

Intell-Lab™

IL 0.0001 g

PB 0.001 g

PB 0.01 g



Service Manual

Problem and solution for balances model IL-0.0001, PB-0.001 and PB-0.01g

Fault	Possible cause	Service Table
Balance not stable.	Dirt inside the magnet. Bandy flexures.	Mechanical group service.(Clear the magnet) Mechanical group service.(change
Display doesn't move from zero	Mechanical group damage Error linearity A/D converter fail	Mechanical group service Function linearity Check_main_board_signals_EM C
Display doesn't work correctly	Display damage No power supply. No connection display.	Change_display Check_main_board_signals_EM C
Keyboard fail/ At power on if balance beeps.	No connection keyboard No bottom keyboard	Change cable 14 poli Change keyboard
Corner load not correct	Parallelogram guide damage Corner load not regulated	Change parallelogram guide Corner load EMc
Linearity not correct	Regulated linearity error. Verify bandy flexures	Function_linearity_ Mechanical group service

Mechanical group service IL-0.0001, PB-0.001, PB-0.01g

For Model IL0.0001

1. REMOVE THE BALANCE TOP COVER WITH DRAFTSHIELD (REMOVE ONE SCREW Fig.1 AND FOUR SCREWS UNDER THE BALANCE Fig.2)



Fig.1



Fig.2

2. REMOVE THE COVER SHIELD OF MECHANICAL GROUP, Fig.3



Fig.3

For Model PB-0.001

1. REMOVE THE BALANCE TOP COVER (REMOVE ONE SCREW Fig.1 AND FOUR SCREWS UNDER THE BALANCE Fig.2)



Fig.1



Fig.2

2. REMOVE THE COVER SHIELD OF MECHANICAL GROUP (REMOVE FOUR SCREWS Fig.3)



Fig.3

For Model PB-0.01

1. REMOVE THE BALANCE TOP COVER (REMOVE ONE SCREW Fig.1 AND FOUR SCREWS UNDER THE BALANCE Fig.2)



Fig.1



Fig.2

2. REMOVE THE COVER SHIELD OF MECHANICAL GROUP (REMOVE FOUR SCREWS Fig.3)



Fig.3

For all Model PB-0.01, PB-0.001, IL-0.0001

1. REMOVE THE DISPLAY BOARD (REMOVE FOUR SCREWS Fig.1) AND COVER SHIELD OF MAINBOARD (REMOVE FIVE SCREWS Fig.2)

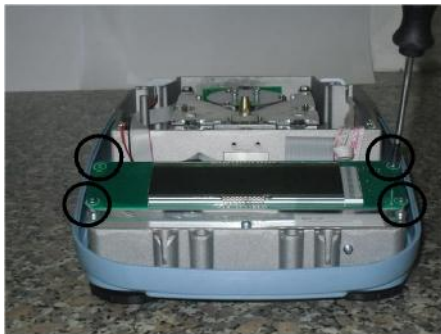


Fig.1

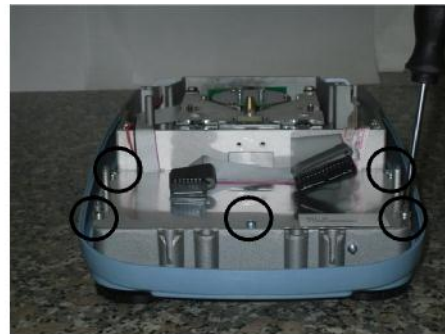


Fig.2

2. REMOVE THE CABLE OF OPTICAL GROUP (Fig.3) AND THEN REMOVE THE MECHANICAL GROUP (REMOVE THREE SCREWS UNDER THE BALANCE Fig.4)

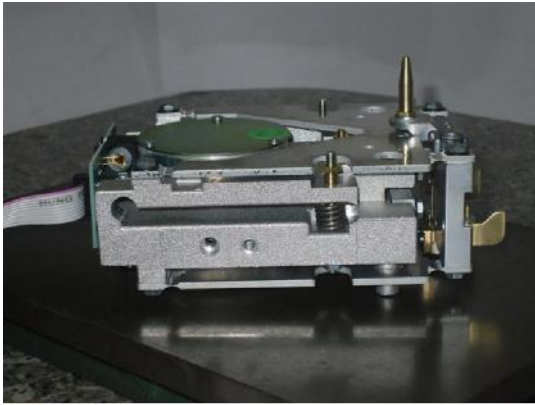


Fig.3



Fig.4

Disassembly group for all Model PB-0.01, PB-0.001, IL-0.0001

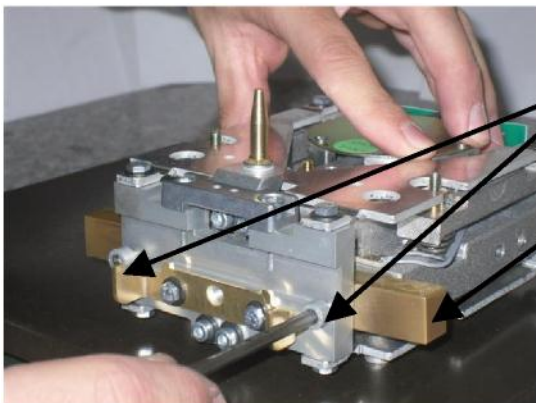


The mechanical group is the same for all model except for:

- dimension of springs
- dimension of spacers
- cone



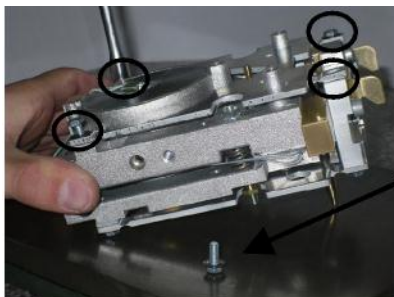
1. Take jigs for the moving pillar (two screws M5x20mm and two spacers)



2. Insert the screws in the holes (left and right) of the moving pillar

3. Insert the spacers in the space between moving pillar and monobloc (left and right)

4. Fix the screws left and right

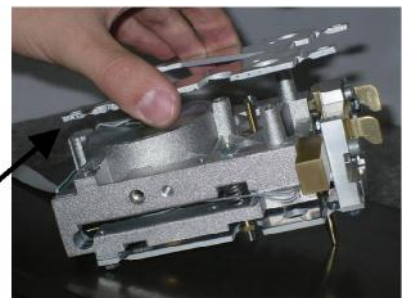


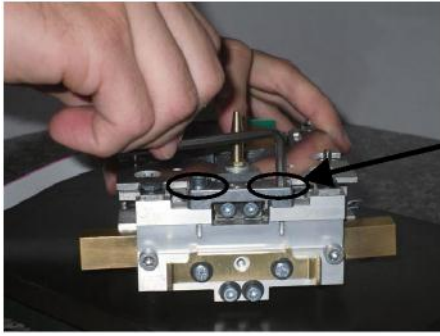
5. Turn up side down the group

6. Take tool n°7

7. Remove the four screws of bottom parallellogram guide

9. Remove parallellogram, handling it carefully

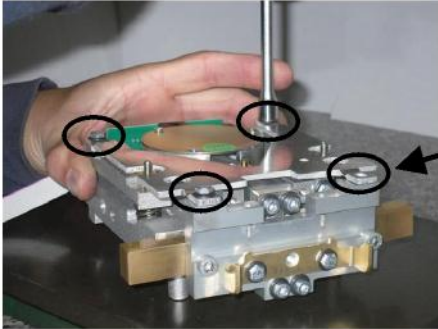
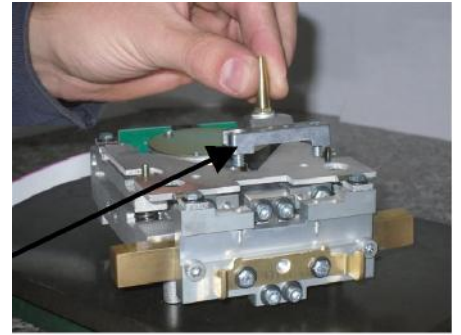




9. Turn the group up again

10. Remove the two cone support's screws

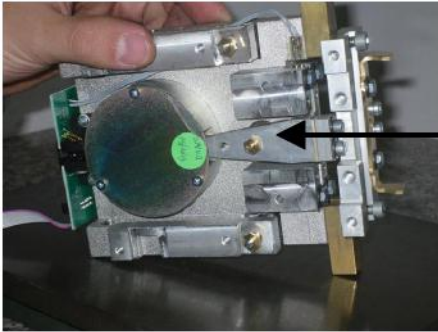
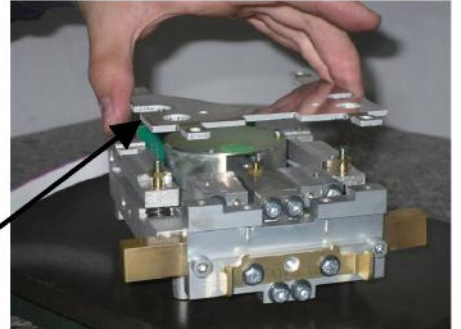
11. Remove the cone support



