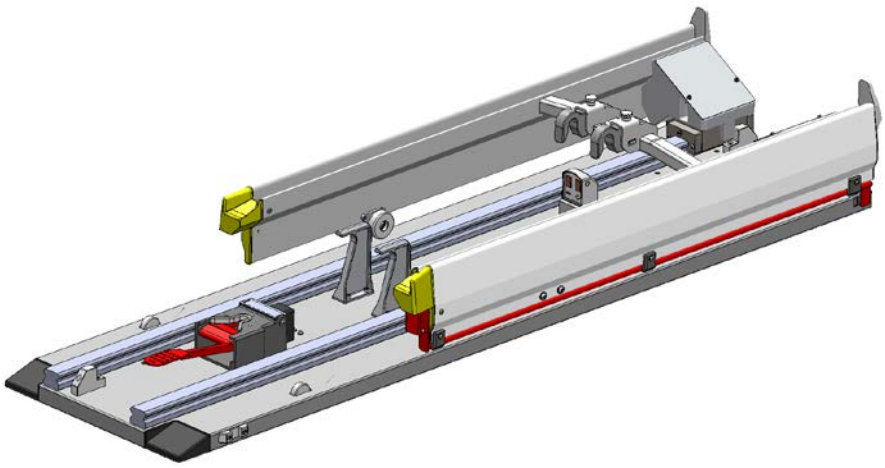
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INSTRUCTIONS MANUAL

BRAVO 1 RAIL



Read these maintenance instructions
Before using the product and keep them
For future reference.

V1.0

K A R T S A N A

acondicionamiento para hospitales y ambulancias

OPERATION AND USAGE OF BRAVO 1 RAIL

KARTSANA
acondicionamiento para hospitales y ambulancias

OPERATION AND USAGE OF BRAVO 1 RAIL

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1.- INTRODUCTION

1.1.- Foreword

The BRAVO rail has been solely designed for perfectly holding the KARTSANA "BRAVA" stretcher model.

The Bravo rail has been tested in conformity with the regulation UNE-EN 1789.

All the information regarding treatment, disinfection and maintenance is indicated, taking into consideration our current experience and know-how. The drawings are not on a 1:1 scale.

We reserve the right to change the specifications of the BRAVO rail to improve the products.

1.1.- Responsibility and warranty

The stretcher must be checked at the time of its delivery to the rescue organisation. All its functions must be explained in great detail. The assistance organisation must take charge of teaching all its employees how to use it correctly.

The product has a 24-months warranty from the delivery date to the end user (see the Warranty terms and conditions and the Warranty Certificate which is supplied with the product).

The warranty does not cover defects resulting from incorrect installation, misuse or improper use of the stretcher. All repairs must be made by a technical service authorized by Kartsana or its respective representative.

The manufacture will not be liable for any anomaly caused to the stretcher due to using any products other than original Kartsana products.

Other warranty clauses, see the Warranty Terms and Conditions that are supplied with the product.

