

Trap machines use and maintenance manual



**modello
GREEN**

F.A.B. **forniture
articoli
balltrap**

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**fornitore ufficiale
FITA**

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INTRODUCTION

Welcome and thanks to have preferred our products.

F.A.B. brand is present on the market for over thirty years.

An unsurpassable experience has concurred of being counted between the companies leader of the sector.

Products more and more improving and answering to the shooters world requirements .

The use of these products in the time has confirmed the validity and the efficiency to world-wide level.

The present technical manual supplies to you useful instructions for the assembly and the regulation of **FAB** targets machines .

FAB srl reserves the right of modification of the present manual without any warning;

the same one is not responsible for eventual damages to things or persons in consequence of the use of such documentation.

SYMBOLOGY



DANGEROUS ELECTRICAL WORKER TENSION

It is to indicate serious danger by means of electrical tension worker.



ATTENTION

It is to indicate serious danger and therefore it suggests the necessity to adopt extreme attention waves to avoid serious damages to things or persons.



PRECAUTION

It is to indicate that, to avoid damaging to the things , it is necessary to lend particular attention .



USEFUL INFORMATION

It is to indicate particular useful information for the customer.

TECHNICAL CHARACTERISTICS

ENCUMBERED MAXIMUM DIMENSION	Width	ab. 65 cm.
	Length	ab. 80 cm.
	Height	ab. 65 cm.
	Weight	ab. 75 cm.

FIXED STRUCTURE

SUPPORT BASE :	BODY MACHINE
Material : Steel with superficial varnish covering	Material : painted steel
Height : 125 mm.	Height : 105 mm.
Diameter : Ø 400 mm.	
STORE :	
Material : Extruded of aluminum	
Height :	
220 mm (capacity 220 targets ab) TRAP	
440 mm (capacity 440 targets ab) SKEET	
Diameter : Ø 480 mm	

THROWING SYSTEM

FREE WHEEL :	RELEASE ARM :
Material : Steel	Material : Extruded of aluminum
Thickness : 17 mm	Thickness : 10 mm
Diameter : Ø 55 mm	Length : 400 mm
	Width : from 50 mm to 30 mm

THROWING SPRING :	TRACK LAUNCH :
Material : Steel	Material : galvanized steel
Thickness : 7 mm	Length : 520 mm
Length : 240 mm	Width : 175 mm
Width : 50 mm	

CHARACTERISTIC ELECTRICAL WORKERS

Characteristic in general	Tension: 220 / 50 Hertz Tension of release : 12 Volt
Asynchronous electric three-phase motor :	HP 0,75 / 220 Volt / 50 Hertz / 4.1 A / IP55
Cables :	3 x 1,5 m m q. anti flame

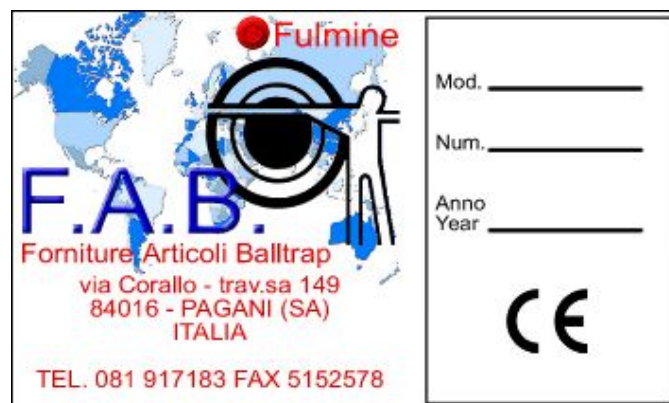
LABEL OF IDENTIFICATION



The identification label , placed to the side of the body of the machine , shows the inherent information of the machine as : model, progressive number , year of construction .

It is absolutely prohibited to remove the identification label .

The identification label is useful also to address directly eventual communication to the manufacturing company.



SAFETY MEASURES

- ! User is held to respect the safety norms reported in this manual that must be consulted with attention before use.

Inobservance of such warnings could cause serious damages to persons and/or things.

F.A.B. srl does not assume responsibility for damages to things or persons deriving from a wrong use of the machine.

It is required of :

- ☞ It is dangerous to enter in contact with parts of the machine in motion , like storage container or arm of launch.
- ☞ The protection system does not go removed for any reason.

Before acting on the machine to make sure :

- ! That any source of electric feeding is connected to the machine ;
- ! That nobody pauses in the range of action of the machines ;
- ! That the release arm is in position of disarmament (see fig. 1) ;
- ! That the lever switch , placed on the electrical box, is positioned on OFF (see fig. 2);
- ! That the protective systems , reporting the adhesives label marked with symbol and wording, have not been removed (see fig. 3);
- ! That no strangers object have been forgotten on the surface, or inside of the machine , or inside of storage container.

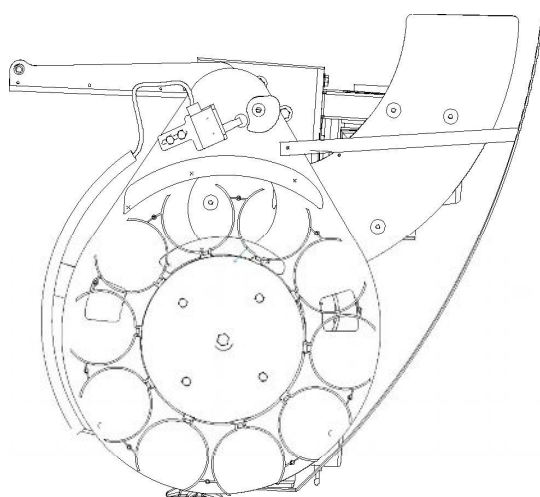


Fig. 1

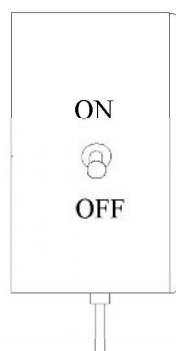


Fig.2



Fig. 3

WARRANTY



FAB srl guarantees own targets machines for a period of 24 months from the shipment date.

Warranty does not cover damages caused from bad use, abuse , tampering or alteration of the machines. Also it does not cover damages caused from bad operation of the electrical workers systems and from causes deriving from adverse weather condition.

Within the term over indicated , the customers will have to report for enrolled to F.A.B. srl whichever bad working caused from the components or from the manufacture.

WORKING



Before proceeding to any handling , to verify the security measures reported in the suitable chapter.

It is possible to resume the working of the machine in little steps :

1. To make sure that the machine is well fixed to the stirrup placed t in the inside of the hole/box and that the position of the machine is towards the launch direction ;
2. To apply and verify the security measures as seen in fig. 4 ;
3. To verify that the machine is correctly connected to the electric system. Further checking goes previously carried out to be sure that the electric system is 230 Voltage and that it can support the charged (in terms of KW) of the number of targets machines;
4. At first to verify the correct working of the machine at empty storage;
 - a. To insert the electrical feeding through the micro switch at small lever placed on the right of the body of the machine (fig. 2) ;
 - b. To wait the happened loading of the arm of launch and of the spring placed below to the body of the machine;
 - c. To proceed releasing through the spherical handle bar placed on the left part of the machine (Release H in fig. 6)
 - d. To shooting happened, it must wait the following loading .
5. To make sure that the storage container is well fixed to the machine ;
6. To verify that the targets, that are going to be used , are compatible with the kind of storage container in equipment to the machine and then to load the storage container;
7. To supply feeding electrical worker to the machines by means of appropriate micro-switch placed on the right of the body of the machine;
8. To wait for the whole loading of the throwing arm and therefore of the spring below to the body of the machine ;
9. To proceed releasing by the spherical handle bar placed on the left part of the machine.

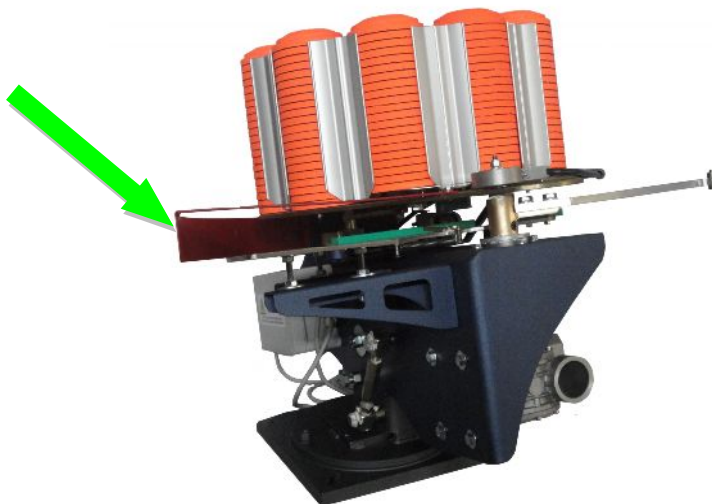


Fig.4

REGULATIONS AND PUTTING IN WORKING

The machine could need , eventually, of regulations for the set-up .

The calibrations can be direct for :

- ☞ Horizontal angle
- ☞ Elevation angle
- ☞ Length of the launch
- ☞ Inclination of the target
- ☞ Separation blade
- ☞ Parabolic track
- ☞ Exact position of rubber of launch respect to the targets .

HORIZONTAL ANGLE

In order to modify, liking , the horizontal angle , must be acted on the bolts indicates to you in figure 5 : **loosening them, the machine is free to wheel.**

To lock the bolts after having setting up the wished angle .