12. Take tool n°7

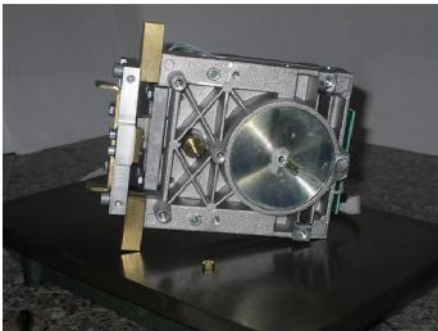
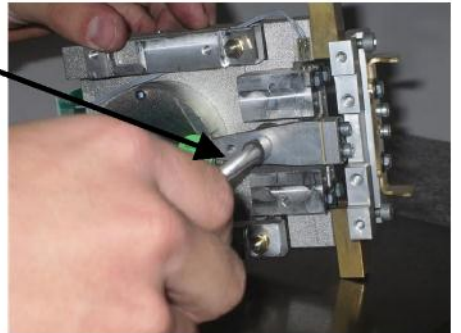
13. Remove the four screws of top parallelogram guide

15. Remove the top parallelogram guide, handle it carefully

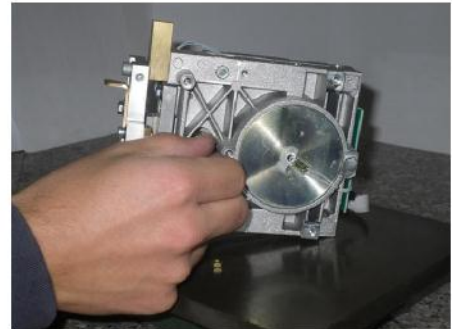


17. Take tool n°7

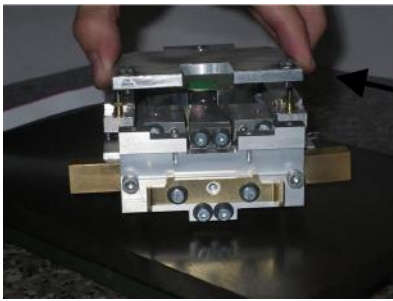
16. Remove the nut of baricentre from the lever



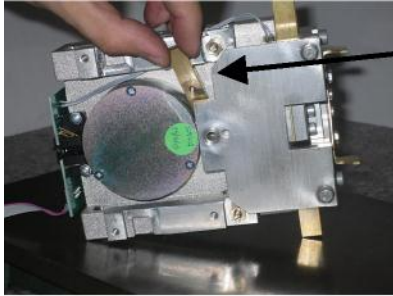
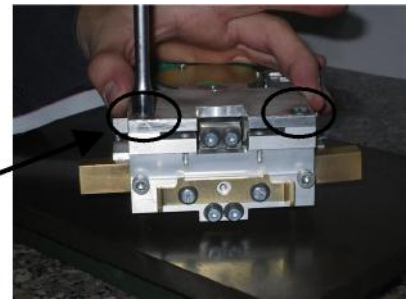
17. Remove baricenter from below the monobloc



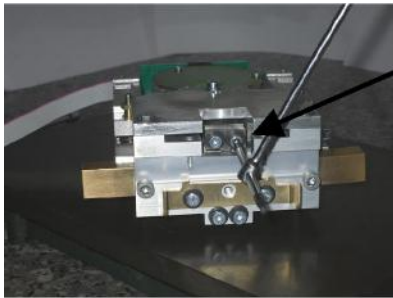
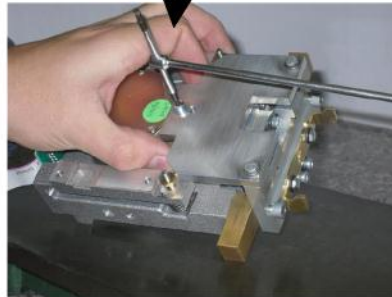
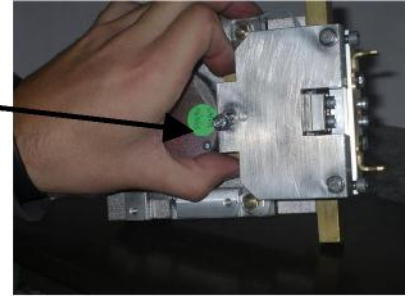
18. Take the jigs for vertical spring (n°2 screws M4x10mm, n°1 screw M4x22mm, n°1 clamping plate whit hole and n°1 tool to fix the lever)



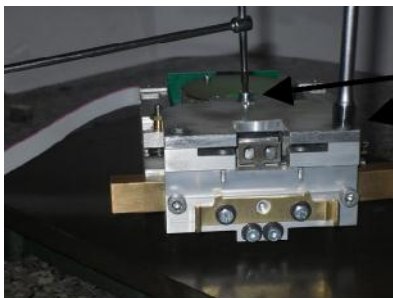
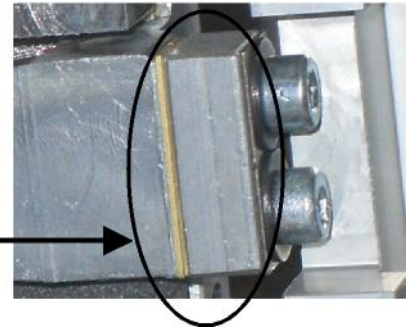
- 19. Position the jig on the moving pillar
- 20. Insert two screws in the holes of moving pillar and fix them.



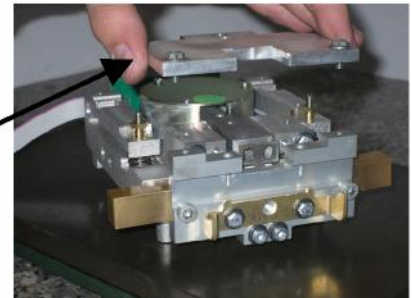
- 21. Insert the clamping plate.
- 23. Insert screw and fix clamping plate with tool n°3.

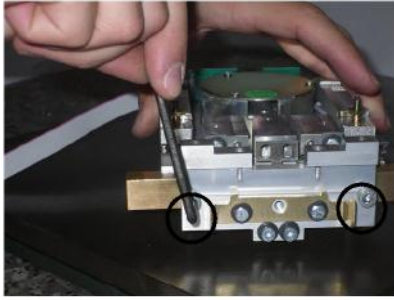


- 24. Remove top screws of vertical spring, with tool n°3
- 26. Remove spacer lever for:
 - 0.0001g = n°1x7mm, n°1x0.5mm
 - 0.001g = n°1x4mm.
 - 0.01g = 0mm

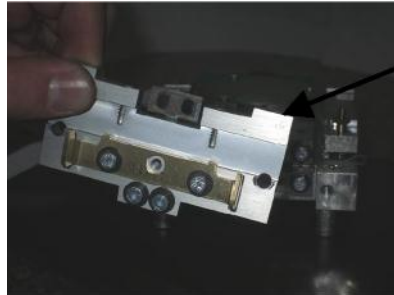
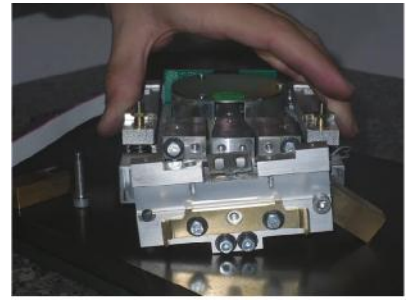


- 27. Remove screw of plate.
- 28. Remove screws of fixed to moving pillar.
- 30. Remove jigs for vertical spring.



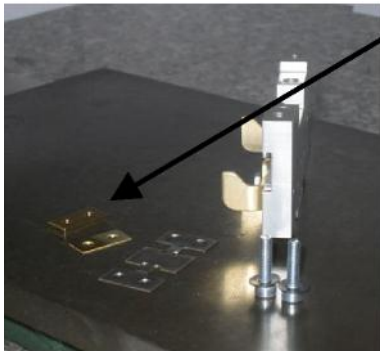
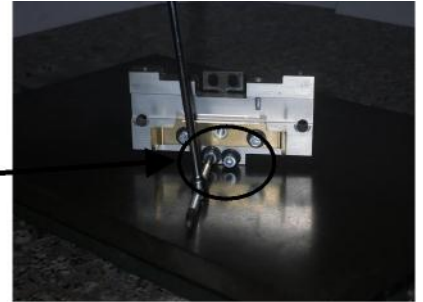


28. Remove the screws and spacer fixed jigs of moving pillar.



29. Remove moving pillar

30. Remove screws of fixed vertical spring with tool n°3



Spacer of moving pillar for:

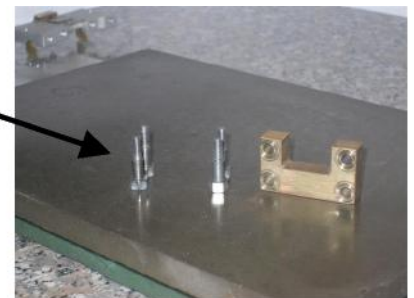
- 0.0001a = n°1x0.5mm
- 0.001g = n°1x4mm
- 0.01g = n°1x7mm, n°1x0.5mm

Vertical spring:

- 0.0001g = Vertical spring 0.5/0.10mm
- 0.001g = Vertical spring 0.5/0.10mm
- 0.01g = Vertical spring 1/0.12mm



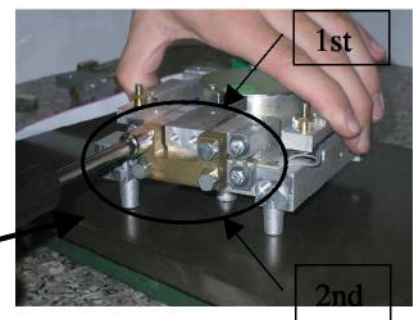
31. Take jigs for the lever (n°4 screws M4x19mm, n°1 tool for fixing the lever)