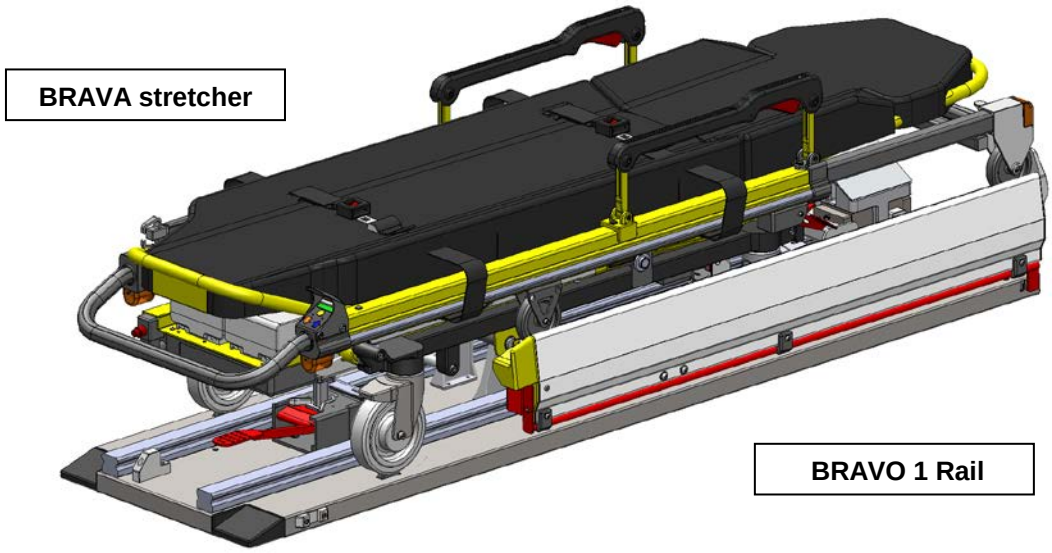
1.2.- Attention



hrough this sign, information is furnished on important safety measures for he correct use of the stretcher, in order to prevent accidents.

2.- INSTRUCTIONS MANUAL

Only the BRAVA stretcher may be put on the BRAVO rail. (BASED ON THE UNE-EN 1789 STANDARD).



⚠ To reduce the risk of injuries to the patient and accompanying persons in the event of an accident, it is advisable to avoid sharp edges and projecting parts inside the ambulance, paying special attention to the areas nearest the BRAVO 1 rail.

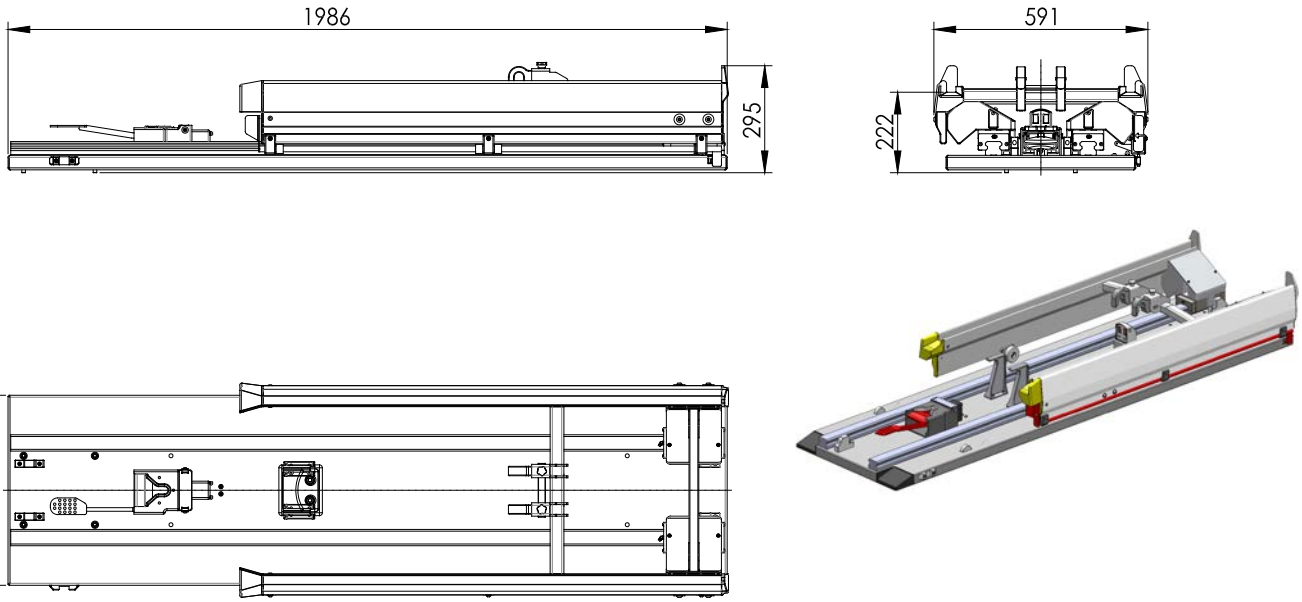
Make sure that no damage is caused to the areas containing the stretcher mechanisms, to prevent them from malfunctioning.

2.1.- Technical characteristics

Approximate rail weight 114 Kg

Maximum load permitted: **300 Kg**.

Approximate measurements of the stretcher (in mm.) based on the drawing below.



2.2.- Rail operation and usage

⚠ To prevent injuries to limbs and other body parts, make sure they are not within the range of the rail moveable parts.

2.2.1.- Red charging trigger

Stretcher lock on the rail

-Place the stretcher in front of the rail.

