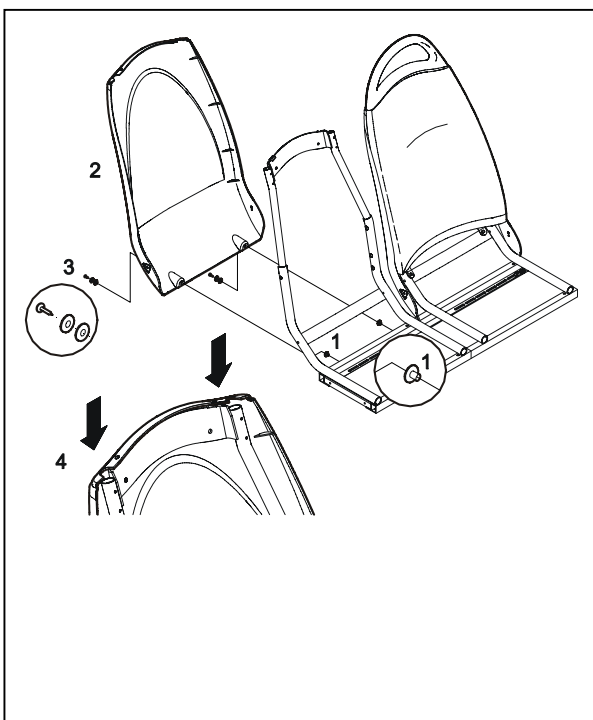
4.04.-Seat frame.

Disassembly

- 1.-Disassemble upholstered cushion (module 4.01).
- 2.-Disassemble upholstered backrest (module 4.03).
- 3.-Disassemble handle or seat top (module 4.02)
- 4.-Disassemble armrest (if exists) (module 4.10)
- 5.-Disassemble backrest plate (module 4.04).
- 5.-Disassemble safety belt (module 4.11).
- 6.-Disassemble leg (module 4.06).
- 7.-Disassemble side fastening (module 4.07).
- 8.-Disassemble side plate (module 4.08)

Assembly

Follow reverse process



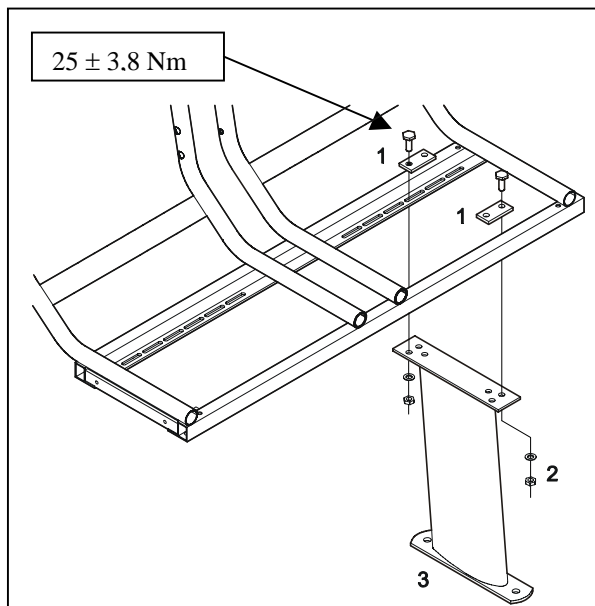
4.05.-Backrest shell

Disassembly

- 1.-Disassemble upholstered cushion (module 4.01).
- 2.-Disassemble upholstered backrest (module 4.03).
- 3.-Disassemble handle or seat top (module 4.02)
- 4.-Disassemble armrest (if exists) (module 4.10)
- 5.-Release the logotype triangle joining it to the plate (module 4.08)
- 6.-Unscrew the two screws M4x15 , with their star and flat washers (3) securing the shell to the frame and remove the shell out, removing the caps (1).

Assembly

Proceed in reverse manner, fitting it first in the upper part of the frame set (4).