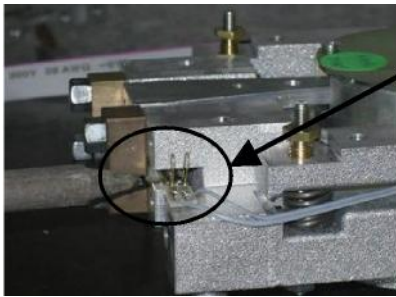


33. Put the jig on the lever

34. Insert two screws in to monobloc and two in to lever.

35. Fix the screws: first the top ones then the bottom ones

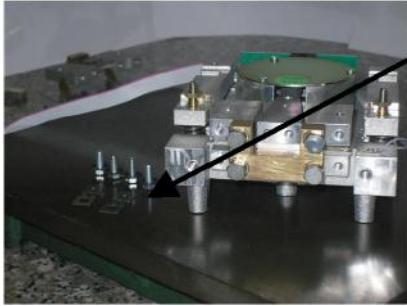
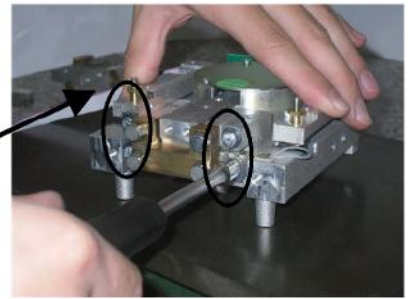




35. Unsolder the gold wires.

36. Remove n°4 screws that the fulcrum flexures using tool n°7.

38. Remove the fulcrum flexures

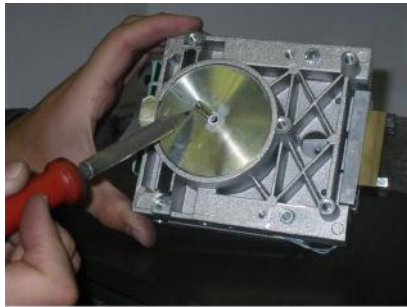
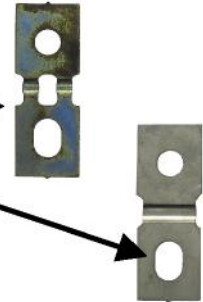


Fulcrum flexures:

0.0001g = Fulcrum flexures 0.5/0.09mm

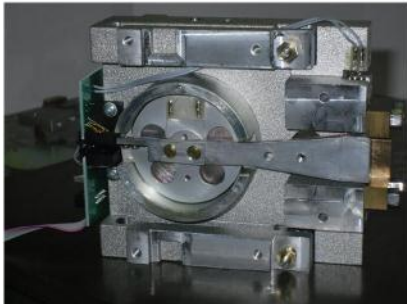
0.001g = Fulcrum flexures 0.5/0.09mm

0.01g = Fulcrum flexures 0.5/0.10mm



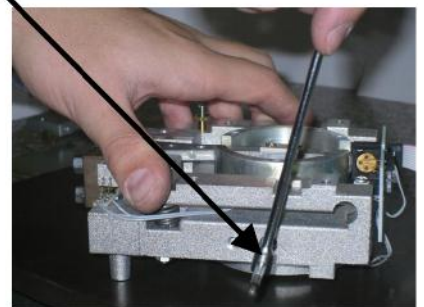
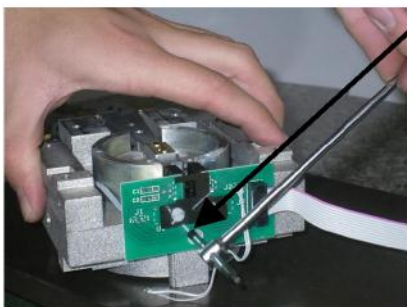
38. Unsolder the wire of sensor

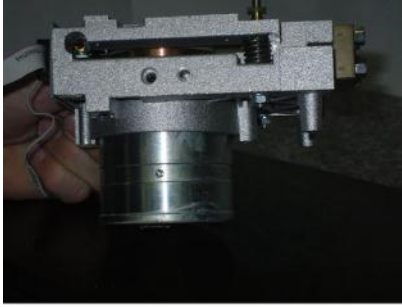
39. Remove n°3 screws that fix the magnet cover



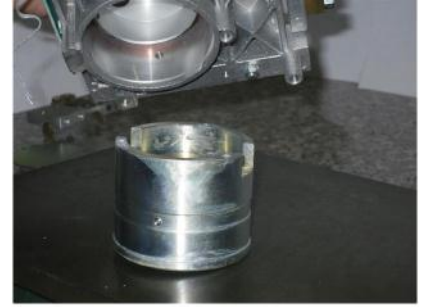
40. Remove magnet cover.

42. Remove n°5 grains (n°2 left and righth side and n°1 at rear side) that fix the magnet.



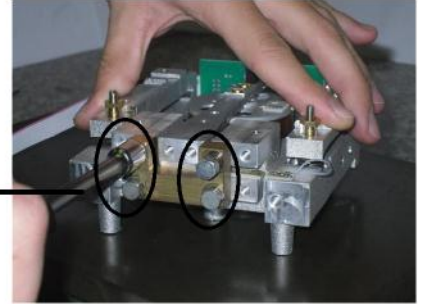


42. Remove magnet from below the monobloc

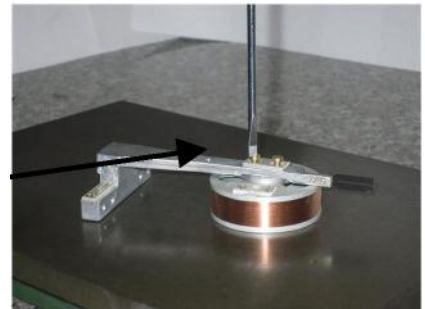


Now if you need to remove the lever to change the coil or lever then follow points from A to E, otherwise go to point 43.

- A. Remove jigs for lever (Remove n°4 screws).
- C. Remove the lever.



- C. Unsolder the wire of coil.
- D. Remove n°2 screws and spacer of coil that fix the lever to coil.



43. Clean the magnet with air

44. Take a taper and precision tweezers.

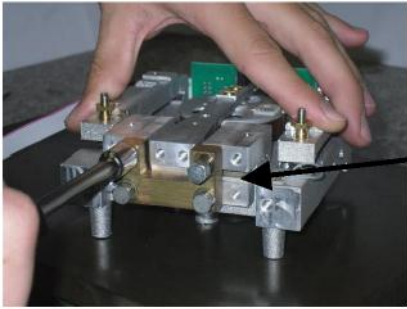


45. Put taper on the top of precision tweezers so that adhesive side is outside.

46. Clean deeply the magnet turning precision tweezers around of magnet.

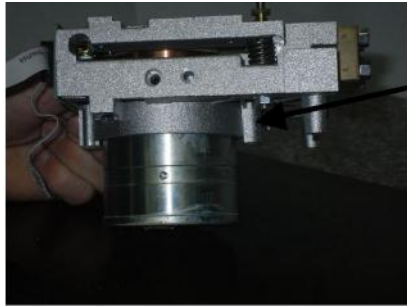
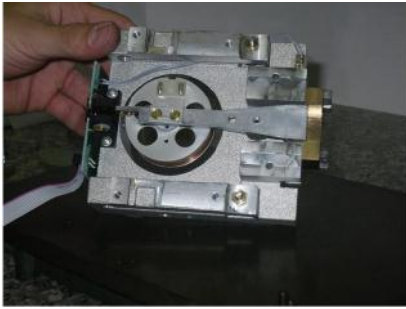


Now you can start assemble the mechanical group



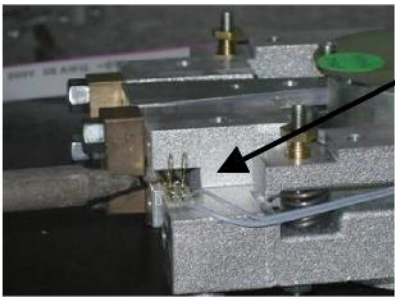
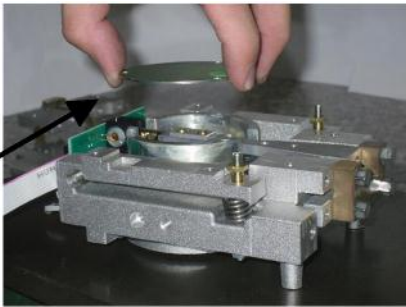
47. Take jigs for level (n°4 screws M4x19mm, n°1 tool for fixing the lever).

48. Insert two screws in to monobloc and two in to lever.



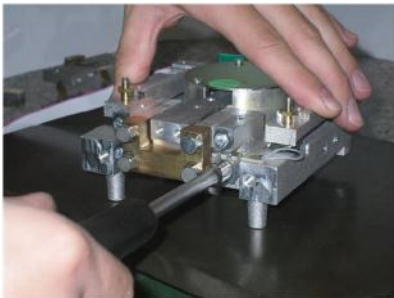
49. Insert magnet from below into monobloc

50. Put on the cover of magnet (do not fix it).



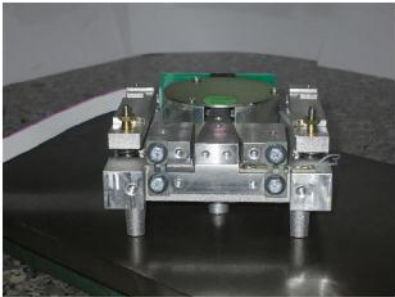
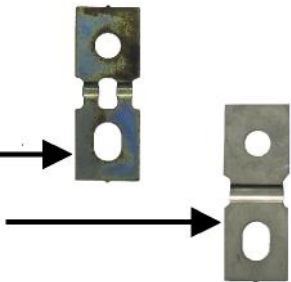
51. Solder the gold wires on the lever.