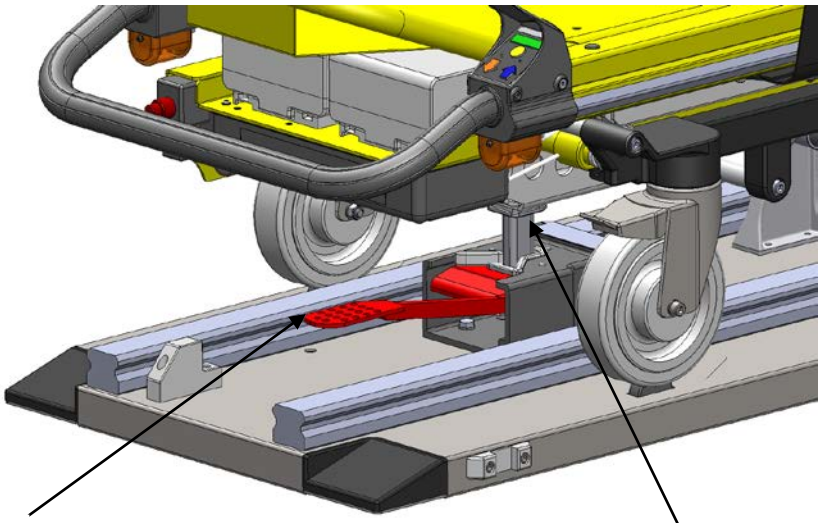
-place the small wheels of the stretcher on the rail cross section. This should be in the exterior position. Position the stretcher onto the rail so that the small wheels of the stretcher are guided by the rail, until the limit is reached at the edge of the cross section.

-Press the arrow ⬇ to raise the stretcher legs until the end of its run. (If this action has been carried out correctly the front axis should be within the inner part of the hooks.

-Press the red trigger “B” at the front right of the rail to unlock the mechanism and to push the stretcher towards the inside until the limit has been reached.



To be sure that the whole stretcher rail is correctly placed make sure that the unload lever is in the horizontal position. This is the 3rd point in the inside of its compartment.



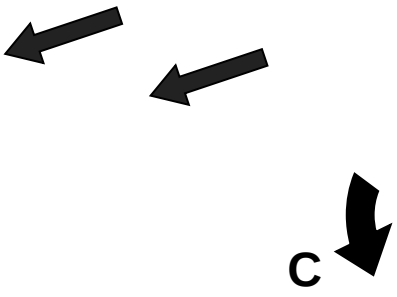
2.2.2.- Unloading lever.

Push down the unloading lever “C” located between the guides at the front of the rail as shown in the figure below. While maintaining the lever in this position, pull the stretcher towards the outside of the ambulance until the mechanical limit has been reached. Once the rail is fully extended we will be able to open out the stretcher legs by pressing the arrow ⇧ .

Once the electric stretcher has been raised above the rail level we can withdraw it.

⚠ To prevent injuries to limbs and other body parts, make sure they are not within the range of the rail moveable parts.

Note: The rear part of the rail corresponds to the part where the rail start lever is located.