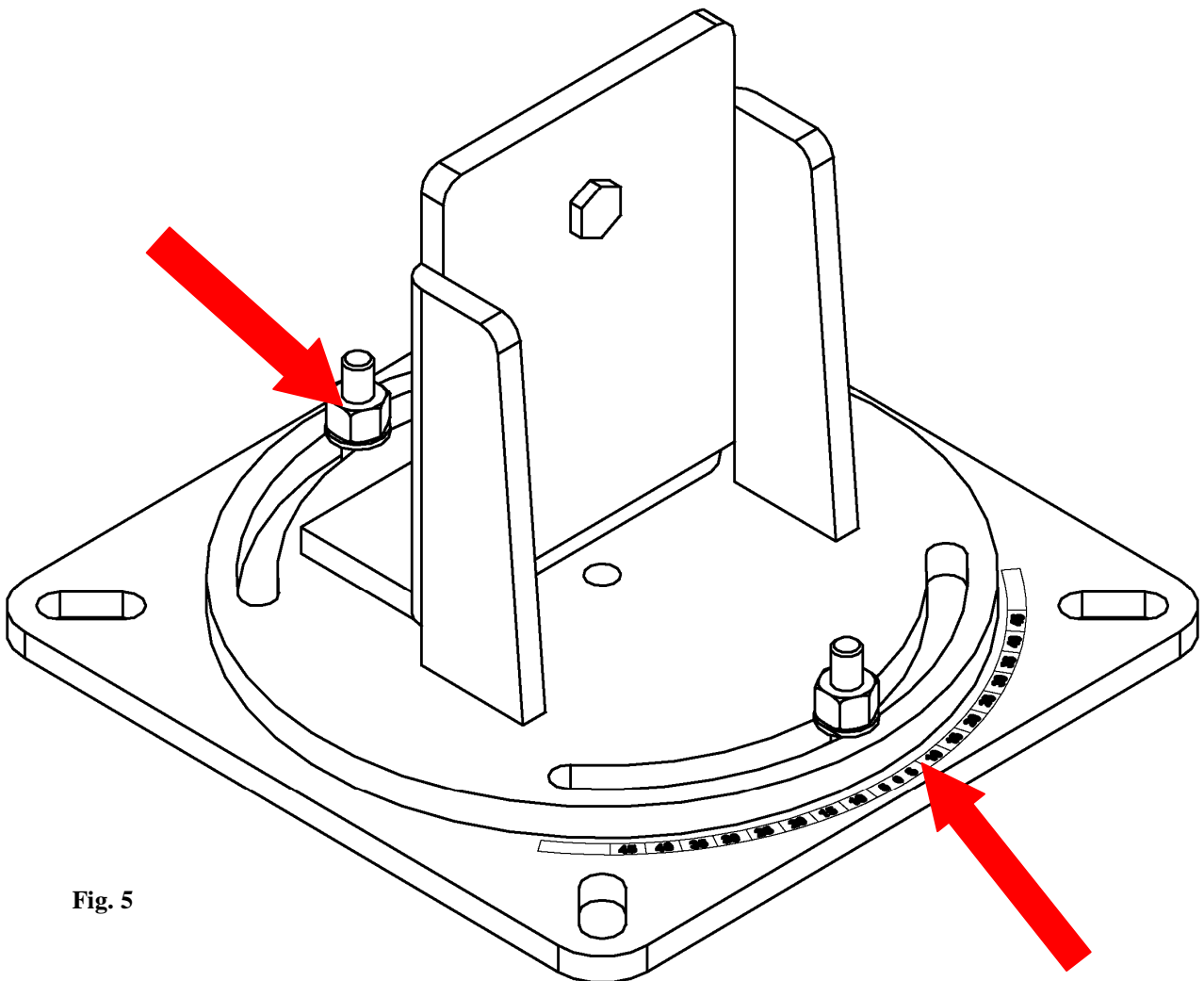


Fig. 5

ELEVATION ANGLE

The angle of elevation of the trajectory of the targets can be modified as you like.

The regulation have to be effected acting on the connecting rod L (fig. 6) placed on the left side of the machine .

To act on the central part must to be used a hexagonal key by 19.

Wheeling , then, towards right you have a reduction of elevation angle and wheeling, on the contrary , towards left, an increase of elevation angle .

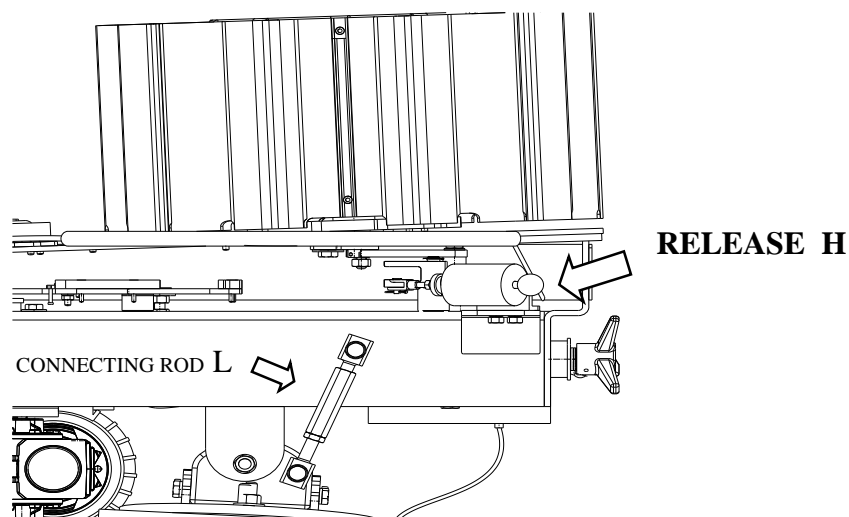


Fig. 6

THROWING LENGHT

In order to modify the lenght of the launch , to wheel the handle grip (M) , placed on the back of the body of machine . Clockwise rotation of handle grip increases the tension of the throwing spring, concurring, therefore , to give more power to the launch.

Acting on the contrary , will be obtained a reduction of the length of the launch.

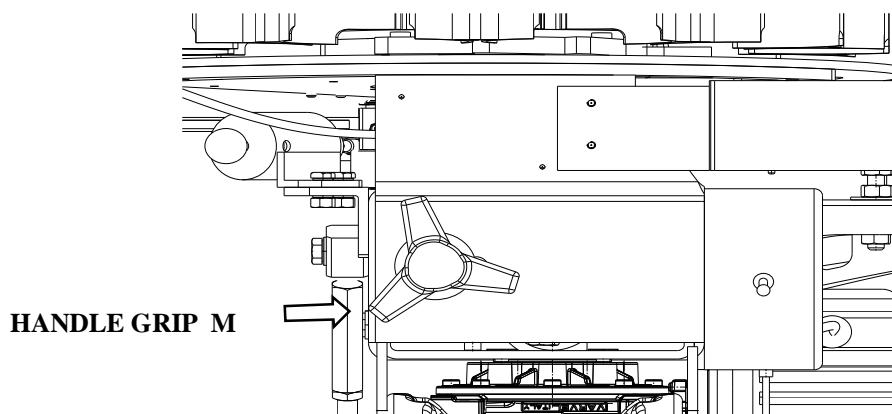
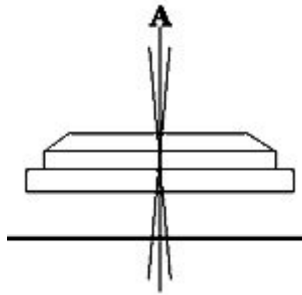


Fig. 7

INCLINATION OF THE TARGETS RESPECT THE PLANE



For several reason the target axis, during the trajectory, could not be perpendicular to the horizontal plane (A). In order to correct such trouble the machine, indicated in fig. 8 , is equipped with a regulator system. Loosen the nut and bolt indicated in fig. 8 and to incline the requested angle of the machine towards wished directions, for example, in the case of a throwing with a target inclined left , to lean towards right and vice versa.

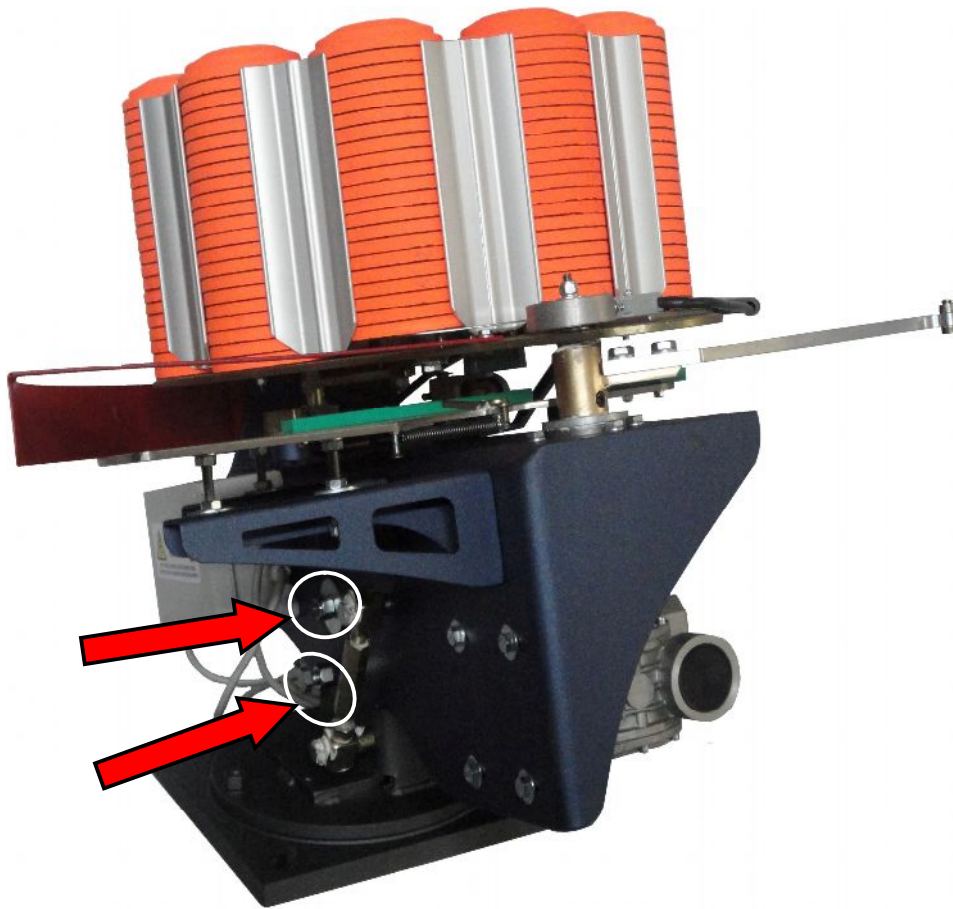


Fig. 8

At the end of such operation , to screw down again the nut and bolt making much attention.