52. Put fulcrum flexures with four screws, and fix them.(Position the flexures with circular hole UP)



Fulcrum flexures:

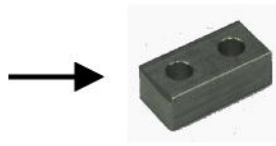
- 0.0001g = Fulcrum flexures 0.5/0.09mm
- 0.001g = Fulcrum flexures 0.5/0.09mm
- 0.01g = Fulcrum flexures 0.51/0.10mm



54. Remove the jig for the

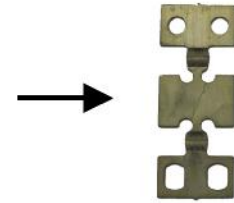
Spacer movin pillar for:

- 0.0001a = n°1x0.5mm
- 0.001g = n°1x4mm
- 0.01g = n°1x7mm, n°1x0.5mm

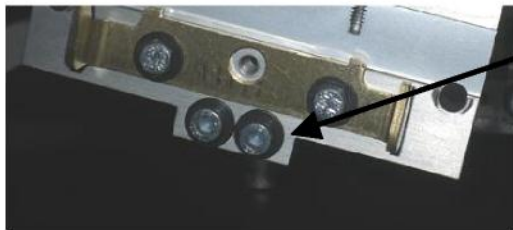
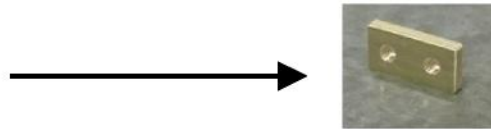


Vertical spring:

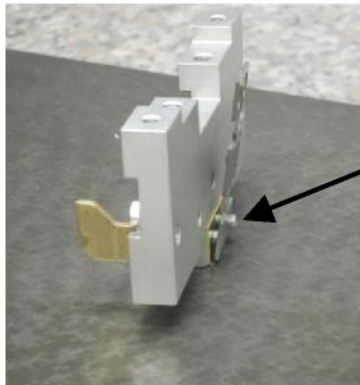
- 0.0001a = Vertical spring 0.5/0.10mm
- 0.001g = Vertical spring 0.5/0.10mm
- 0.01g = Vertical spring 1/0.12mm



Clamping plate:



54. Insert two screws; (M4x22mm) with washer.



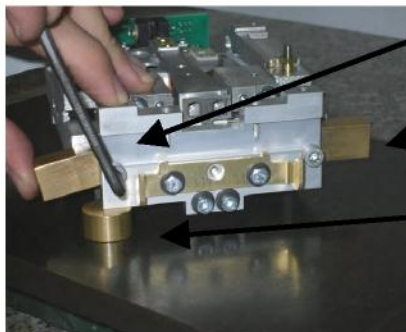
55. Insert the spacer on moving pillar, and vertical spring

57. Insert Clamping plate, but do not strongly fix the screws.



57. Take the jig for the vertical spring.

59. Take jig spacer for moving pillar

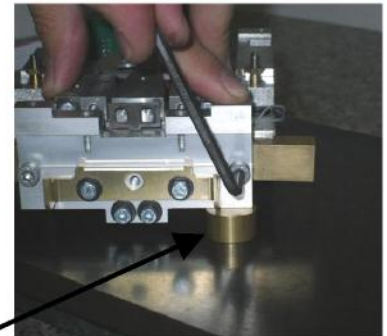


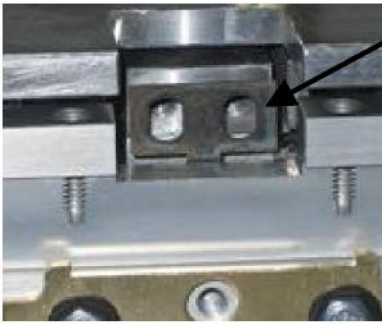
61. Insert screws in the holes (left and right) of moving pillar

62. Insert spacer between moving pillar and monobloc (left and right)

63. Put the jig spacer under the left side of moving pillar and fix the screw on left.

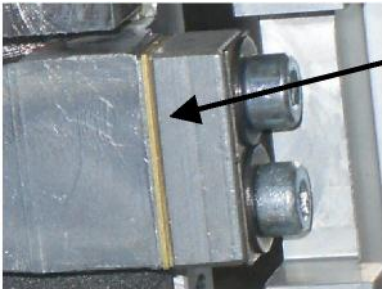
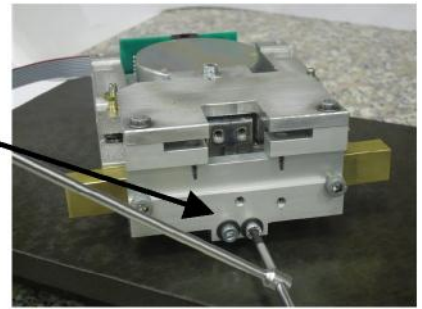
64. Put the jig spacer under the right side of moving pillar and fix the screw on right.





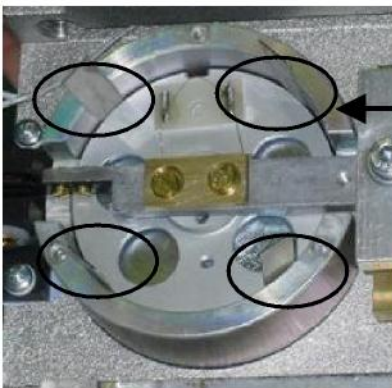
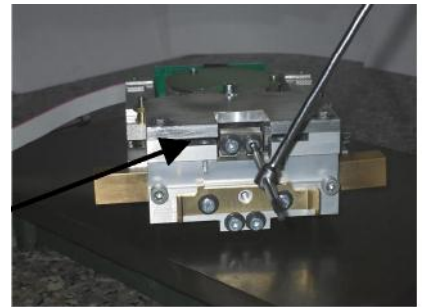
66. Center the hole of the vertical spring with the hole of the lever.

68. Fix the two screws of bottom vertical spring



70. Insert spacer of lever for:
 0.0001 g = n°1 x7mm, n°1 x0.5mm
 0.001 g = n°1 x4mm.
 0.01 g = 0mm

71. Insert top screws of vertical spring, and fix them using tool n°3

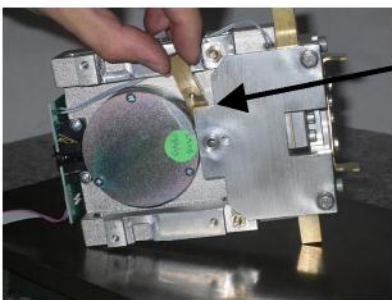
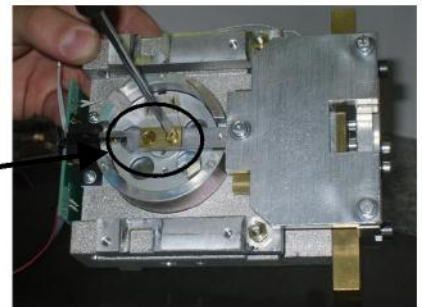
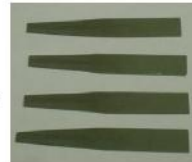


73. Remove the cover of magnet

75. Insert jigs for centering the lever

77. Fix the screws of coil.

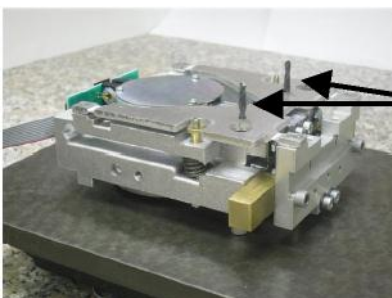
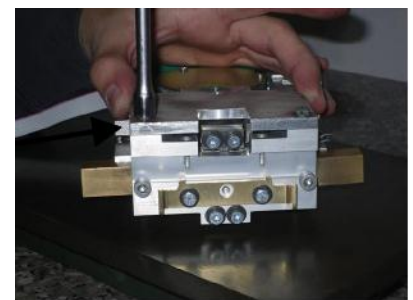
Jigs for coil centering



79. Remove the screw that fix the clamping plate of jig.

81. Remove screws that fix the jig for vertical spring.

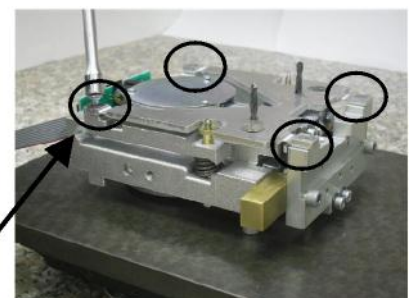
83. Remove jig for vertical spring.