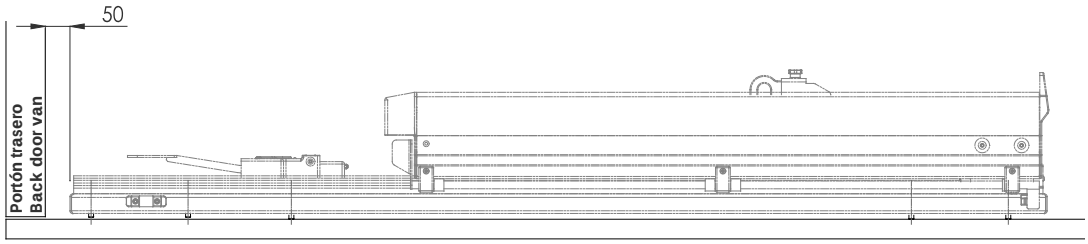


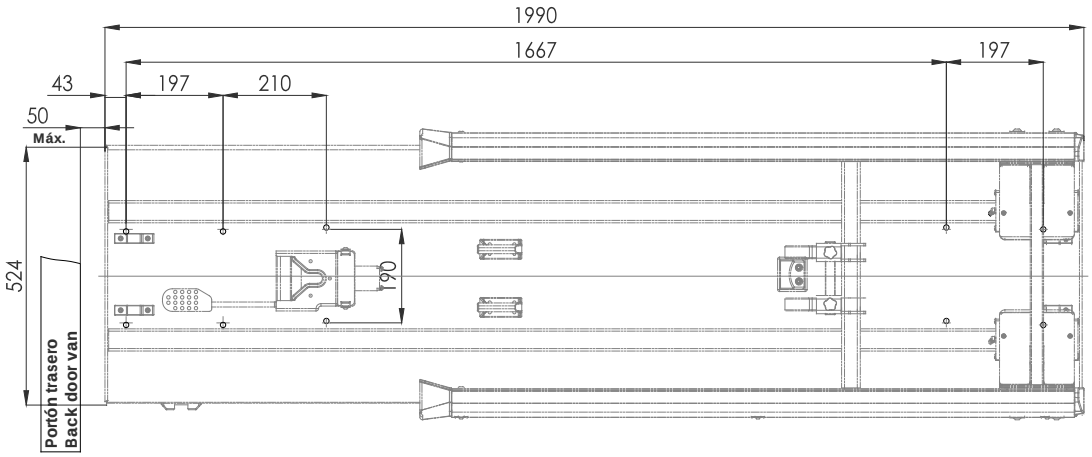
3.- Assembly of rail in ambulance

3.1.- Setting the rail in the ambulance

The Bravo 1 rail must be secured to the ambulance using 10 screws DIN 912 M10 – 10.1.

The drilling situation is as follows:

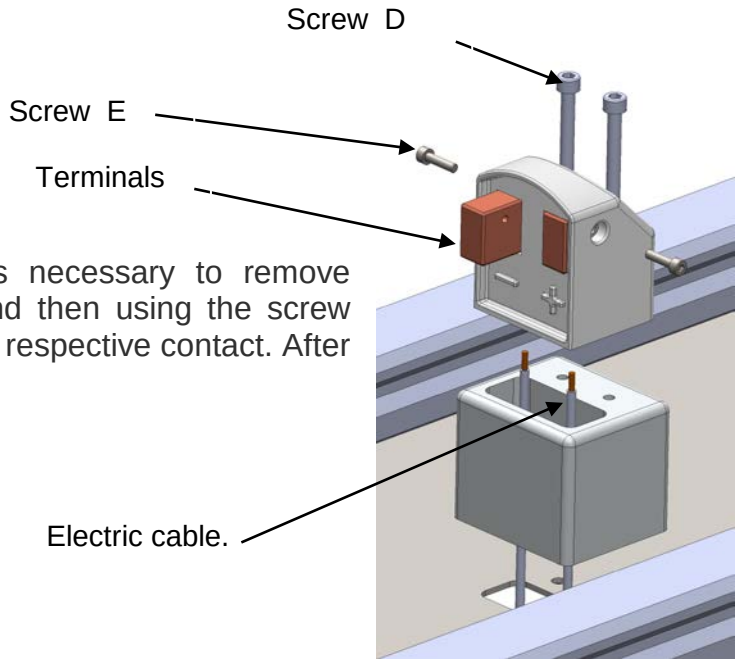




3.2.- Electrical connection

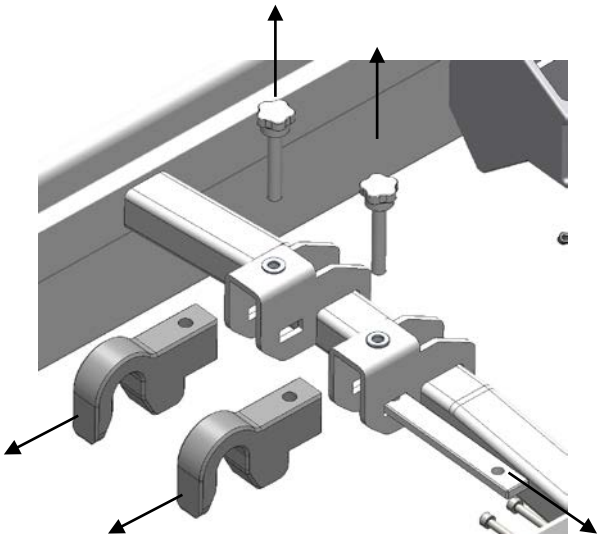
The electronics is prepared to admit a current of **12 V**.