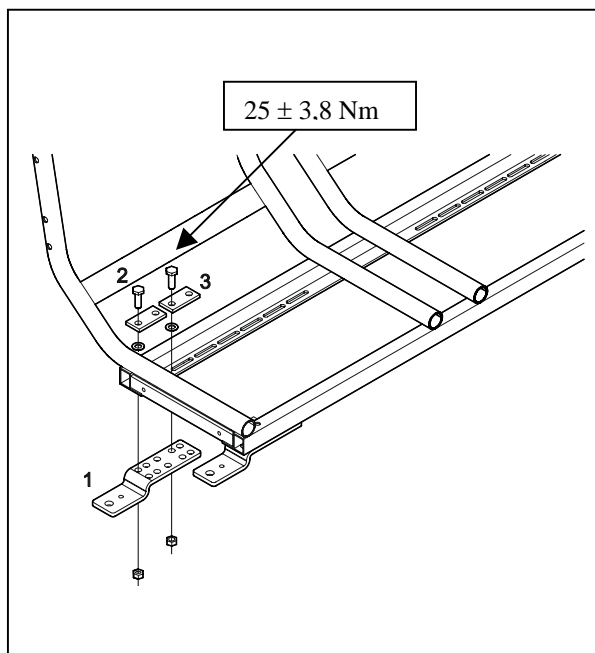
4.06.-Leg

Disassembly

- 1.-Disassembly cushion. (See module 4.01)
- 2.-Unscrew the screws of hexagonal head M8x25 that secure leg. Note the position of iron plates (1) securing leg to ensure subsequent correct assembly.
- 3.-Remove leg.

Assembly

- 1.-Place in the corresponding holes of the platform: two screws of hexagonal head M8x25 (1) with two reinforcement iron plates.
- 2.-Hold, without press, the new leg to platform with two star washers and two hexagonal nuts (2)
- 3.-With the aid of metre and a plastic pounder, adjust leg to the required measure.
- 4.-Screw finally the leg, holding the screw with fix spanner
- 5.-Place cushion.



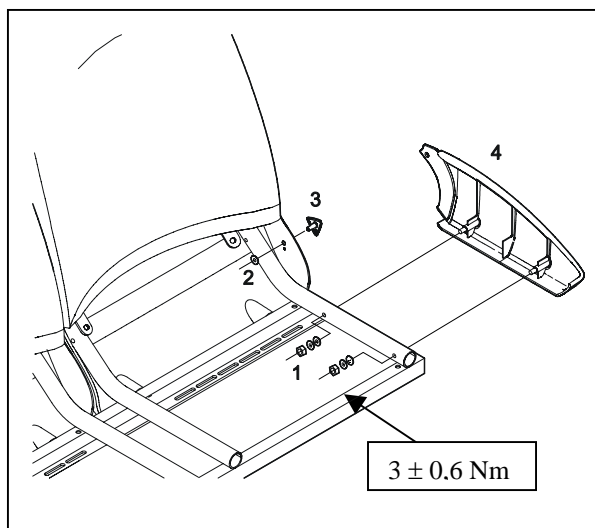
4.07.-Side fastening

Disassembly

- 1.-Remove cushion (See module 4.01).
- 2.-Check type of current fastening and position of the screws.
- 2.-Unscrew the two screws M8x25 of hexagonal head and remove them together with the star washers and the hexagonal nuts (2). Remove side fastening.
- 3.-Repeat the operation with the remaining side fastening.

Assembly

- 1.-Place in the corresponding holes of the platform: two screws of hexagonal head M8x25 (1) with two reinforcement iron plates.
- 2.-Place the two fastenings(1) in the platform with two star washers and two hexagonal nuts. Tighten them slightly.
- 3.-Check with the metre the current measure and adjust gently until the required measure is reached.
- 4.-Press finally the four nuts, holding the screw with the fix spanner.



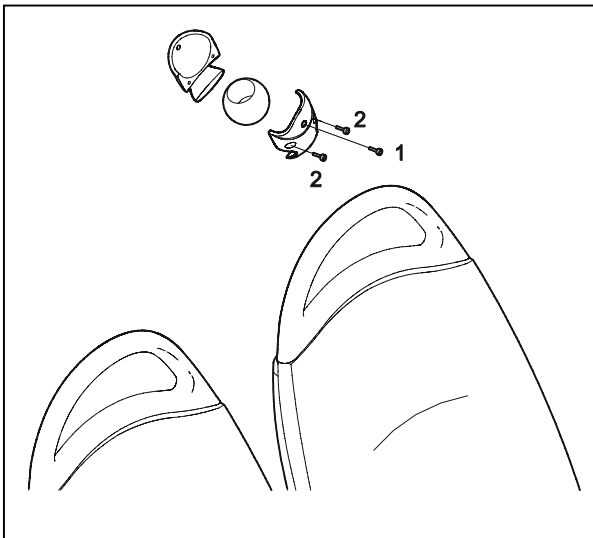
4.08 Side Plate/Logotype triangle

Disassembly

- 1.-Disassembly cushion. (See module 4.01).
- 2.-Disassembly upholstered backrest (module 4.02).
- 3.-Release armrest (if exists) (module 4.10)
- 4.-Release nuts M6 and the star and flat washers securing the plate.
- 5.-Release the jetpress washer of triangle securing the plate to the rear shell.