BLADES SEPARATORS

Blades separators have the function to separate the targets , and they need of a carefully regulation so that their distance from the plate plan , is lightly higher than the height of the first step of the target.

F.A.B. SRL recommends extremely attention doing this regulation because a wrong regulation could cause the breakage of superior or inferior target inside the storage container .

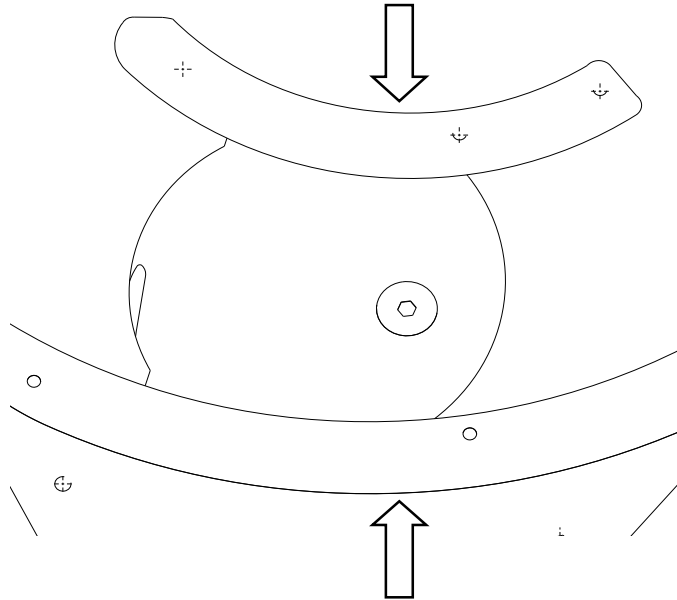


Fig.10

To resolve this inconvenience, in the case it taken place, to act in the following ways:

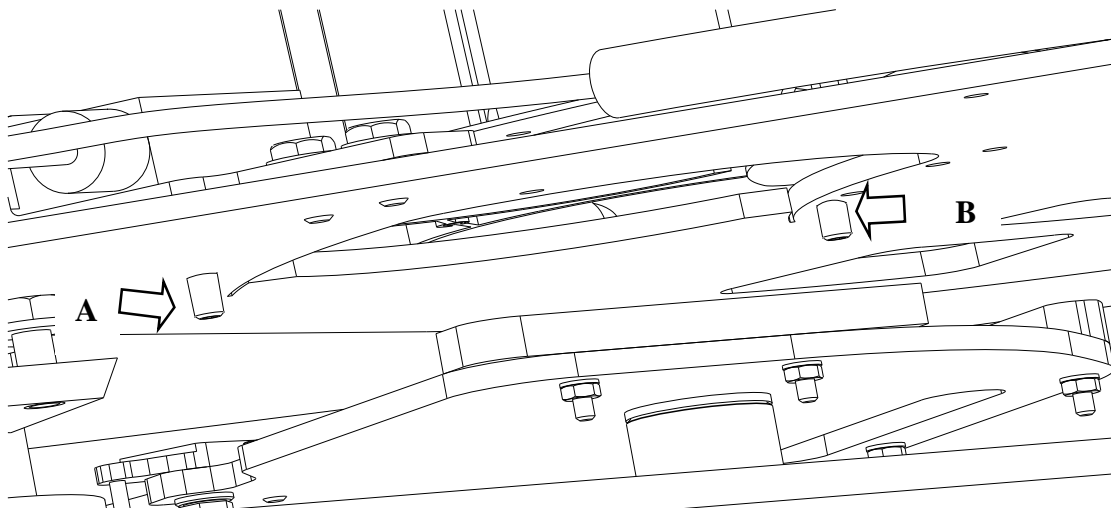


Fig. 11

INCONVENIENCE	RESOLUTION
Break of upper target	Through a hexagonal key from 3 mm, to operate on screws A and B <u>to reduce the height</u> (fig.11)
Break of the target below	Through a hexagonal key from 3 mm, to operate on screws A and B <u>to increase the height</u> (fig.11)

TARGET POSITION REGULATION

Target position is in function of the : runway inclination , rubber and of the way out position.

To adjust the parameters of which over , to act as from the directions following reported :



BEFORE MAKING SUCH REGULATIONS TO HOLD AT ALL THE SAFETY

MEASURES :



To eliminate electric tension from the machine through the micro switch in fig.2;



To discharge the spring acting on the handle grip M , and turning it in anti hour sense (fig.7);

RUNWAY REGULATIONS

To regulate the height of the throwing track on its final tract , acting on the regulation screws placed under it (fig. 12)

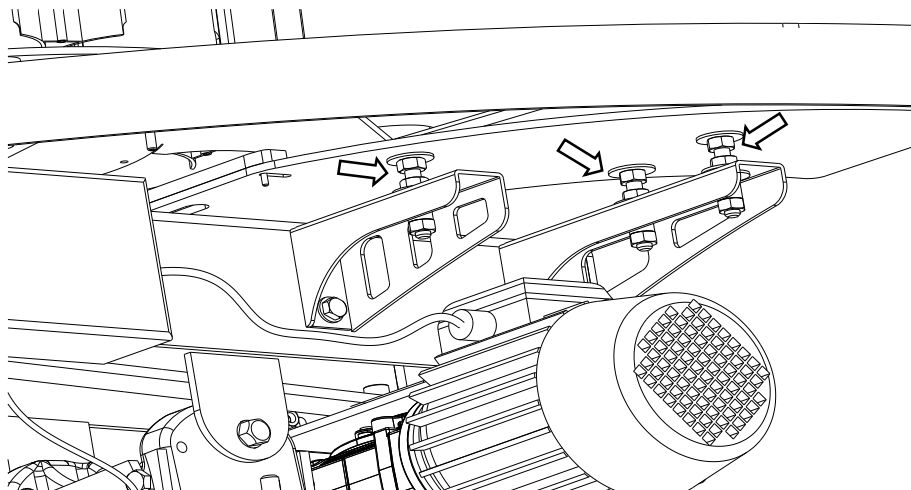


Fig. 12

To regulate the height of the throwing track where take place the target, to change the thickness of the ring indicated in fig. 13 .

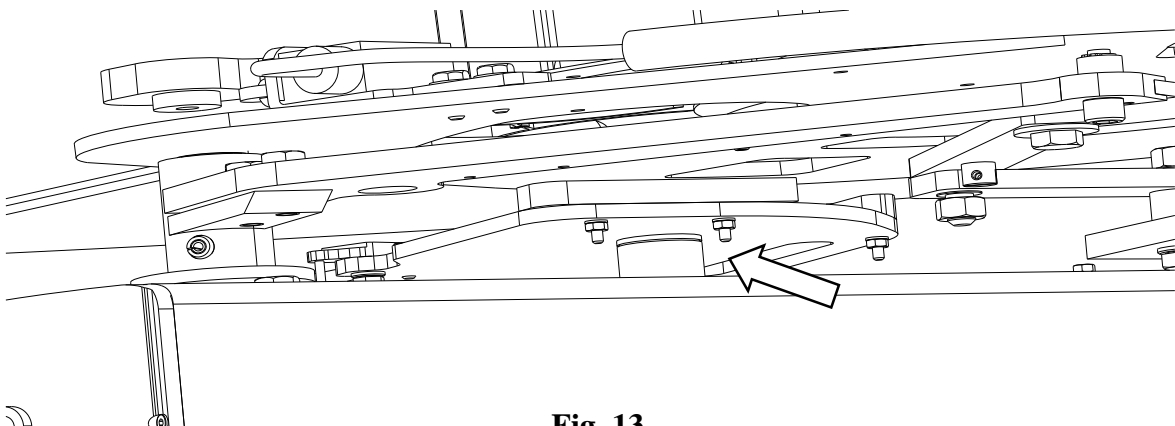


Fig. 13

TARGET POSITION ON THROWING TRACK

The position of the target on throwing track is of remarkable importance for a correct operation of the machine, and it must be verified in the initial part that in the final part of throwing track.

Regulation in initial part :

For a correct working of the machine, the target, in the initial part, must be found to one distance of approximately 3 mm from rubberized list positioned on the arm of the machine (fig. 14).

In the case it is necessary to modify such height, it can be changed the thickness of the ring indicated in fig. 13.

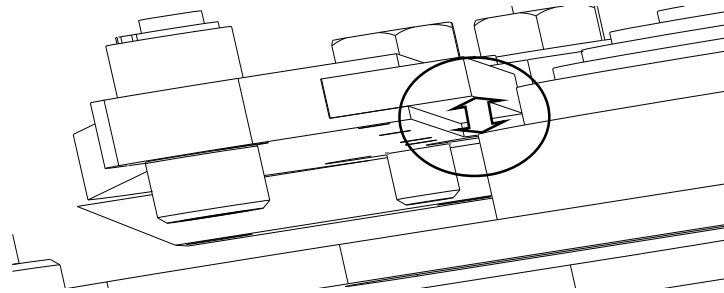


Fig.14

Regulation in final part :

For a corrected working of the machine, the target, in the final part, must be found to one distance of approximately 2 mm from the rubberized list positioned on the arm of the machine (fig. 15).

In the case it is necessary to modify such height, to act on the screws indicates in fig. 12.