Previous to setting the stretcher must pass the cables that feed on the stretcher through the small window where the box is housed plug charger. The BRAVO rail must be connected to the electricity network of the vehicle using section 4 mm2 electric cable as a minimum (paying special attention to the poles + o -). The aim of this connection is that the Brava stretcher charges the stretcher batteries when it is inside the ambulance with the rail closed and the third position lever in horizontal position.



To make the electrical connection is necessary to remove charger outlet box with screws "D" and then using the screw terminals "E" fix the power cord into the respective contact. After reassembling the whole charger plug.

In case the electric stretcher breaks down, take down the rail hooks according to the sketch, take off the stretcher and replace said hooks in their original position.



4.- DISINFECTION

When disinfecting the stretcher, use products that will not damage the surface of the materials and wipe with a cloth or something similar. If the surface to be disinfected is greased, regreased it after disinfecting it.

All disinfectants must be used in accordance with the manufacturer's instructions.

The manufacturer will not be held responsible for any anomaly or damage caused by using a cleaning product that could damage the surface of the rail materials.

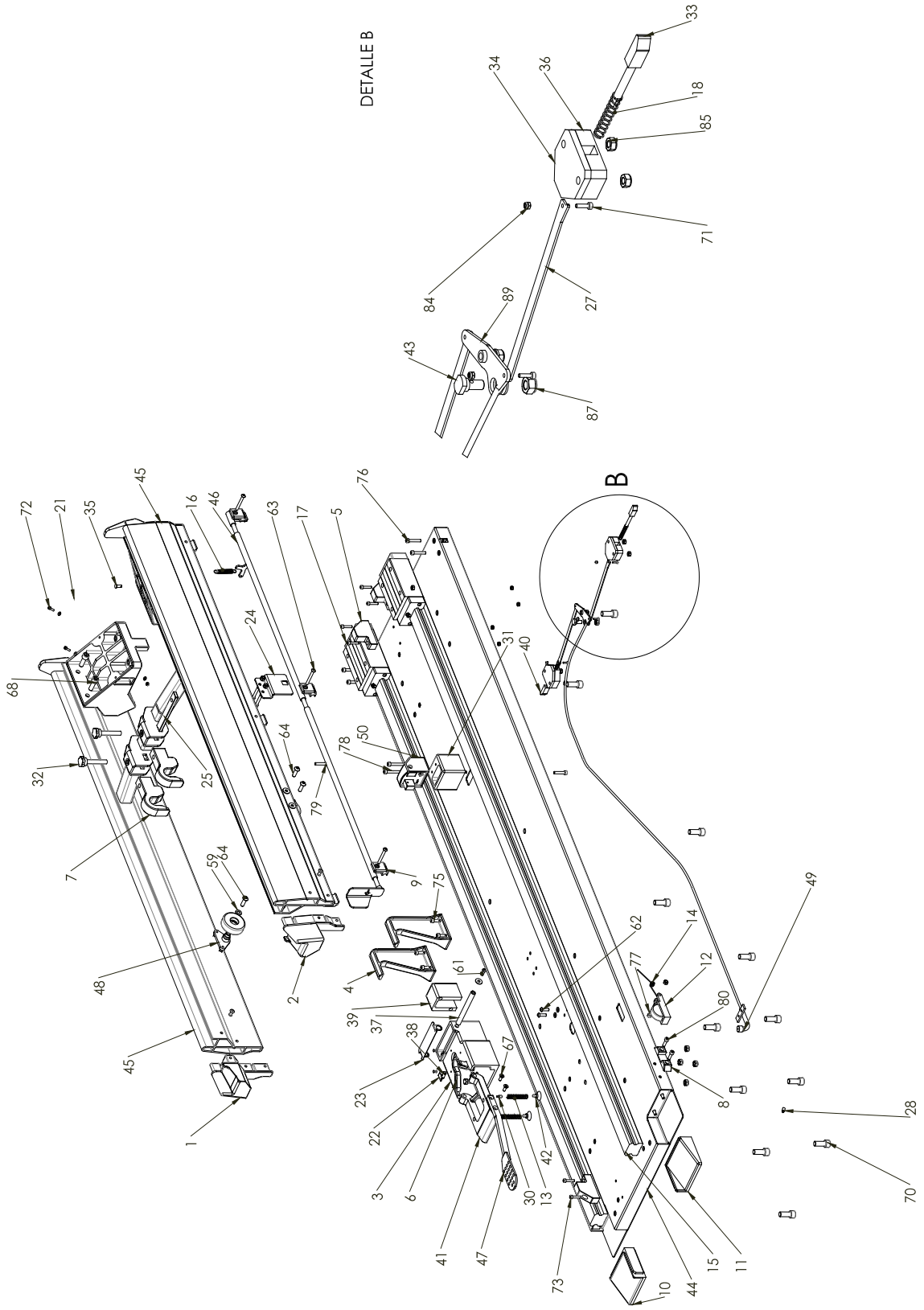
To ensure the hygiene and proper conservation of the product components, the manufacturer recommends that they be disinfected after each use.