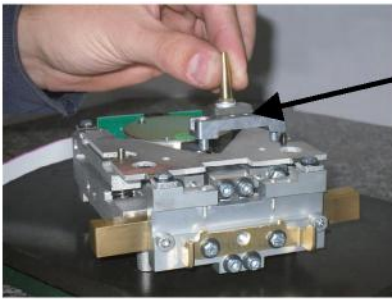


63. Put the top parallelogram guide onto the group.

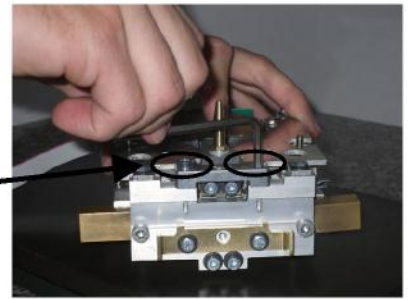
64. Insert the jigs for centering the parallelograms

65. Insert four top screws of parallelogram guide and fix them.

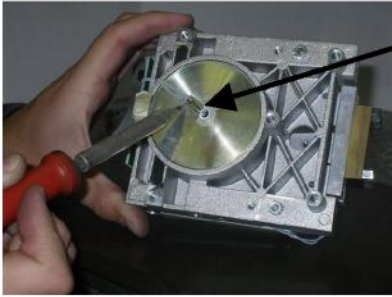




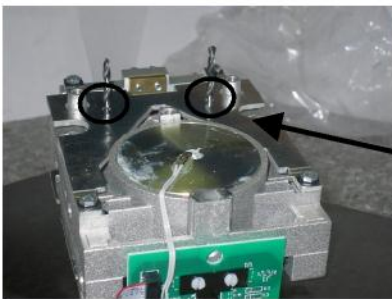
76. Put cone support on the moving pillar



78. Insert two cone support's Screws and fix them



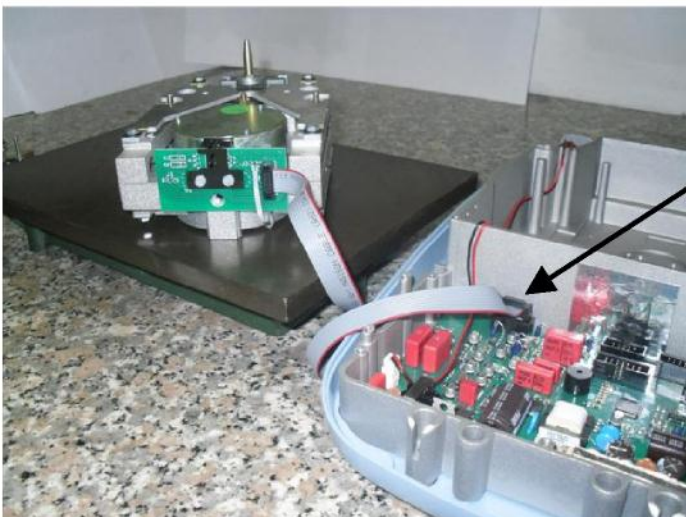
80. Solder the wire of temperature sensor. **(Important: do not invert the wires)**



79. Put the bottom parallelogram guide on bottom of the group.

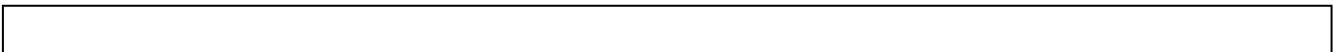
81. Insert the jigs for centering parallelograms

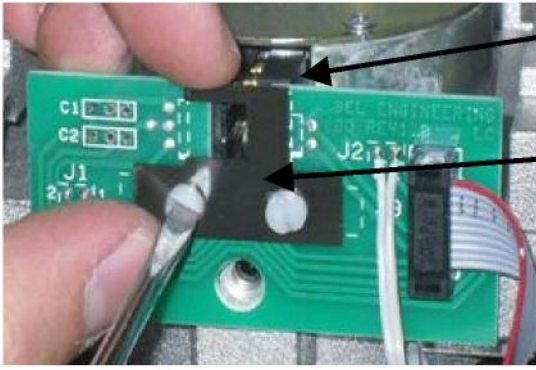
83. Insert four screws of parallelogram guide and fix them.



85. Turn up the group

87. Connect the group to the main board.





84. Turn on the balance and center the lever. (when the balance is turned on, the lever must exactly be centered in the window).

85. Fix the screws

86. Fix the mechanical group in the bottom case.

87. Check the main board signals.

88. Regulate the corner load error of the balance.

89. Check and regulate linearity of balance.

Auto calibration system motor group



Corner load regulation for model EMC IL-0.0001, PB-0.001, PB-0.01g

For Model IL-0.0001

1. REMOVE THE COVER WITH DRAFTSHIELD (REMOVE ONE SCREW Fig.1 AND FOUR SCREWS UNDER THE BALANCE Fig2)



Fig.1



Fig.2

2. REMOVE LABELS ON THE HOLES (Fig 3)



Fig.3



3. CONNECT KEYBOARD, PUT THE PLATE WITH WINDSHIELD AND TURN ON THE BALANCE. (KEEP WARM UP FOR 20 MINUTES Fig 4.)



Fig.4



For Model PM-0.001

1. REMOVE THE CAPS (Fig.5)
2. PUT THE PLATE AND TURN ON THE BALANCE. (KEEP WARM UP FOR 20 MINUTES.)



Fig.5



For Model M0.01

1. REMOVE DISK UNDER THE PLATE.(REMOVE FOUR SCREWS Fig.6)
2. PUT THE PLATE AND TURN ON THE BALANCE. (KEEP WARM UP FOR 20 MINUTES.)



Fig.6



For all Model PB-0.01, PB-0.001, IL-0.0001

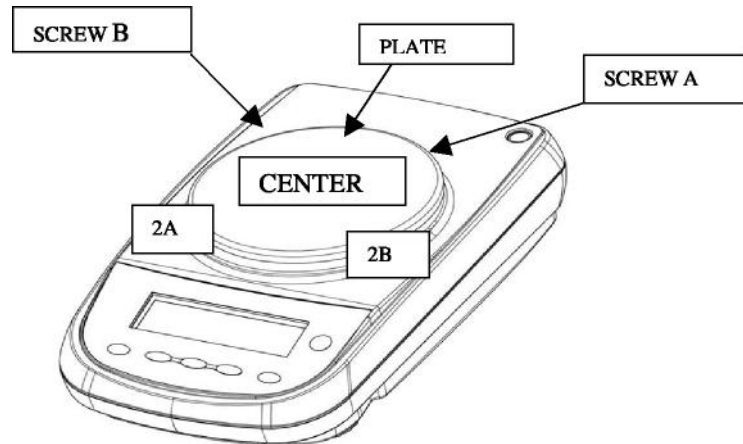


TOOL NUMBER 8
FOR CORNER LOAD RAGULATION



SCREW FOR CORNER LOAD REGULATION

1. PUT THE WEIGHT (1/3 OF MAX RANGE) TO CHECK IN THE CENTER OF THE PLATE, AND PRESS TARE.
2. MOVE THE WEIGHT IN THE POINT 2A, READ AND WRITE DOWN THE VALUE.
3. MOVE THE WEIGHT IN THE CENTER AND PRESS TARE.
4. MOVE THE WEIGHT IN THE POINT 2B, READ AND WRITE DOWN THE VALUE.
5. TAKE THE TOOL AND REGULATE AS ILLUSTRATED IN THE TABLE BELOW



**IF THE CORNER 2A POSITIVE(+) THEN
TURN THE TOOL CLOCKWISE
(SCREW A)**



**IF THE CORNER 2A NEGATIVE(-) THEN
TURN THE TOOL ANTICLOCKWISE
(SCREW A)**



**IF THE CORNER 2B POSITIVE(+) THEN
TURN THE TOOL ANTICLOCKWISE
(SCREW B)**



**IF THE CORNER 2B NEGATIVE(-) THEN
TURN THE TOOL CLOCKWISE
(SCREW B)**



Attention: if the corner opposite can not corrected, check if the mechanical group is ok.

PROCEDURE TO LINEARIZE EMC BALANCES IL-0.0001, PB-0.001, PB-0.01g RELEASE R2.xx

For model with four point of linearity

1. Switch on balance.
2. After 30 min press ON/OFF button.
3. Press sequentially buttons ON/OFF - CAL – CAL.
4. You will see "Lin" on display, press ENTER to confirm..
5. The display shows on the left number "1" wait stability and after 3 seconds press CAL to confirm.
6. When the balance and show number 2 on the left put first weight, (table weight for linearity) wait stability and after 3 seconds press CAL to confirm.
7. Put second weight, wait stability and after 3 seconds press CAL to confirm.
8. Put third weight, wait stability and after 3 seconds press CAL to confirm.
9. After this point, press CAL and keep it pressed until the display show number 3 on the left.
10. Then press ON/OFF to return to weighing mode.
11. Calibrated the balance and check linearity.
12. Attention: if you forget point 9 the data will not be stored and you will have to do again the linearization procedure.

For model with seven point of linearity

1. Switch on balance.
 2. After 30 min press ON/OFF button.
 3. Press sequentially buttons ON/OFF - CAL – CAL.
 4. You will see "Lin" on display, press ENTER to confirm..
 5. The display shows on the left number "1" wait stability and after 3 seconds press CAL to confirm.
 6. When the balance and show number 2 on the left put first weight, (table weight for linearity) wait stability and after 3 seconds press CAL to confirm.
 7. Put second weight, wait stability and after 3 seconds press CAL to
 8. confirm. Put third weight, wait stability and after 3 seconds press CAL
 9. to confirm. Put fourth weight, wait stability and after 3 seconds press
 10. CAL to confirm. Put fifth weight, wait stability and after 3 seconds
 11. press CAL to confirm. Put sixth weight, wait stability and after 3
 12. seconds press CAL to confirm.
 13. After this point, press CAL and keep it pressed until the display show number 3 on the
 14. left. Then press ON/OFF to return to weighing mode.
 15. Calibrated the balance and check linearity.
- Attention: if you forget point 9 the data will not be stored and you will have to do again the linearization procedure.