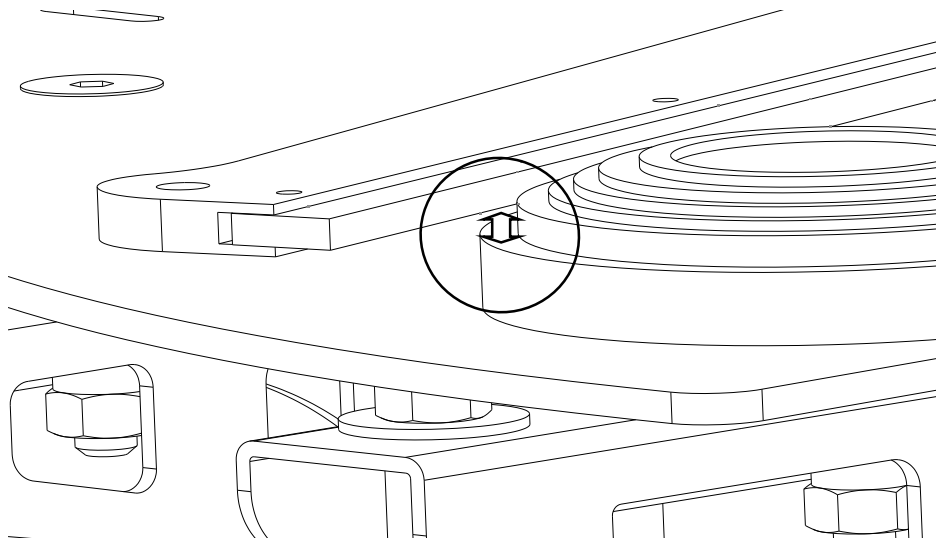


Fig.15

In case of breakages of the target during the throwing, to be sure that the component that put near the target (1) places correctly the target such as seen in figure 16. In the case all that

does not happen, to verify the integrity of throwing spring (2) . Acting on the list (3) it is possible to adjust the exit position of the targets from the machine runway so that it is in the middle respect the same runway .

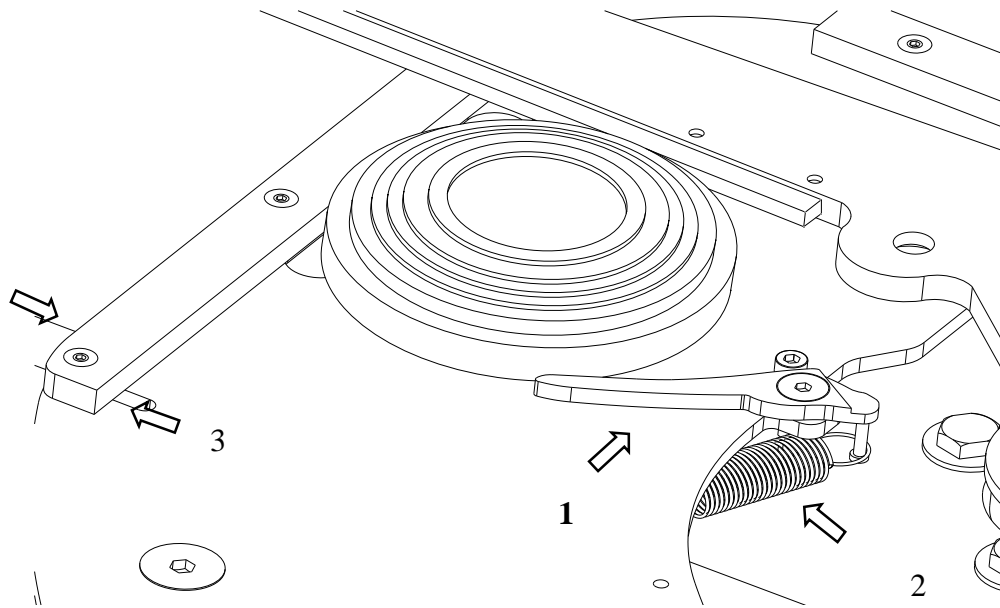


Fig. 16

MAINTENANCE

Maintenance of the machine is essential for a correct and continuous working. Periodically to lubricate the gear of the storage container , the release and the shafting pieces from motor to arm and storage container.

For further information to contact qualified F.A.B. staff .

ANOMALIES DURING THE WORKING

- ! In the case of absence or preventive maintenance, it is possible that the machine can
- have several bad working.

Here a list of main and more frequently bad working and respective solutions :

ATTENTION : BEFORE PROCEEDING TO ANY CHANGE OR ADJUSTEMENT TO CONTACT A QUALIFIED TECHNICIEN F.A.B. AND TO CONFORM TO THE DESCRIBED SAFETY MEASURES IN THE PROCEEDING PAGES !

BAD WORKING	CAUSES
The motor is in working but the arm does not move .	<ul style="list-style-type: none"> • The arm could be in block ; • Electric feeding is not adapted ; • The axis is broken ; • The axis is not well greased; • The mechanism of the reducer is broken ;
The arm is ready but do not throw	<ul style="list-style-type: none"> • It is not electric feeding ; • Some electric component inside the box is damaged ; • The electromagnet is damaged ; • The release lever is broken off ; • Feeding cable is damaged ; • Feeding switch is broken ; • Throwing spring is broken ;
The targets are broken <u>BEFORE</u> the launch	<ul style="list-style-type: none"> • The targets were already damaged ; • The targets have broken when have been put in the storage container ; • On the base of storage container are present some rubble of target ; • Blade separators have been regulated in wrong way .
The targets result broken DURING the launch	<ul style="list-style-type: none"> • The throwing spring is regulated for a launch more than 80 meters ; • The rubber list is damaged ; • The target is not near to the rubber list by means of the targets leaning (fig 16) • Throwing ramp is regulated in a wrong way.
The storage container does not turn	<ul style="list-style-type: none"> • The lock spring , placed inside the storage container, could be broken ;
the lock remain embedded in the gear	<ul style="list-style-type: none"> • Absence or not much lubrication;
The motor does not arrest	<ul style="list-style-type: none"> • The eccentric of piloting of the end run micro switch could be moved ; • The end run micro switch could be broken .

SPARE PARTS AND TECHNICAL ASSISTANCE

To resolve the problems above mentioned, to check all the regulations of the machine as from the point previously illustrated and eventually to contact qualified FAB Staff.

Eventual spare parts or enquiry for technical assistance intervention , will be forwarded, filling the suitable form **(A)** in enclosure to the present manual , directly to the following

address : **FAB srl - via Corallo trav. 197 - 84016 PAGANI (SA) ITALIA**

Tel . 081 917183 – 081 5159750 - FAX 081 5152578 Mail : info@fabdrf.com

FAB SRL. Forniture Articoli Balltrap			Page 1 of 4
SPARE PARTS LIST			
*	CODE	DESCRIPTION	
	B 1	SQUARE BASE	
	B 2	ROUND BASE WITH SUPPORT FRAME	
	B 3	PINS	
	B 4	WASHERS	
	B 5	NUTS	
	B 6	NUT	
	B 7	NUT	
	B 8	PIN	
	B 9	SLIDE BAR REGULATION TIE-ROD	
	B 10	BUSH SPACER TIE-ROD	
	B 11	WASHER	
	B 12	PIN FOR FIXING OF THE TIE-ROD	
	B 13	NUT	
	B 14	SCREW OF INFERIOR TIE-ROD	
	B 15	SCREW OF SUPERIOR TIE-ROD	
	B 16	BUSH TIE-ROD	
	T 1	FRAME	
	T 2	SUPERIOR FULCRUM	
	T 3	HOOK	
	T 4	TRACK POSTERIOR SUPPORT	
	T 5	TRACK FRONT SUPPORT	
	T 6	PIN	
	T 7	SEEGER	
	T 8	SPRING TIE-ROD	
	T 9	BEARING	
	T 10	WASHER	
	T 11	SHOCK -ABSORBER SPRING	
	T 12	NUT	
	T 13	GREASING	
	T 14	PINS	
	T 15	WASHERS	
	T 16	PINS	
	T 17	NUT	
	T 18	PINS	
	T 19	WASHERS	
	T 20	NUTS	
	T 21	PIN FORK	
	T 22	SPLIT PIN	
	T 23	FORK	
	T 24	MAGNETO HUB	
	T 25	MAGNETO SPRING	
	T 26	SEEGER	
	T 27	MAGNETO	
	T 28	MAGNETO COVERING	
	T 29	THREADED SLIDE BAR	
	T 30	NUT	
* To mark with one X spare part request			

SPARE PARTS LIST

*	CODE	DESCRIPTION
	T 31	BALL-GRIP
	T 32	HUB
	T 33	WASHER
	T 34	INFERIOR FULCRUM
	T 35	ELASTIC PLUG
	T 36	CONNECTING ROD OF THE STORAGE CONTAINER
	T 37	BEARINGS
	T 38	WASHERS
	T 39	PIN
	T 40	PIN
	T 41	SPRING PLUG
	T 42	PIN
	T 43	THROWING SPRING
	T 44	WASHER
	T 45	NUTS
	T 46	JOINT
	T 47	WASHERS
	E 1	MOTOR
	E 2	REDUCER
	E 3	PIN
	E 4	WASHER
	E 5	PINS
	E 6	WASHERS
	E 7	NUTS
	E 8	WASHERS
	E 9	SMALL KEY
	E 10	MOTOR HUB
	E 11	ELASTIC PLUG
	E 12	ELASTIC PLUG
	E 13	FULCRUM MOTOR
	L 1	THROWING ARM
	L 2	RUBBER
	L 3	PIN
	L 4	BUSH
	L 5	SEEGER
	L 6	ELASTICS PLUGS
	L 7	WASHERS
	L 8	PINS
	L 9	ARM SUPPORT
	L 10	ELASTIC PLUG
	L 11	ELASTIC PLUG
	L 12	WASHER
	L 13	PINS
	L 14	WASHERS
	L 15	BEARINGS
	L 16	CUP
* To mark with one X spare part request		