5.- MAINTENANCE

Every six months check and lubricate the interior of the side guides as well as the locking system. We recommend that maintenance be performed by a specialist from our company every six months. During this inspection, a general check will be made to replace any parts that could be damaged or worn due to use.

Service. 2
03-10-11

5.- BRAVO-1 EXPLODED WIEW



N.º Item	File Name	Description	Quantity
1	01-213	REAR CASTING CASTING BRAVO ENTRANCE	1
2	01-214	REAR CASTING CLAMP BRAVO ENTRANCE	1
3	01-215	THIRD POINT CASTING BRAVO	1
4	01-220	INTERMEDIATE HOOKS BRAVO	2
5	05-220	BRAVO RUN LIMIT	3
6	05-230	THIRD POINT COVER BRAVO	1
7	05-239	BRAVO HOOK	2
8	05-241	SIDEWAYS LIMIT BRAVO LENGTHWAYS LOCK	1
9	05-243	BRAVO TUBE LOCK FIXTURE	6
10	05-250	IN LEFT RAMP	1
11	05-251	IN RIGHT RAMP	1
12	05-252	WHEEL ANTI-PIVOTING BRAVA REAR WHEELS	2
13	09-006	SPRING HEADEST	2
14	09-018	TRIGGER SPRING SEPARATOR	2
15	09-019	GUIDE OF SLIDING SLID LLTHR-45	2
16	09-060	START SPRING FOR CENTRAL HOOK R-450	1
17	09-118	SLIDING PLATE LLTHC-45 RR	2
18	09-128	SPRING FOR TETÓN S-400; 860	2
19	11-012 B1	STEEL CABLE	1
20	11-527	BRAVO PROFILE THREADED PLETIN CLAMP	2
21	11-582	BRAVO CASTING LOCKING PLATE	2
22	11-599	COVERS CABLES	1
23	11-600	COVER FOR BRAVO SHAFT 3 º POINT.	1
24	11-601	LEFT LOCKING PLATE	1
25	11-605	NUT PLATEN	1
26	11-606	*WHEEL SHAFT SUPPORT TIE* BRAVO	1
27	11-612	LOCKING SYSTEM HANDLE	2
28	12-107	LIMIT FOR CABLE CASE	1
29	12-134	TENSIONER CABLE	1
30	12-150	POSITION PIN	2
31	12-277	BRAVO PLUG BASE	1
32	12-288	BRAVO ANCHORING KNOB	2
33	12-291	BRAVO SQUARE LUG	1
34	12-292	SPECIAL LUG SUPPLEMENT	2
35	12-293	BRAVO SPRING CLAMP CASE	1
36	12-300	PIN LINEAR GUIDE	2
37	12-304	SHAFT STOPPER BRAVO 3º POINT	1
38	12-305	TRIGGER SHAFT RING	1
39	12-306	FRONT COVER 3º POINT	1
40	12-308	SQUARE LEFT PIN	1