For model with twelve point of linearity

1. Switch on balance.
2. After 30 min press ON/OFF button.
3. Press sequentially buttons ON/OFF - CAL – CAL.
4. You will see "Lin" on display, press ENTER to confirm..
5. The display show on the left number "1" wait stability and after 3 seconds press CAL to confirm.
6. When the balance and show number 2 on the left put first weight, (table weight for linearity) wait stability and after 3 seconds press CAL to confirm.
7. Put second weight, wait stability and after 3 seconds press CAL to
8. confirm. Put third weight, wait stability and after 3 seconds press CAL
9. to confirm. Put fourth weight, wait stability and after 3 seconds press
10. CAL to confirm. Put fifth weight, wait stability and after 3 seconds press
11. CAL to confirm. Put sixth weight, wait stability and after 3 seconds
12. press CAL to confirm. Put seventh weight, wait stability and after 3
13. seconds press CAL to confirm. Put eighth weight, wait stability and after
14. 3 seconds press CAL to confirm. Put ninth weight, wait stability and
15. after 3 seconds press CAL to confirm. Put tenth weight, wait stability
16. and after 3 seconds press CAL to confirm. Put eleventh weight, wait
17. stability and after 3 seconds press CAL to confirm. Put twelfth weight,
18. wait stability and after 3 seconds press CAL to confirm.
19. The balance goes automatically in stand-by status ; press ON/OFF to return to weighing mode. Calibrated the balance and check linearity.

Clear the linearity and calibration value:

1. Switch on balance.
2. Press sequentially buttons ON/OFF - CAL – CAL.
3. You will see "Lin" on display, press ENTER to confirm..
4. The display show on the left number "1 " press MENU and keep it pressed until the display shows CLEAR.


MARK "M" 0.0001g

CODICE	MODELLO	PORTATA(g)	RISOLUZ.(g)	Linearita'/pesi classe E2
				Salita
BL0001	M124A	120	0.0001	0-20g-40g-60g-80g-100g-120g
BL0002	M154A	150	0.0001	0-25g-50g-75g-100g-125g-150g
BL0003	M214A	210	0.0001	0-35g-70g-105g-140g-175g-210g
BL0004	M254A	250	0.0001	0-20g-40g-60g-80g-100g-120g-140g-160g-180g-200g-220g-240g
BL0005	M124Ai	120	0.0001	0-20g-40g-60g-80g-100g-120g
BL0006	M154Ai	150	0.0001	0-25g-50g-75g-100g-125g-150g
BL0007	M214Ai	210	0.0001	0-35g-70g-105g-140g-175g-210g
BL0008	M254Ai	250	0.0001	0-20g-40g-60g-80g-100g-120g-140g-160g-180g-200g-220g-240g


MARK "M" 0.001g

CODICE	MODELLO	PORTATA(g)	RISOLUZ.(g)	Linearita'/pesi classe E2
				Salita
BL0010	M223	220	0.001	0-70g-140g-210g
BL0011	M333	330	0.001	0-110g-220g-330g
BL0012	M503	500	0.001	0-150g-300g-450g
BL0013	M723	720	0.001	0-120g-240g-360g-480g-600g-720g
BL0014	M1003	1000	0.001	0-150g-300g-450g-600g-750g-900g
BL0015	M1203	1200	0.001	0-200g-400g-600g-800g-1000g-1200g
BL0017	M223i	220	0.001	0-70g-140g-210g
BL0018	M333i	330	0.001	0-110g-220g-330g
BL0019	M503i	500	0.001	0-150g-300g-450g
BL0020	M723i	720	0.001	0-120g-240g-360g-480g-600g-720g
BL0021	M1003i	1000	0.001	0-150g-300g-450g-600g-750g-900g
BL0022	M1203i	1200	0.001	0-200g-400g-600g-800g-1000g-1200g


MARK "M" 0.001/0.01g

CODICE	MODELLO	PORTATA(g)	RISOLUZ.(g)	Linearita'/pesi classe E2
				Salita
BL0023	M403D	200/400	0.001/0.01	0-130g-260g-390g
BL0024	M603D	200/600	0.001/0.01	0-200g-400g-600g
BL0025	M1003D	500/1000	0.001/0.01	0-150g-300g-450g-600g-750g-900g
BL0026	M1203D	720/1200	0.001/0.01	0-200g-400g-600g-800g-1000g-1200g
BL0027	M403Di	200/400	0.001/0.01	0-130g-260g-390g
BL0028	M603Di	200/600	0.001/0.01	0-200g-400g-600g
BL0029	M1003Di	500/1000	0.001/0.01	0-150g-300g-450g-600g-750g-900g
BL0030	M1203Di	720/1200	0.001/0.01	0-200g-400g-600g-800g-1000g-1200g

MARK "M" 0.01g

CODICE	MODELLO	PORTATA(g)	RISOLUZ.(g)	Linearita'/pesi classe F1
				Salita
BL0031	M1702	1700	0.01	0-500g-1000g-1500g
BL0032	M2202	2200	0.01	0-700g-1400g-2100g
BL0033	M3102	3100	0.01	0-1000g-2000g-3000g
BL0034	M4102	4100	0.01	0-1300g-2600g-3900g
BL0035	M5202	5200	0.01	0-800g-1600g-2400g-3200g-4000g-4800g
BL0036	M6202	6200	0.01	0-1000g-2000g-3000g-4000g-5000g-6000g
				Salita
BL0037	M1702i	1700	0.01	0-500g-1000g-1500g
BL0038	M2202i	2200	0.01	0-700g-1400g-2100g
BL0039	M3102i	3100	0.01	0-1000g-2000g-3000g
BL0040	M4102i	4100	0.01	0-1300g-2600g-3900g
BL0041	M5202i	5200	0.01	0-800g-1600g-2400g-3200g-4000g-4800g
BL0042	M6202i	6200	0.01	0-1000g-2000g-3000g-4000g-5000g-6000g



MARK "M" 0.0110.1 g					
ODOIO E	MORELLO	PORTATA(RISOLUZ.4gti	L.inearita' fpBsi	lassB FL
					S
		22C LCCC	v.v v.'	v -v	v v v v ^ y
	1/2 C 2D		v.v v.'		C-' EC 3CC EC
	1/2 C 2D	E2CC	-.		C-'KCg-3CCc-ELCCc
B_ " I'	i2v2C	u	v. v.		" „u -2vuuu-3vuuu-vuuu-uvuuu-uvuc
6_ = =	2v20	22v 2vvv	v.v v.'		v v 2vvv '?v
			-.		C-'ECCg-3=c-LECCc
BL___-	V55 C20				" ' CC-3 CC-.E',LCC
BL f E	VE2C20	E2CC	C. v.'		u ?u"u 2~vuu 32vuu ~vuuu ~?vu~
6L- '.E2	v2v2C	v V v 62CC			. ,v g-2CCC -3CCCc-LCCCc-ECCCc-6

TOP RAY 0.001 g					
=DICE	MODE LLO	PORTATA4g;	RISOLUZ.g }	Lin-arita' fpEei	Sa :a
D_r	TOP RAY		v.--		

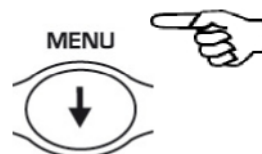
Internal calibration

In these balance models there are 4 calibration modes:

From display zero condition, press and keep pressed the **MENU** button until the acoustic alarm is over, then release the button. The message “**units**” will be visualized on display, press then **MENU** button until you visualize “**Calib**” on display. Press **PRINT** to confirm.

1. Select the calibration mode you wish by pressing **MENU** button in sequence:

AUT-CAL: auto calibration
I-CAL: internal calibration
E-CAL: external calibration
TEC-CAL: technical calibration



2. Press **PRINT** button to confirm “**AUT-CAL**”, “**I-CAL**”, “**E-CAL**”. To confirm “**TEC-CAL**” keep pressed the **PRINT** button until the acoustic alarm is over.
3. After selection, the balance returns to calibration menu. Press and keep pressed **MENU** button until the acoustic alarm is over, then release the button. Balance is again ready for weighing operations.

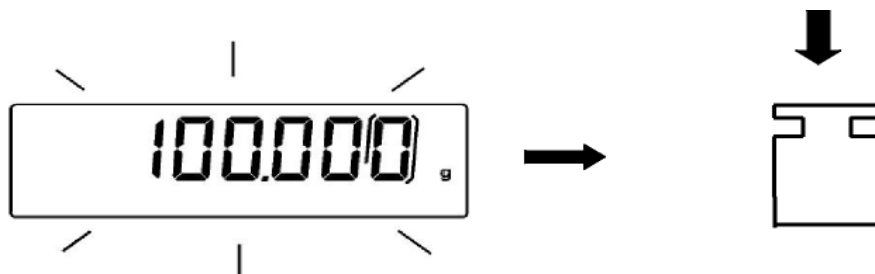
Technical calibration (TEC-CAL)

This function allows to store the value of internal reference mass whenever checking or assistance actions require it.

1. After having selected the **TEC-CAL** calibration mode, press **CAL** button at empty pan. It will be displayed “**CAL**”.