SPARE PARTS LIST

*	CODE	DESCRIPTION
	L 17	FREEWHEEL
	L 18	BEARING
	L 19	SEEGER
	L 20	HUB OF THE ARM
	L 21	SEEGER
	S 1	PINS
	S 2	PINS
	S 3	PIN
	S 4	APPROACHING TARGET
	S 5	PIN
	S 6	PIN
	S 7	THROWING TRACK
	S 8	WASHERS
	S 9	NUT
	S 10	WASHER
	S 11	WASHERS
	S 12	NUTS
	S 13	APPROACHING TARGET SPRING
	S 14	PIN
	S 15	NUTS
	S 16	SPACERS
	S 17	TARGET SLIDE
	S 18	RAILING
	P 1	PINS
	P 2	INSIDE BLADE TARGETS SEPARATOR
	P 3	OUTSIDE BLADE TARGETS SEPARATOR
	P 4	SPACERS BUSHINGS
	P 5	WASHERS
	P 6	NUTS
	P 7	PIN
	P 8	WASHERS
	P 9	ECCENTRIC
	P 10	PINS
	P 11	WASHERS
	P 12	LIMIT SWITCH SUPPORT
	P 13	PLATE
	P 14	TUBE FOR CABLES PASSAGE
	P 15	WASHERS
	P 16	PINS
	P 17	PIN
	P 18	STORAGE CONTAINER HUB
	P 19	ELASTIC PLUG
	P 20	LOCK
	P 21	PROTECTION
	P 22	NUT
	P 23	WASHER
	P 24	WASHER
	P 25	NUT
	P 26	WASHER
	P 27	LEVER SPIN STORAGE CONTAINER

*** To mark with one X spare part request**

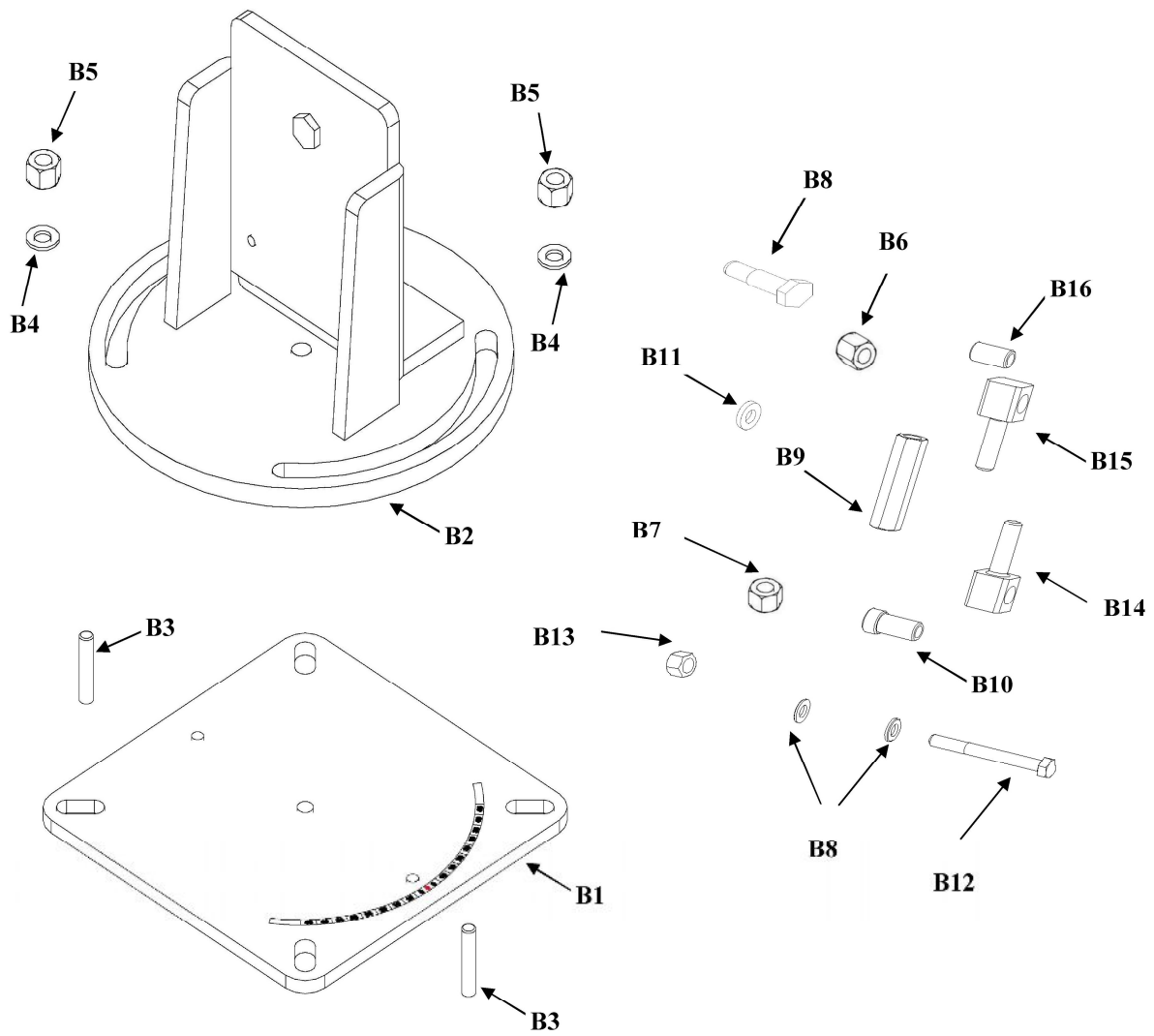
SPARE PARTS LIST

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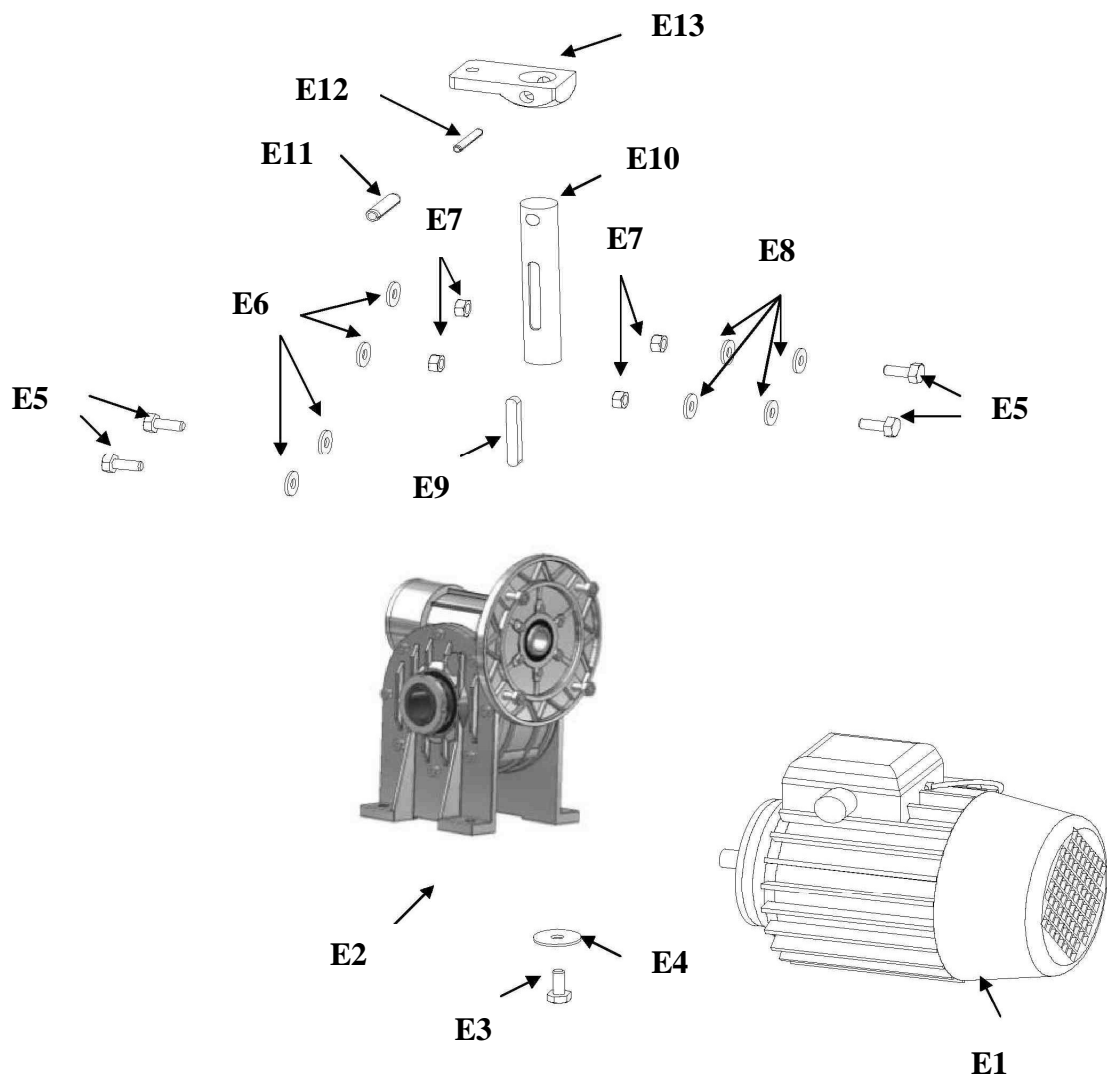
* To mark with one X spare part request