Assembly

Proceed in reverse manner.



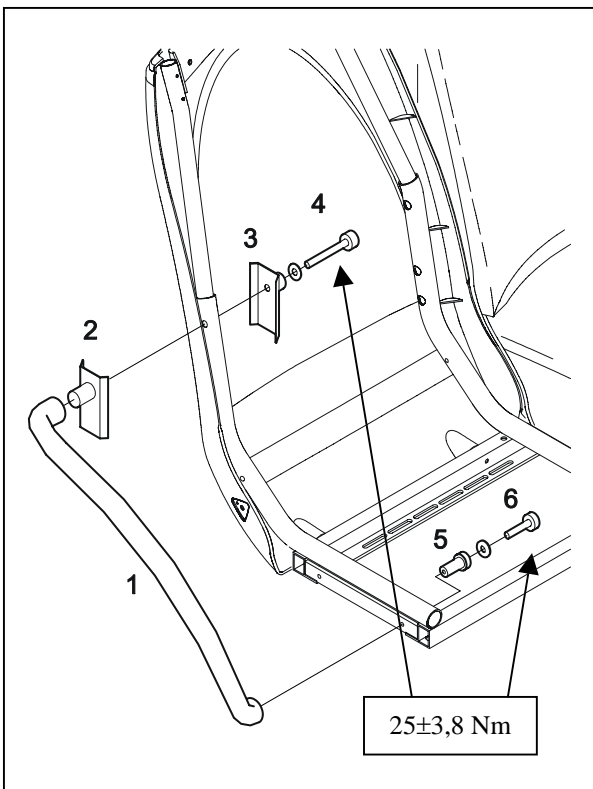
4.09.-Bar flange

Disassembly

- 1.-Release screw M6x70 of reduced hexagonal head (1) fixing the seat to the bar.
- 2.-Release the two screws M5x15 (2) joining the two flange halves to the handle.
- 3.-Remove the flange.

Assembly

Proceed in the reverse manner



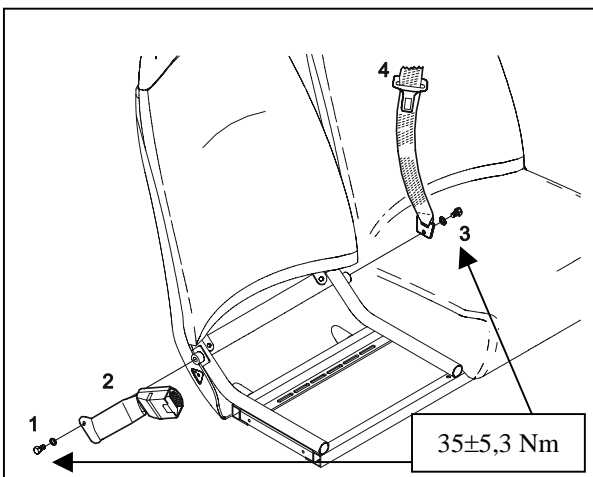
4.10.-Armrest

Disassembly

- 1.-Disassembly cushion. (See module 4.01).
- 2.-Disassembly upholstered backrest (module 4.02).
- 3.-Release the cylindric hexagonal screws M8x70 (4) & M8x45 (6) securing the armrest to the frame.
- 4.-Remove the armrest and remove the screw cup armrest-plate (5) and the inner screw cup set (3) and outer (2) armrest, as well as the star washers M8.

Assembly

Proceed in the reverse manner, taking care of doing a correct positioning of the inner and outer armrest's screw cups.



4.11.-Ventral safety belt

Disassembly

- 1.-Disassembly cushion. (See module 4.01).
- 2.-Disassembly upholstered backrest (module 4.02).
- 3.-Disassembly armrest (if exists) (module 4.10).
- 4.-Disassembly upholstered backrest shell (module 4.05).
- 5.-Release screws (1) & (3) securing the safety belt and buckle to the structure.
- 6.-Remove safety belt (4) and buckle (2), as well as the screws, washers and nuts.

Assembly

Proceed in reverse manner.

5.- TIGHTENING TORQUE

The bolted joints shall be tightened according to the tightening torque indicated in the following table, unless there is a special specification.

This specification for tightening torque is applicable to joints with hexagonal or cylindrical bolts, and steel nuts where the friction coefficient between contact surfaces is 0.12 to 0.14.