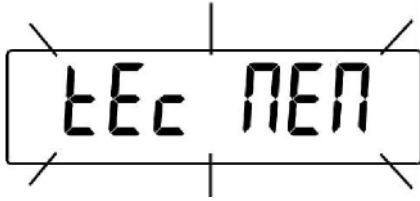


2. When the value of calibration weight start flashing on display, load the weight on to the balance pan.



3. Wait the acoustic alarm and that the displayed calibrated weight value stops flashing, then unload the weight from balance pan.
4. When string “**0.000**” is displayed continuously, then press and keep pressed the **PRINT** button. This starts the internal weight value automatic acquisition and store. During the acquisition cycle,

the display will show “TEC-MEM”.



5. After having stored the value of internal calibration weight, balance returns to normal weighing conditions.
6. Return to calibration menu as described at paragraph 6.2 and set the desired calibration mode: internal, automatic or external..



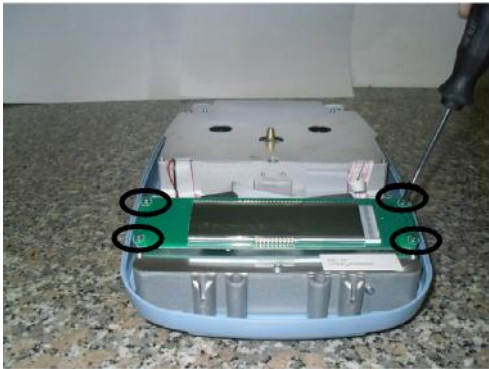
ATTENTION : this procedure must be effected only using E2-class reference masses.

Change main board EMC series IL-0.0001, PB-0.001, PB-0.01g

1. REMOVE THE COVER OF BALANCE.(REMOVE THE SCREW ON THE TOP, AND FOUR SCREWS ON THE BOTTOM.)



2. REMOVE THE DISPLAY AND THE BOARD SHIELD.



3. DISCONNECT POWER SUPPLY, OPTICAL SENSOR CONNECTOR, RS232 CONNECTOR, KEYBOARD CONNECTOR, DISPLAY CONNECTOR, GEAR CONNECTOR, AND UNSOLDER SIGNAL RESISTOR.



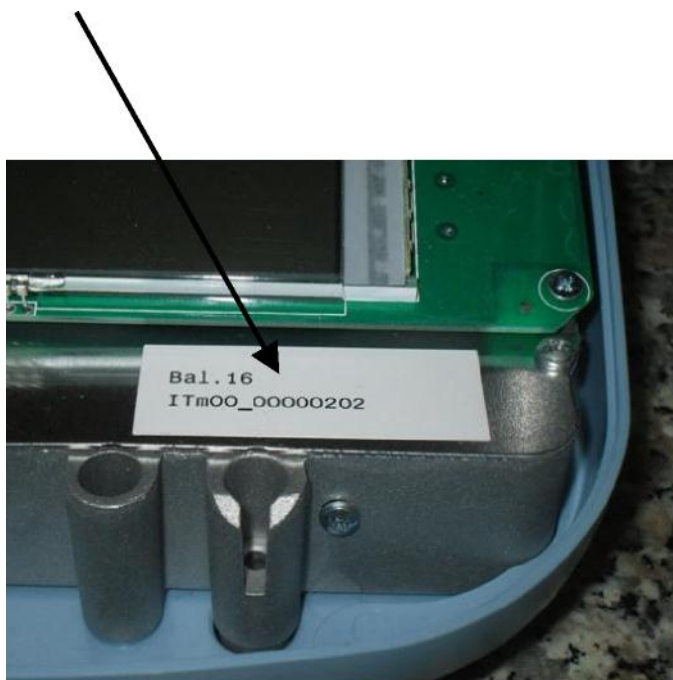
4. REMOVE SCREWS FIXED MAIN BOARD AND SINK.



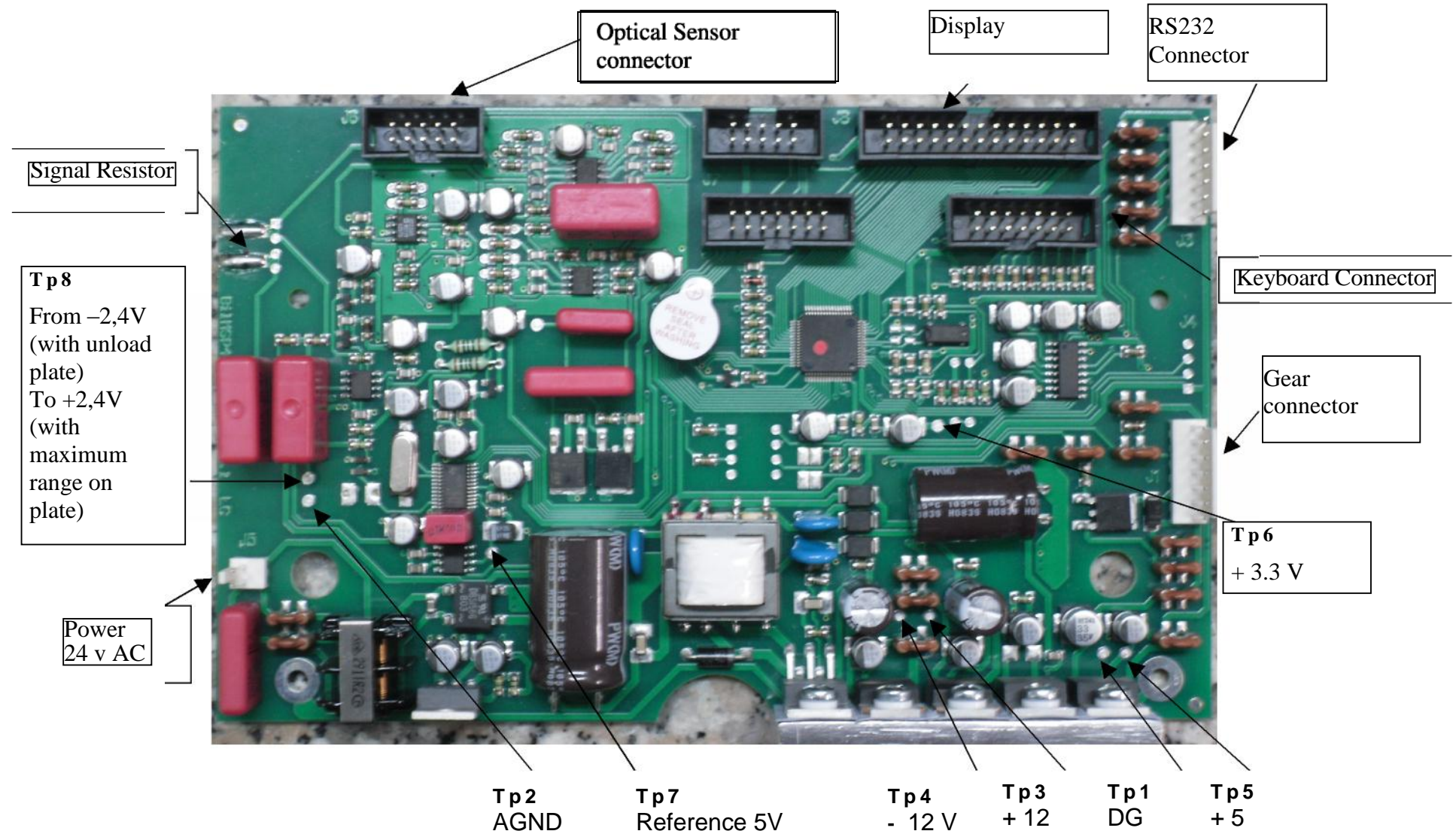
NOW YOU CAN ASSEMBLE THE NEW MAIN BOARD.

5. CONNECT, POWER SUPPLY, OPTICAL SENSOR, RS232, KEYBOARD, DISPLAY, GEAR CONNECTOR AND SOLD SIGNAL RESISTOR.
6. FIX THE DISPLAY AND THE BOARD SHIELD.
7. FIX THE COVER OF BALANCE.
8. CHECK AND REGULATE CALIBRATION LINEARITY AND INTERNAL CALIBRATION(TECH CAL).

IMPORTANT: When you order a new MAIN BOARD, please tell us the reference code printed on label on board shield (fig.1)













Check of main board signals EMC series IL-0.0001, PB-0.001, PB-0.01g.