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EXCLUSIVELY TO F.A.B. srl**

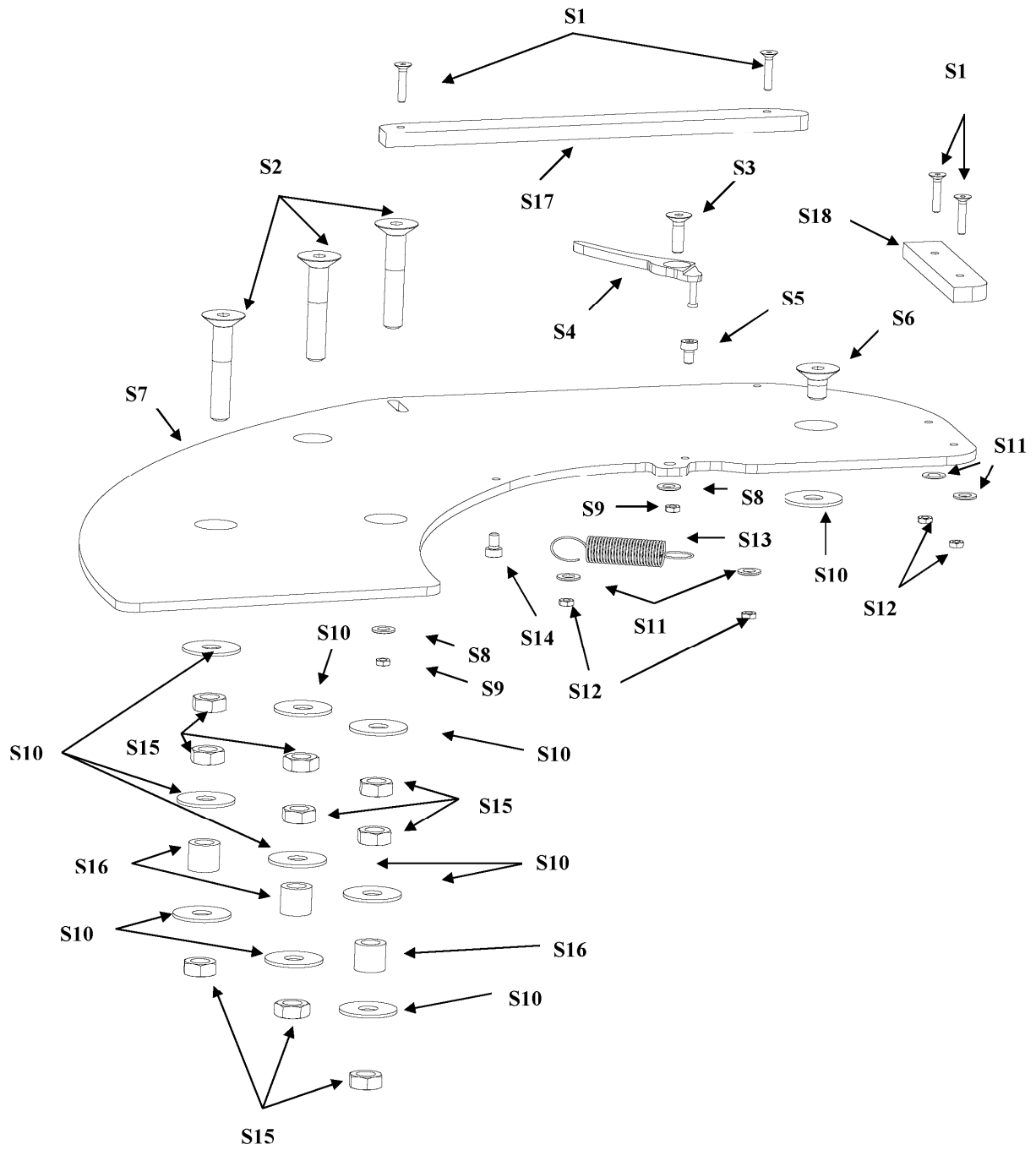
BASE COMPONENTS



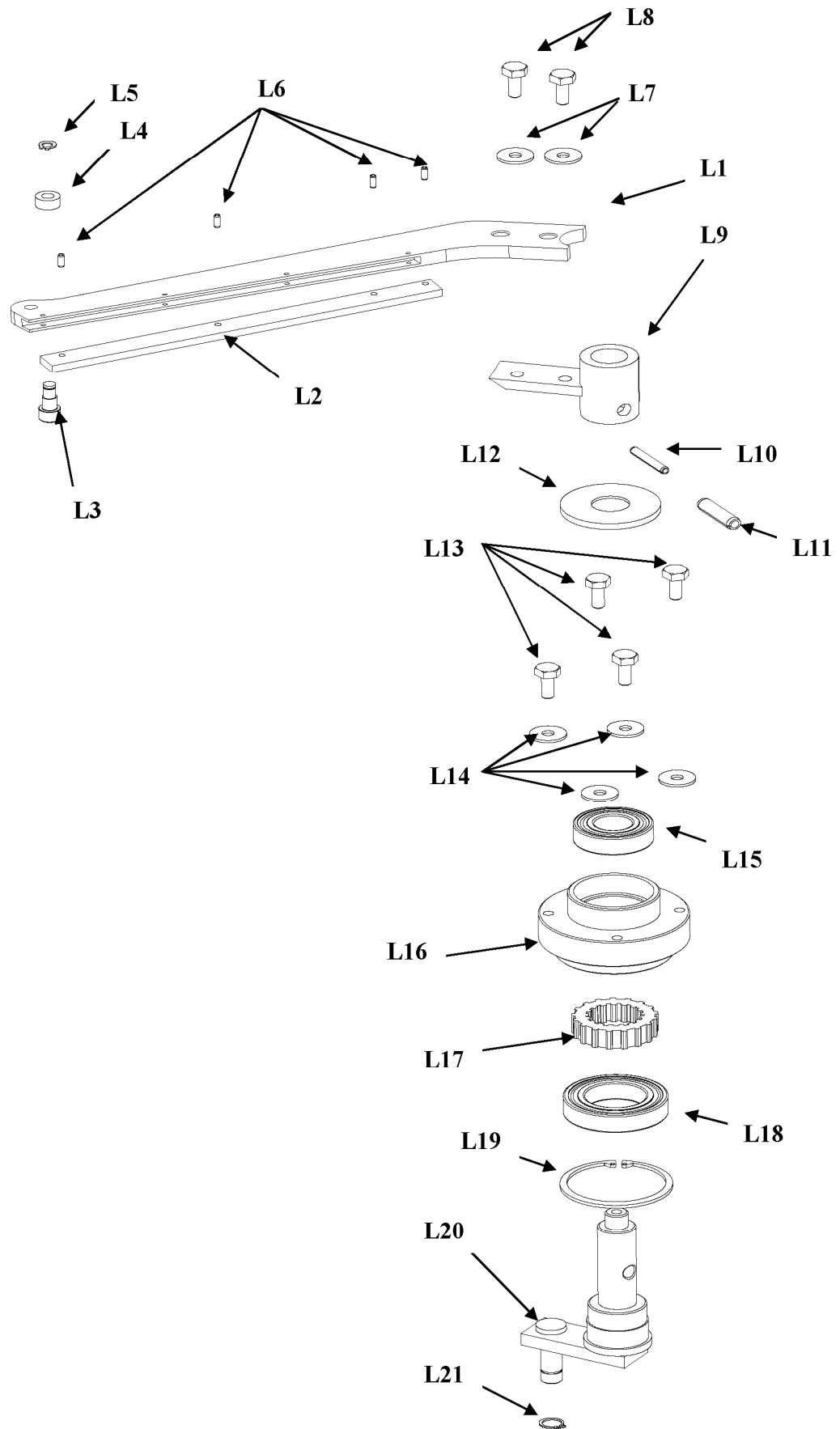