41	12-309	STOPPER 3º POINT	1
42	12-313	SCREW FIXER BRAVO	2
43	12-315	SCREW FIXER BRAVO	1
44	50-381	INOX WELDED METAL SHEET BRAVO 1	1
45	50-384	BRAVO WELDING PROFILE	1
46	50-386	BRAVO LEVER TUBE WELDING	1
47	50-393	ANCHOR LEVER BRAVO	1
48	50-395	WHEEL SHAFT WELDED SET	2
49	50-396	CABLE TUBE WELDED SET	1
50	52-480	CHARGER PLUG	1
51	Washer DIN 125 ø6	Washer DIN 125 ø6	4
52	Washer DIN 125 - 4	Washer DIN 125 4	8
53	Washer DIN 125 - 5.3	Washer DIN 125 - 5.3	6
54	Washer DIN 9021 - 6.4	Washer DIN 9021 - 6.4	2
55	Washer M6 DIN 125- 8	Washer M6 DIN 125- 8	8
56	Washer M8 DIN 125- 8	Washer DIN 125- 8	8
57	Washer ø4	Washer ø4	2
58	Washer ø6	Washer ø6	18
59	Washer ø8	Washer DIN 125- 8	4
60	PR WHEEL SET bravo	WHEEL SET bravo	2
61	DIN 7380 ULS M6x16 -10.9	Screw DIN 7380 ULS M6x16 -10.9	2
62	DIN 7380 ULS M6x20 -10.9	Screw DIN 7380 ULS M6x20 -10.9	2
63	DIN 7380 ULS M6x55-10.9	Screw ULS DIN 7380 ULS M6x55 -10.9	3
64	DIN 7380 ULS M8x25 -10.9	Screw DIN 7380 M8x30 - 10.9	5
65	DIN 7380 ULS M8x40 -10.9	Screw DIN 7380 ULS M8x40 - 10.9	1
66	DIN 7991 - M5 x 50 --- 16N	Screw DIN 7991 - M5 x 50 --- 16N	1
67	DIN 7991 - M6 x 16	Screw DIN 7991 - M6 x 16 8.8	2
68	DIN 912 M10 x 30 - 8.8	Screw Allen DIN 912 M10 x 25 - 10.9	4
69	DIN 912 M10 x 35 - 8.8	Screw Allen DIN 912 M10 x 25 - 10.9	8
70	DIN 912 M12x30 - 8.8	Screw Allen DIN 912 M12x30 - 8.8	12
71	DIN 912 M3x12 - 8.8	Screw Allen DIN 912 M3x12 - 8.8	4
72	DIN 912 M4x16 -8.8	Screw Allen DIN 912 M4x16 -8.8	4
73	DIN 912 M5 x 25 -8.8	Screw Allen DIN 912 M5 x 35 - 8.8	6
74	DIN 912 M6 x 16 - 8.8	Screw Allen DIN 912 M6 x 16 - 8.8	4
75	DIN 912 M6 x 16 - 8.8	Screw DIN 912 M6 x 16 - 8.8	8
76	DIN 912 M6 x 35 - 8.8	Screw Allen DIN 912 M6 x 35 - 8.8	8
77	DIN 912 M6 x 40 - 8.8	Screw Allen DIN 912 M6 x 40 - 8.8	2
78	DIN 912 M6 x 50-8.8	Screw Allen DIN 912 M6 x 50-8.8	2
79	DIN 912 M6 x30 - 8.8	Screw Allen DIN 912 M6x30 - 8.8	2
80	DIN 912 M6x20	Screw Allen DIN 912 M6 x 20 - 8.8	2
81	DIN 933 M8x25 - 6.8	Screw Hexagonal DIN 933 M8X25 - 6.8	4
82	DIN 985 M4 - 8.8	Nut DIN 985 M4 - 8.8	3
83	DIN 985 M5	Nut DIN 985 M5	9

84	DIN-985 M3	DIN-985 M3	4
85	DIN-985 M6	NUT AUTOBLOCANTE M6	10
86	DIN-985 M6-10	Nut DIN-985 M6 - 10	5
87	DIN-985 M8	Nut DIN-985 M8	1
88	DIN-985 M8-10	Nut DIN-985 M8-10	4
89	PR-1260_BRAVO	WELDED SET LOCKING SYSTEM	1
90	NUT HEXAGONAL M6 CINCADA	NUT HEXAGONAL M6 CINCADA	3
91	UNE EN ISO 15977 3X10	Rivet UNE EN ISO 15977 ø3X10	3
92	UNE EN ISO 15977 5X12	Rivet UNE EN ISO 15977 ø5X12	4
93	Washer DIN 125 - A 10.5	Washer DIN 125 M10	2
94	Washer DIN 125 - A 13	Washer DIN 125 - A 13	6
95	Washer DIN 126 - 6.6	Washer DIN 126 - 6.6	2
96	Washer DIN 126 - 6.6	Washer DIN 126 - 6.6	4
97	Washer DIN 9021 - 10.5	Washer DIN 9021 M10	12