Tightening torque based on diameter, pitch and quality of the screw

Nominal Diameter	Pitch	Quality	
		Tightening torque (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"	20threads/inch		35 +/- 5,3

The quality of the bolt is indicated on the head of the same. If in doubt when using a new screw, use quality 8.8.

Joints bolted on the seat	Nominal Diameter	Quality	Remarks
Plate bolted to platform	M6	5.6	3 +/- 0,6 Nm
Safety belt securing to frame	SAE 7/16"		35 +/- 5,3 Nm
Leg bolted to platform	M8	8.8	Upper chart
Side securing bolted to platform	M8	8.8	Upper chart

N.B.: For bolt – plastic, bolt – aluminium, bolt strip joints, lubricated joints and other situations that may be deemed different to those indicated under Tightening Torque, Esteban's specifications will be applied.

6.- INITIAL USE

Before initial use of the seats is made, and after any important repairs have been undertaken, a series of checks must be effected in order to verify the correct condition of components, both as regards its aesthetic appearance and its performance.

These checks are visual for external components.

The total list of checks to be undertaken is indicated under the “Maintenance Intervals” section, under the heading “Checks”.

7.- MAINTENANCE INTERVALS

Maintenance intervals	Regular maintenance					Checkings	
	Every week	Every 3 months	Every 1 year	Every 2 years	Every 3 years	I	Half-yearly
Fitted carpets							
• Gentle vacuum cleaning to absorb the dust	X						
• Beating of the seats, creating an air draught, followed by a thorough & deep dust aspiration of the seats. Please refer to instructions on Maintenance and Upkeep of fitted carpets.		X					
Humid cleaning. Please refer to instructions on Maintenance and Upkeep of fitted carpets.				X			
• Check that there are not problems such as eroding or bare patches due to lack of tissue or decolouring.							X
• Check that there are no stains and that the pile is not flattened.							X
• Check that the seams are not frayed, or that there are no loose threads.							X
• Check that lining has no creases or bags.							X
• Check that the direction of the pile is uniform..							X
Seat							
• Check that vibrations do not cause any noise.							X
• Check cushions and backrests are well secured.							X
Foams							
• Check that foams are not flattened or deformed.							X
Anchoring							
• Retighten side fastening and leg.					X		

8.- MAINTENANCE INSTRUCTIONS

8.1.- MAINTENANCE AND UPKEEP OF FITTED CARPETS

IMPORTANT REMARK: Never use when cleaning and upkeeping the carpets, oxidizing products, reducers, alkaline of pH>8, or acid of pH<6.

8.1.1 REGULAR CLEANING

Daily

Remove dust with the vacuum cleaner and after a wet washing of the corridors and beneath the seats.

Weekly

A gentle vacuum cleaning, will clean and lengthen the life of the fitted carpet.

Every three months

Every three months the seats will be beaten, with a simultaneous (creating an air draft) ambience aspiration of the coach followed by a thorough vacuum of the seats upholsteries.

Take care not to apply too much friction with the vacuum cleaner nozzles and vacuum up and down (with and against the pile) in an even and gentle manner.

8.1.2 PERIODIC THOROUGH CLEANING

Every 2 years in addition to the regular cleaning, a thorough cleaning is convenient, and to this avail we recommend that once already made the quarterly cleaning, continue this cleaning with liquid foam injection, made of water and a neutral agent, applying it with the appropriate industrial machinery.

Once the foam has worked, proceed with a deep vacuum in order to eliminate completely the foam and dirtiness together.

Finally, a drying by means of hot environmental air, impulsed inside the coach with steady renewal.

Note: this type of cleaning is recommended to be preferably undertaken by a professional specialized company.

8.1.3 TREATMENT OF STAINS

In the event that a stain is present, it is very important to act as quickly as possible and before it dries, since otherwise, it shall be very difficult to remove.

If the stain is liquid or greasy, it must be quickly absorbed using a clean cloth, or a sponge. In the event of solid or semi-solid spots, eliminate the excess in the first place, with a spatula or similar appliance.

If the stain has already dried, gently brush it in order to eliminate the waste matter, and afterwards absorb it with a humid cloth or sponge.

In any case, always act starting from the periphery and then continuing with the internal part of the stain, in order to reduce the size.

The following is a list of treatments to be undertaken on the most usual stains after having applied the above-mentioned cleaning operations:

Oil. Cover the fresh stain with talcum powder or special ointment for stains. Leave to stand for some hours. Brush. If the stain is dry, use stain remove.

Tar. Use benzol, or stain removing solvent

Ballpoint pen. Clean locally with alcohol.