MOTOR COMPONENTS



TRACK COMPONENTS



ARM COMPONENTS



FRAME COMPONENTS

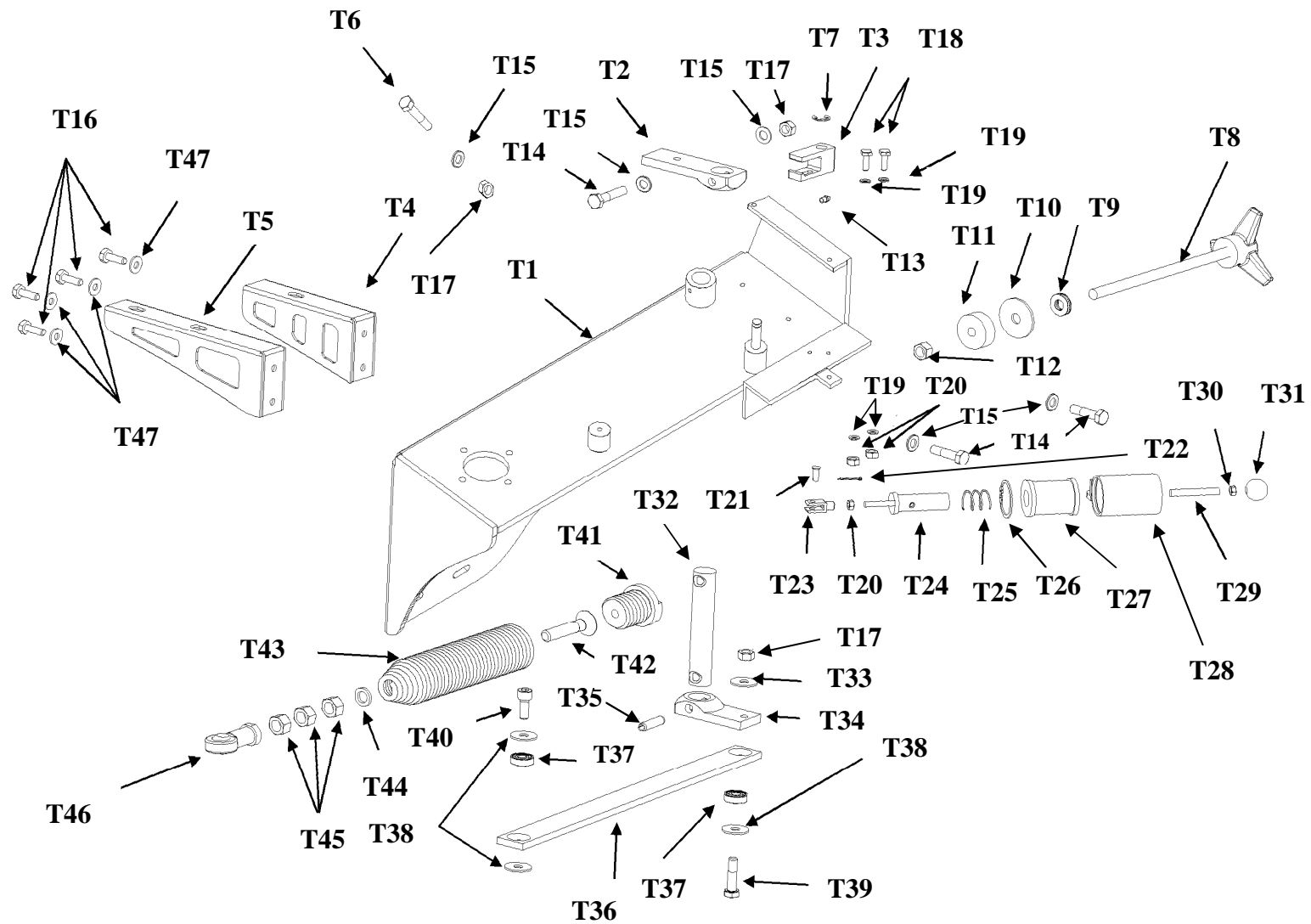
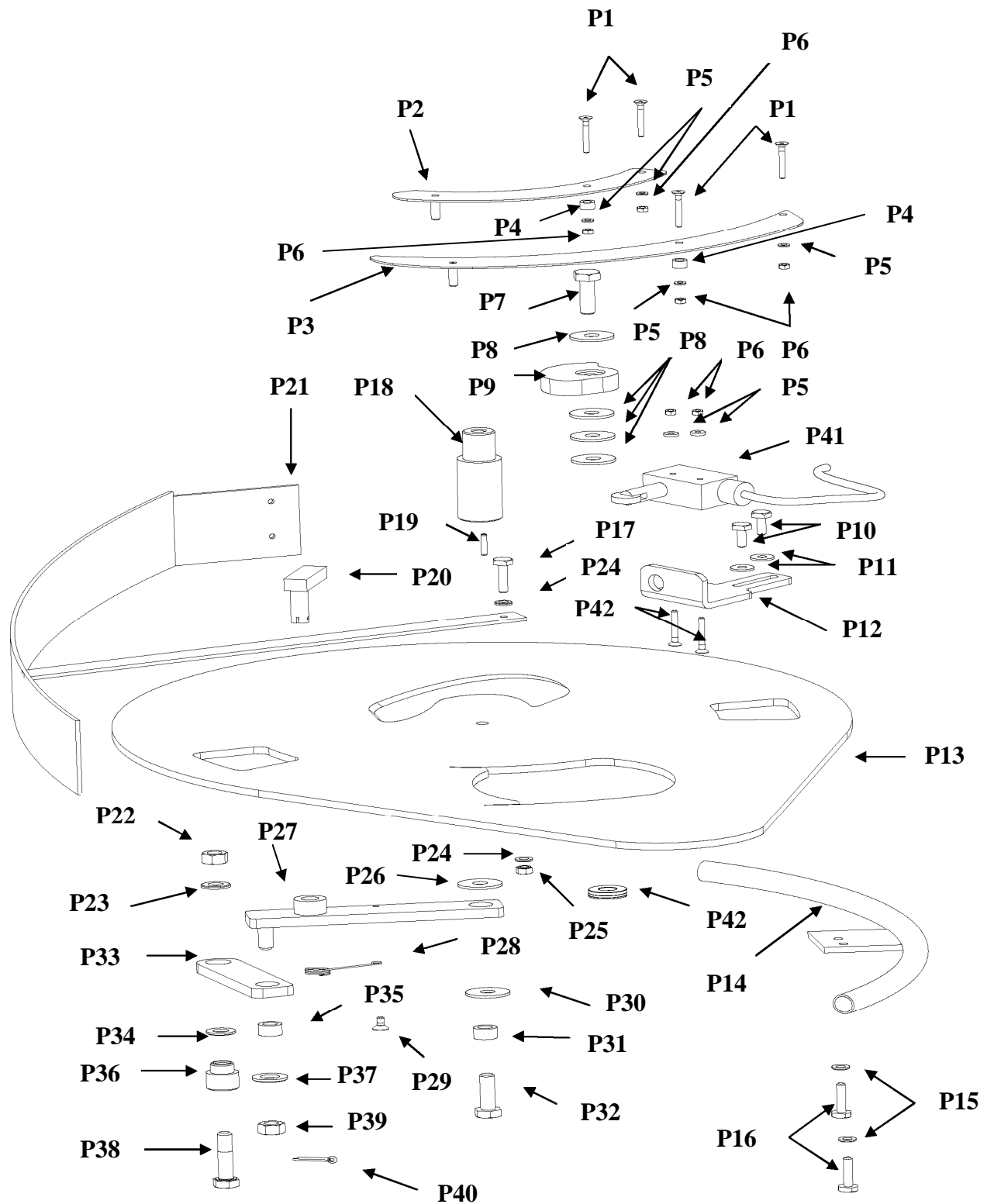
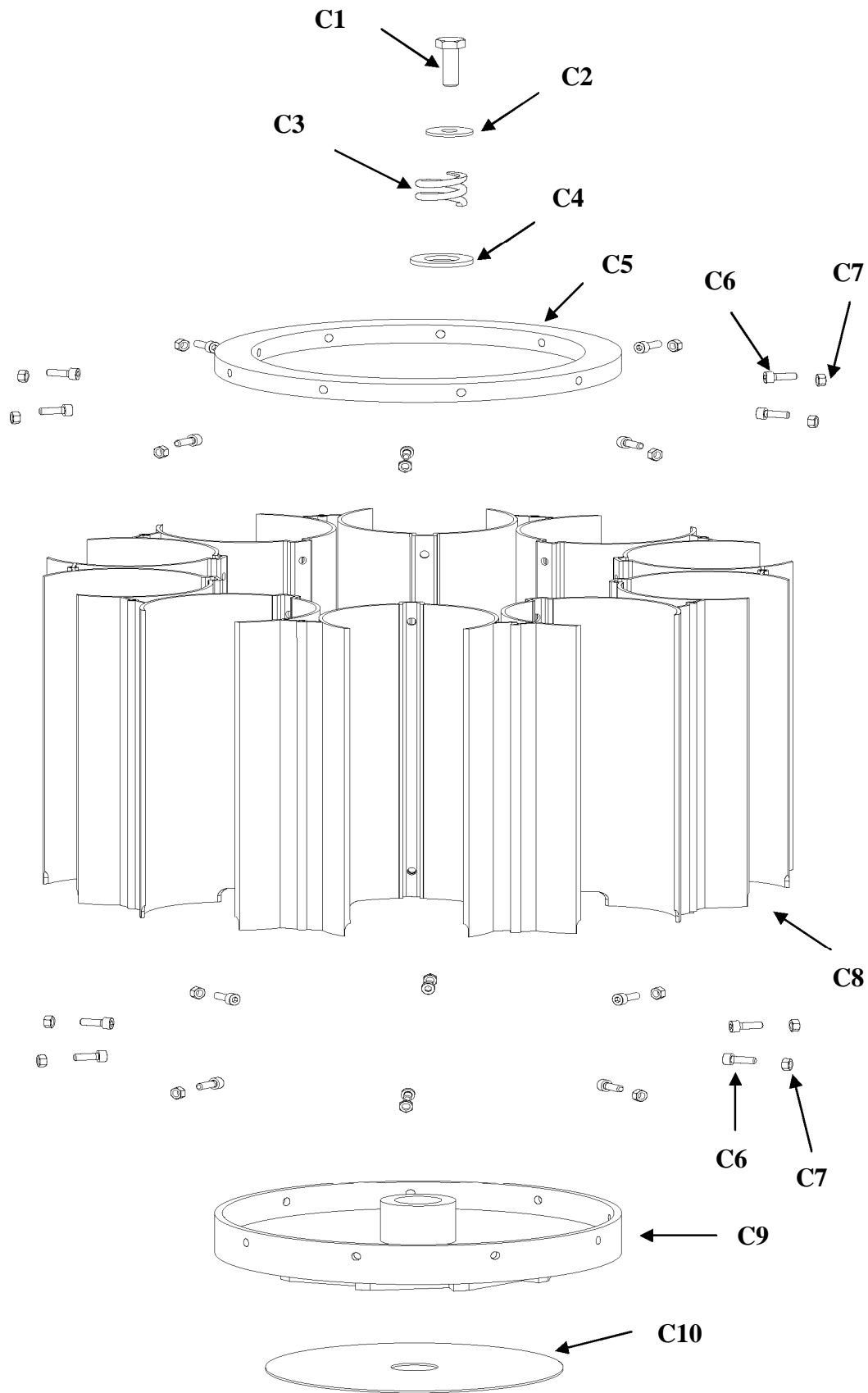