Spare parts for balance EMC model IL-0.0001, PB-0.001, PB-0.01g

M0.0001g/M0.0001g		
CODE	DESCRIPTION	IMAGE
A405	GLASS TOP OF WINDSHIELD	
A404	GLASS FRONT OF WINDSHIELD	
A406	GLASS SIDE LEFT/RIGHT OF WINDSHIELD	
A019	KIT PLASTIC HANDLES	
A024	INOX BASE OF WINDSHIELD	
M637	PROTECTION RING	
M635	PLATE 80mm	
T011	ANALITICAL UNDERPLATE	
M916	PROTECTION CYLINDER	
A717	PLASTIC COVER 6K	
A718	PLASTIC BOTTOM BLUE	

M0.0001g/M0.0001ig

CODE	DESCRIPTION	IMAGE
A7 13	ALLUMINIUM INTERNAL CASE	
A7 12	MECHANICAL GROUP SHIELD	
A7 11	MAIN BOARD SHIELD	
A7 19	ADJUSTABLE FEET PLASTIC CASE	
A538	HOOK CAP	
<u>A73 1</u>	DUST COVER ANALITICAL	
A503	LEVEL BUBBLE	
A720	KEYBOARD BEL ADT7 124	
S3 14	MAIN BOARD BILMSP430_427_REV2.1 ANALITICAL	
S284	OPTICAL SENSOR	
S304	DISPLAY BOARD DISP_LCD_ADT7 1 24_REV 1.1	

M0.0001g/M0.0001g		
CODE	DESCRIPTION	IMAGE
E318	LCD WITH BACKLIGHT ADT7124	
S310	CABLE 14 PIN FOR KEY CONNECTING	
S311	CABLE 26 PIN FOR DISPLAY CONNECTING	
E493	CABLE WITH DC PLUG	
E748	CABLE WITH RS232 CONNECTOR	
E496	CABLE WITH SENSOR TEMPERATURE	
M620	MONOBLOC	
M109	LEVER WITH FLAG	
M912	COIL	
M201	MOVING PILLAR	

M0.0001g/M0.0001g		
CODE	DESCRIPTION	IMAGE
M053	MAGNETIC GROUP	
M054	COVER FOR MAGNET	
M004	KIT REGULATORS FOR CORNER ERROR	
M930	TOP PARALLEL GUIDE 0.10mm BOTTOM PARALLEL GUIDE 0.10mm	
M301	VERTICAL SPRING 0.5/0.10mm	
M203	SPACER OF MOVING PILLAR 0.5mm	
M924	SPACER OF LEVER 7mm	
M203	SPACER OF LEVER 0.5mm	
M105	SPACER OF COIL 2mm	
M210	CLAMPIN PLATE VERTICAL SPRING	

M0.0001g/M0.0001g		
CODE	DESCRIPTION	IMAGE
M900	FULCRUM FLEXURES 0.5/0.09mm	
M913	ANALITICAL CONE	
M909	CONE SUPPORT	
ONLY M0.0001g		
CODE	DESCRIPTION	IMAGE
E483	GEAR MOTOR	
M904	CAM	
M903	SUPPORT OF GEAR MOTOR	
S312	SENSOR MOTOR BOARD	
M908	SUPPORT OF INTERNAL WEIGHT	
M647	INTERNAL WEIGHT 100g	





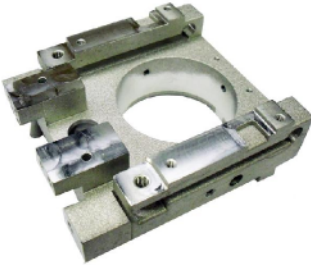



ONLY M0.0001g		
CODE	DESCRIPTION	IMAGE
M642	INTERNAL WEIGHT 200g	












PB-0.001 g / PB-0.001 g









M0.001g/M0.001g		
CODE	DESCRIPTION	IMAGE
A401	CIRCULAR WIND SHIELD 6K	
A714	COVER WIND SHIELD 6K	
A715	BASE WIND SHIELD 6K	
T011	UNDERPLATE FOR MILLIGRAM	
M405	PLATE 110mm	
A719	ADJUSTABLE FEET PLASTIC CASE	
A538	HOOK CAP	
A534	REGULATE CAP	
T222	DUST COVER 6K	
A717	PLASTIC COVER 6K	
A718	PLASTIC BOTTOM BLUE	

PB-0.001 g / PB-0.001 g
A712 MECHANICAL GROUP SHIELD

		
A7 11	MAIN BOARD SHIELD	
A7 13	ALLUMINIUM INTERNAL CASE	
A503	LEVEL BUBBLE	
S3 13	MAIN BOARD MSP430_427_REV2.1 6K	
S284	OPTICAL SENSOR	
S304	DISPLAY BOARD DISP_LCD_ADT7 1 24_REV 1.1	
E3 18	LCD ADT7 124	
S310	CABLE 14 PIN FOR KEY CONNECTING	
S3 11	CABLE 26 PIN FOR DISPLAY CONNECTING	

A720	KEYBOARD BEL ADT7 124	
E493	CABLE WITH DC PLUG	
E748	CABLE WITH RS232 CONNECTOR	
E496	CABLE WITH SENSOR TEMPERATURE	
M620	MONOBLOC	
M109	LEVER WITH FLAG	
M9 12	COIL	
M20 1	MOVING PILLAR	

M0.001g/M0.001g		
CODE	DESCRIPTION	IMAGE
M053	MAGNETIC GROUP	
M054	COVER FOR MAGNET	
M004	KIT REGULATORS FOR CORNER ERROR	
M930	TOP PARALLEL GUIDE 0.10mm BOTTOM PARALLEL GUIDE 0.10mm	
M301	VERTICAL SPRING 0.5/0.10mm	
M207	SPACER OF MOVING PILLAR 4mm	
M207	SPACER OF LEVER 4mm	
M105	SPACER OF COIL 2mm	
M210	CLAMPIN PLATE VERTICAL SPRING	
M900	FULCRUM FLEXURES 0.5/0.09mm	
M214	KIT HOOK	




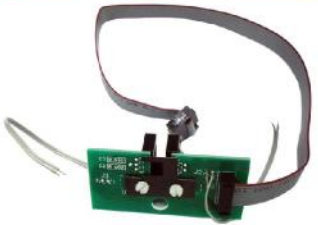







M0.001g/M0.001g		
CODE	DESCRIPTION	IMAGE
M922	MILLIGRAM CONE	
M909	CONE SUPPORT	
E804	POWER SUPPLY IN 230V OUT 24V AC EUROPEAN PLUG	
E806	POWER SUPPLY IN 120V OUT 24V AC US PLUG	
E805	POWER SUPPLY IN 230V OUT 24V AC UK PLUG	
ONLY M0.001g		
CODE	DESCRIPTION	IMAGE
E483	GEAR MOTOR	
M904	CAM	
M903	SUPPORT OF GEAR MOTOR	








ONLY M0.001g












CODE	DESCRIPTION	IMAGE
S312	SENSOR MOTOR BOARD	
M908	SUPPOR OF INTERNAL WEIGHT	
M642	INTERNAL WEIGTH 200g	

M0.01g/M0.01ig

M0.01g/M0.01ig		
CODE	DESCRIPTION	IMAGE
A716	DISC INOX 160mm	
M401	UNDERPLATE FOR CENTIGRAM	
M406	PLATE 160mm	
A719	ADJUSTABLE FEET PLASTIC CASE	
A538	HOOK CAP	
T222	DUST COVER 6K	
A717	PLASTIC COVER 6K	
A718	PLASTIC BOTTOM BLUE	
A712	MECHANICAL GROUP SHIELD	
A711	MAIN BOARD SHIELD	

	<p>A713 ALLUMINIUM INTERNAL CASE</p>	
<p>A503</p>	<p>LEVEL BUBBLE</p>	
<p>S3 13</p>	<p>MAIN BOARD MSP430_427_REV2.1 6K</p>	
<p>S284</p>	<p>OPTICAL SENSOR</p>	
<p>S304</p>	<p>DISPLAY BOARD DISP_LCD_ADT7 1 24_REV 1.1</p>	
<p>E3 18</p>	<p>LCD ADT7 124</p>	
<p>S310</p>	<p>CABLE 14 PIN FOR KEY CONNECTING</p>	
<p>S3 11</p>	<p>CABLE 26 PIN FOR DISPLAY CONNECTING</p>	
<p>A720</p>	<p>KEYBOARD BEL ADT7 124</p>	
<p>E493</p>	<p>CABLE WITH DC PLUG</p>	
<p>E748</p>	<p>CABLE WITH RS232 CONNECTOR</p>	

	E496 CABLE WITH SENSOR TEMPERATURE	
M620	MONOBLOC	
M109	LEVER WITH FLAG	
M9 12	COIL	
M20 1	MOVING PILLAR	
M053	MAGNETIC GROUP	
M054	COVER MAGNET	

M0.01g/M0.01g		
CODE	DESCRIPTION	IMAGE
M004	KIT REGULADORES FOR CORNER ERROR	
M929	TOP PARALLEL GUIDE 0.12mm BOTTOM PARALLEL GUIDE 0.12mm	
M303	VERTICAL SPRING 1/012mm	
M924	SPACER OF MOVING PILLAR 7mm	
M203	SPACER OF MOVING PILLAR 0.5mm	
M105	SPACER OF COIL 2mm	
M210	CLAMPIN PLATE VERTICAL SPRING	
M306	FULCRUM FLEXURES 0.5/0.10mm	
M214	KIT HOOK	
M923	CENTESIMAL CONE	
M909	CONE SUPPORT	

M0.01g/M0.01ig

CODE	DESCRIPTION	IMAGE
E804	POWER SUPPLY IN 230V OUT 24V AC EUROPEAN PLUG	
E806	POWER SUPPLY IN 120V OUT 24V AC US PLUG	
E805	POWER SUPPLY IN 230V OUT 24V AC UK PLUG	

ONLY M0.01ig

CODE	DESCRIPTION	IMAGE
E483	GEAR MOTOR	
M904	CAM	
M903	SUPPORT OF GEAR MOTOR	
S312	SENSOR MOTOR BOARD	
M908	SUPPOR OF INTERNAL WEIGHT	

ONLY M0.01ig		
CODE	DESCRIPTION	IMAGE
M641	INTERNAL WEIGHT 400g	
M642	INTERNAL WEIGTH 200g	