Shoe polish. Dissolve with ethyl alcohol, rub with clean cloth and wash with neutral soap.

Coffee/Cocoa. Apply benzene or stain removing solvent.

Cola. Wipe with acetone or nail warnish remover and wash immediately after..

Grease. Use alcohol for burning, turpentine or similar product. (If this persists, use stain remover).

Glue. Compounds, once dried, are hard to eliminate, and therefore must be treated immediately with acetone, when possible.

Lipstick. Clean locally with alcohol.

Perfume / Makeup. Clean locally with hot glycerine and rinse with water and neutral detergent.

Paint. Clean immediately with cotton cloth immersed in solvent; if the stain is due to oil paint, clean with trementine or similar; for synthetic paint: clean with appropriate solvent. Sprinkle with talcum and brush when dry.

Chewing gum. Treat with ethyl alcohol and carefully remove traces of chewing gum.

Chocolate. Use tepid water and soap or neutral shampoo and rinse afterwards. For difficult stains, use benzene or stain remover.

Nail varnish. Clean with acetone or nail warnish remover. After this, wash and rinse.

Fruti. Wash with neutral detergent solution. If stains persist, use dry foam.

Milk. Use detergent or neutral shampoo for upholstery.

Ice cream. Wash with tepid water and treat, if necessary, with stain remover.

Rust. Remove with anti-rust satin remover or lemon juice alternatively.

Grass. Dampen with alcohol and wash.

Urine. Use neutral detergent for upholstery. If this persists, consult a professional.

Resin. Eliminate the solid parts and after this treat with solvent (gum spirit) and wash.

Blood. Clean immediately with tepid water and neutral detergent. If the blood has dried, repeat the operation various times.

Sweat. Brush with vinegar or diluted alcohol.

Tea. Act as per tea and coffee instructions.

Ink. Dampen with alcohol and wash with neutral detergent solution.

White wine. Rinse with cold water immediately and wash after this.

Red wine. Wash immediately after treating the stain locally with lemon juice.

Vomit. Wash with detergent or shampoo for upholstery and rinse.

8.2.- CLEANING OF PLASTICS

For seats with plastic housings. First clean with a sponge dipped in soapy water. Once it has dried, spray the surface to be treated with a high pH alkaline detergent, for plastic surfaces, giving it a strong rub with a dry clean cloth. For particularly rugged surfaces, combine with brushing to remove the adhered dirt. Periodically apply a plastic regenerator in order to make them shinier.

8.3.- PAINT PROTECTION

When cleaning the inside of the vehicle, use water on its own, or mixed with a neutral home cleaning product, with a very low concentration. The use of acid or strong bases, such as bleach or hydrochloric acid must be avoided. Do not treat with abrasive or caustic products, nor organic solvents.

9.-TABLE OF REPAIR TIMES

1		4.01	Change upholstered cushion	(MINUTES)
2		4.01	Change foam/ cushion plate	6,79
3		4.01	Change cushion cover	6,34
4		4.02	Change handle/ backrest top	8,70
5		4.03	Change upholstered backrest	5,75
6		4.03	Change backrest foam	8,55
7		4.03	Change backrest housing	8,55
8	+	4.04	Change frame without armrest & without seatbelt	28,90
9	+	4.04	Change frame with armrest & without seatbelt	32,40
10	+	4.04	Change frame with armrest & with seatbelt	35,90
11		4.05	Change backrest shell with armrest	15,60
12		4.05	Change backrest shell without armrest	12,10
13		4.06	Change leg	8,00
14		4.07	Change side fastening	8,00
15		4.08	Change side plate without armrest	8,55
16		4.08	Change side plate with armrest	12,05
17		4.08	Change triangle	6,35
18		4.09	Change bar clamp	6,05
19		4.10	Change armrest	9,30
20		4.11	Change safety seatbelt with armrest	15,65
21		4.11	Change safety seatbelt with armrest	19,15

Legend:

- + Add 15 minutes per seat to the unit repair time, to cover extraction of the seats outside the bus.

Only add the minutes allocated to removal of one seat from the bus when undertaking various operations on the type of seats that are indicated above.

The times indicated on the table have been established for repair operations in the shop, bearing in mind a situation in which the seat is mounted on the bus.

Each of the times allocated corresponds to a complete assembly and disassembly operation of the part in question.

Certain operations include undertaking of other operations in its process, whose times are separately indicated in this table; nevertheless, the total time involved is not the arithmetic addition of individual times for the same, since, in order to undertake the more complex operations, one must go through the elementary operations, in such a way that the timing it takes to undertake the same, is already included in the others.