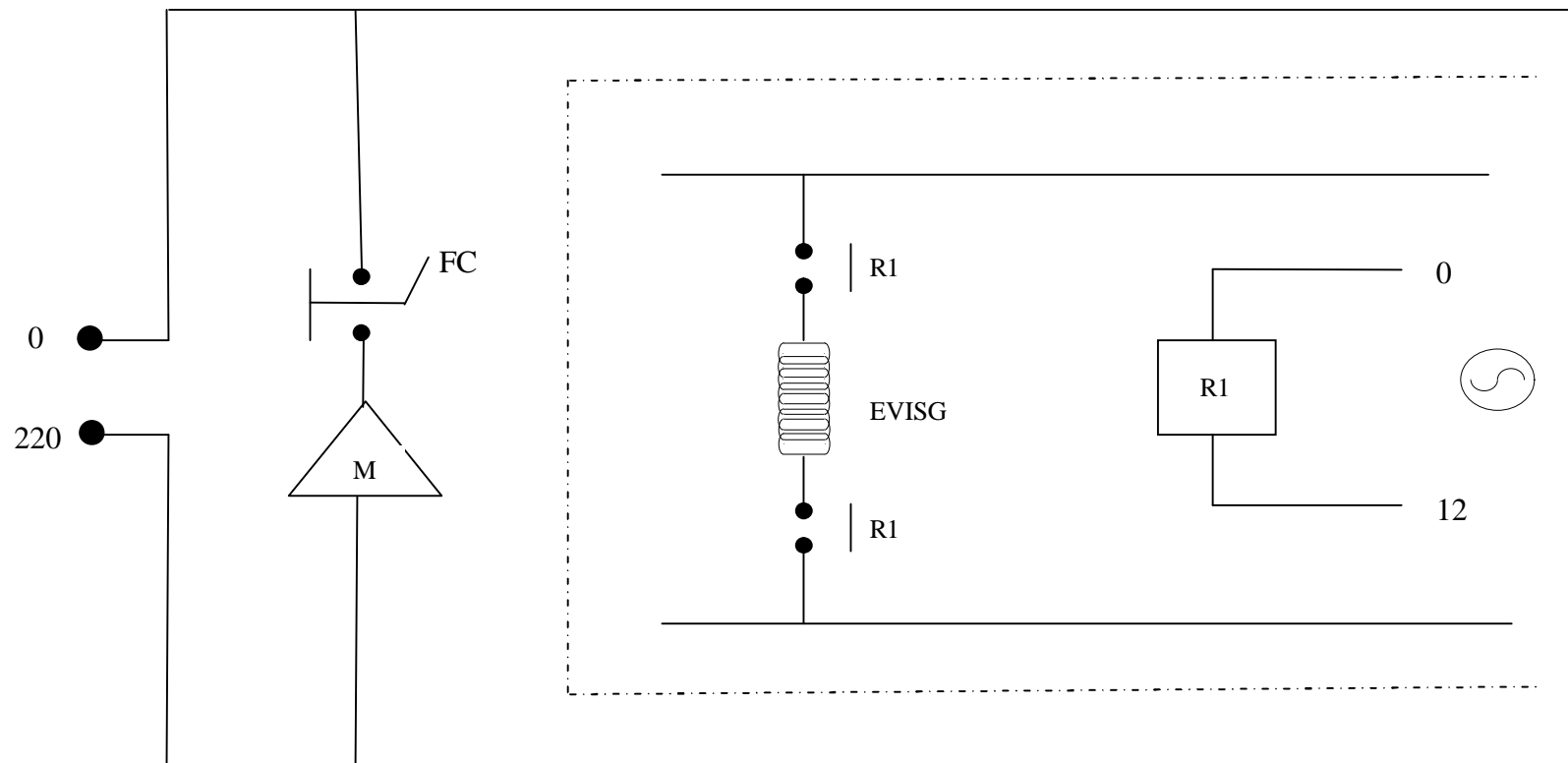
PLATE COMPONENTS



STORAGE CONTAINER COMPONENTS



OUTLINE ELECTRICAL WORKER

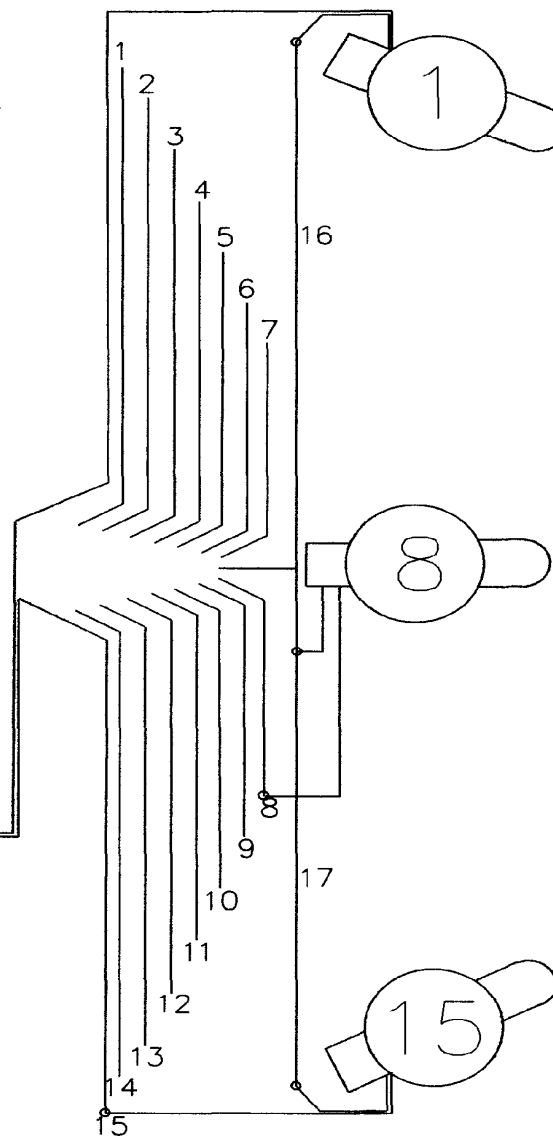
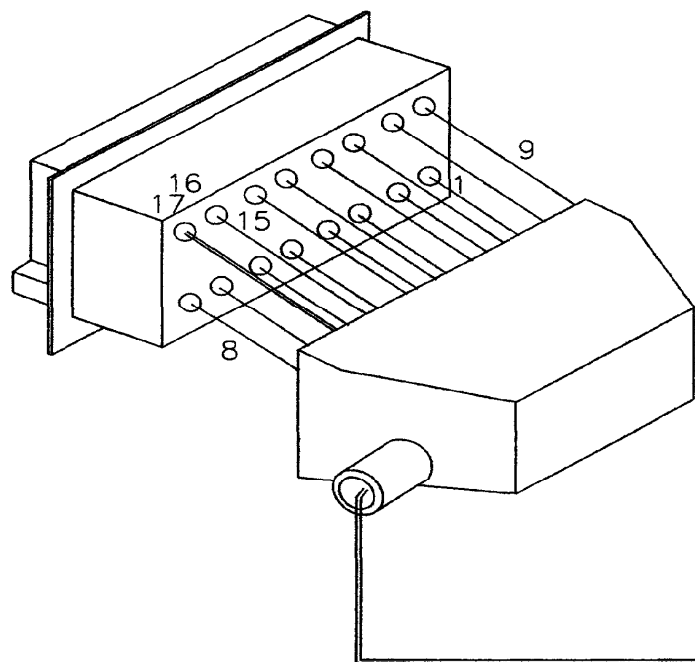


LEGENDA

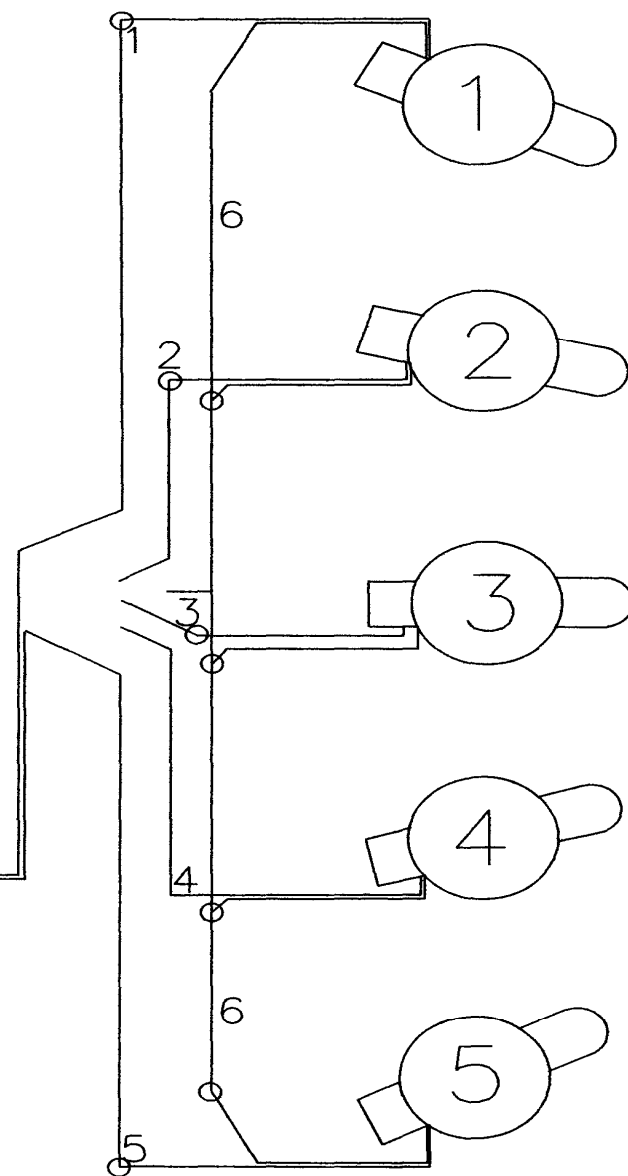
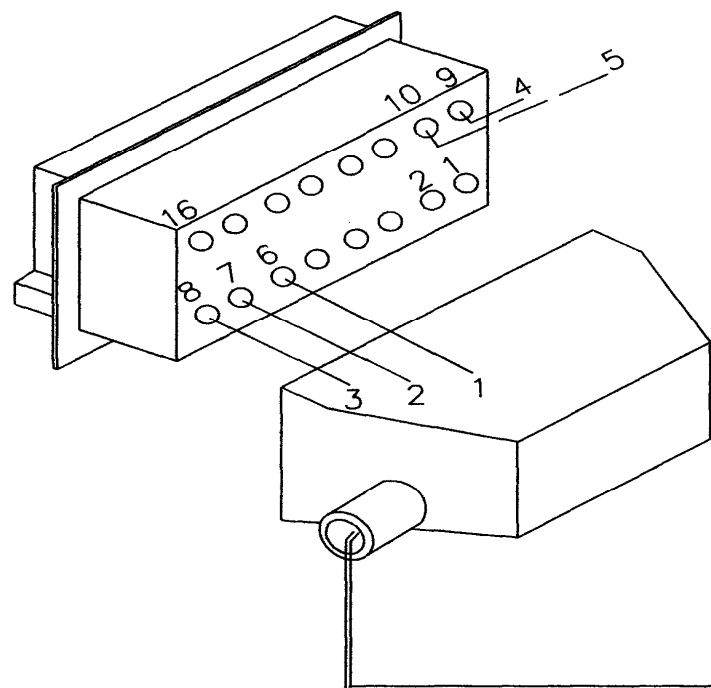
FC = FINE CORSA MOTORE
EVISG = MAGNETE SGANCIO
R1 = RELE' AUSILIARIO

 = MOTORE 220 V 

Olympic Trap Electric connection diagram Flexible cable 18x1 mm



Universal Trap
Electric connection diagram
Flexible cable 6x1 mm



Connection diagram microphones for Olympic and Universal Trap

