

THE NEW CONCEPT OF AEROBATIC TRAINER JET

FULL Made in Italy

INSTRUCTION MANUAL

Version 1.0 beta



UNICO SPORT JET by ARG S.a.s.

Description

The UNICO is designed and built entirely by ARG Sas, with the aim of providing customers with a aerobatic trainer model that encloses all the characteristics of a sport Jet to begin flight operations with the turbine propulsion.

The special attention paid to the choice of profiles and fiber construction, made it possible to obtain a model with a low wing loading, just 165 gr/dm², that allows a takeoff from asphalt and from grass after only 20 meters and a really low speed (35km/h) during the landing with a very small turbine of 140 N.

The accurate internal engineering made it possible to obtain a fast and easy model to assembly even for those who have no experience in building models with turbine propulsion.

The UNICO is the perfect choice to become part of the wonderful world of the Maxi-Jet with a model built entirely in Italy to guarantee an high quality of Made in Italy.

Technical Characteristics

Wing Span : 2926 mm (1151,97")

Lenght : 3000 mm (1181,10")

Wing Area : 101 dm²

Empty weight : 16 Kg.

Wing Loading : 135 Gr/dm²

Suggested Turbine : Min 140 N – Max 200 N

Speed range : from 40 Km/h to max 280 Km/h

KIT CONTENTS

- PARTICOLARI IN FIBRA/HEREX/CARBONIO

No. 1 GFK fuselage complete of internal parts
 No. 1 Right wing
 No. 1 Left wing
 No. 1 Right stabilizer
 No. 1 Left stabilizer
 No. 1 Rudder
 No. 1 Canopy
 No. 1 Main wheel cover

- ACCESSORIES INCLUDED (See Attached "A")

SUGGESTED ACCESSORIES TO FINISH THE MODEL

Q.TA'	CODICE PRODOTTO	DESCRIZIONE	FORNITORE
1	KIT LG UNICO	ELECTRIC LANDING GEAR	ARG
8	DES 807 BBMG	Servo GRAUPNER DES 707 BBMG	GRAUPNER
1	M200X	Merlin 200XBL Engine	JETS MUNT
1	AW-90010405	PowerBox miniMAC2 Li-Poli Adjust	ALEWINGS
1		Fuselage bags	ARG
1		Wing, rudder, stabilizer bags	ARG
1		Complete wiring kit	ALEWINGS
1		Tx-Rx Grapner MZ24	GRAUPNER
4	FMC-MACHPRO35-2600-2S	Lipo MACHPRO 2600 - 2S - 35C Turbine	ARG

ADHESIVE NEEDED

CA Super Glue Viscosity Medium
 EP5 Glue Epoxy 5 minutes
 EP30 Epoxy Glue 30 minutes
 FF Thread locker
 FL Filler for Epoxy

RADIO E POWER SYSTEM REQUIRED

No. 1 Tx-Rx minimum 11 Channels
 No. 8 Standard Metal Gear Servos with Double Bearing
 No. 1 Turbine from 80 to 120 N maximum
 No. 1 Prewired Cable Kit

STABILIZER ASSEMBLY

For assembly the two stabilizer proceed as follows:

1. Secure the servo in the dedicated seat made by the factory in the rib inside the elevator.
2. Prepare a push rod with axle spacing using a uniball + aluminum rod + rod M 3 .
3. Mount on the uniball No. 2 horns having care to hone the terminal bonding area of the rod and tighten the whole package.
4. Mount the push rod on the servo horn and place the control horn with at 10 mm from the rotation slot open with a bur $\varnothing 2.00$ two slots of an appropriate length.
5. Prepare the adhesive EP30 with filler and fill the slots previously obtained by inserting the group control horn / uniball and wait to dryness occurred taking care to position the axis of rotation parallel to the axis of rotation of mobile part.



6. Repeat steps 1 to 14 for the other tail plane.
7. Insert the joiner (in the hole of the fuselage and mount the tail plane.
8. made for each stabilizer a pre-drilled hole $\varnothing 1.8$ up to pierce the joiner positioned approximately 10 mm from the root rib.
9. Using the self-tapping screws block the tail plane.
10. Remove the joiners and finish with sand paper the drilling area to eliminate any surplus of material.

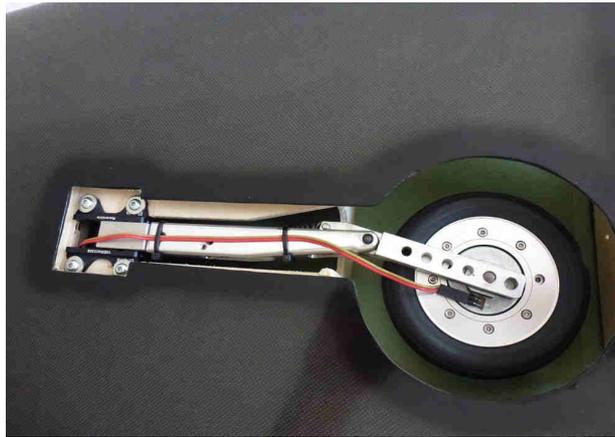
WING ASSEMBLY

INSTALLATION OF LANDING GEAR

The UNICO is provided for the installation of electric retracts, we suggest ELECTRON retracts but you can also mount other types of landing gears with similar dimensions.

To install the landing gear proceed as follow:

1. Using a Dremel with cutting disc open the landing gear hole and finish with sand paper the edge
2. Put in the hole of support plate, Nr.4 blind nut with the correct diameter for the landing gear, and glue it with EP30
3. When dry ,mount the landing gear and take care to pass the cables or air tube in the correct hole



AILERON SERVOS ASSEMBLY

To install the aileron servo proceed as follow:

1. Using the template drawing the edge for open the hole for mount the servo
2. Using a Dremel with cutting disc open the hole and finish the edge with sand paper
3. Install the servo Graupner DS707 BBMG on the servo mount. In case of use different servo verify dimensional compatibility with the servo mount supplied, use only servo with 19mm maximum thickness.
4. Place the servo mount with servo on the support plate and mark the bonding area.
5. finish the bonding area with sand paper.
6. Glue the servo mount in place using epoxy type EP30 taking care to position the plane of the rod command perpendicular to the axis of rotation of the mobile part.
7. When dry, remove the servo and the protective film and replace the servo and secure it using the screws included with the servo.
8. Secure the cover with No. 4 self-tapping screws fastening.



9. Prepare a push rod using a uniball + aluminum rod + rod M3
10. Mount on the uniball No. 2 horns by having care to hone the terminal bonding area of the rod and tighten the whole package.

11. Mount the push rod on the servo horn and place the control horn with at 10 mm from the rotation slot open with a bur \varnothing 2.00 two slots of an appropriate length.
12. Prepare the adhesive EP30 with filler and fill the slots previously obtained by inserting the group control horn / uniball and wait to dryness occurred taking care to position the axis of rotation parallel to the axis of rotation of the mobile part

FLAP SERVO ASSEMBLY

To install the flap servo proceed as follow:

1. Open on the root rib of the wing a 40x20mm rectangular hole as indicated in the picture, aligned with the hole for the servo on the first internal rib
2. With a marker pen drawing, following the measures displayed in the picture, the edge of the hole for the servo horn. with a bur \varnothing 2.00 open the hole. take care to place the servo horn in the correct position to permit the right movement of the flap.
3. install the servo, by passing it through the opening of the landing gear, and fixing it with the screw included with the servo.
4. Prepare a push rod using a uniball + aluminum rod + rod M3.
5. Mount on the uniball No. 2 horns by having care to hone the terminal bonding area of the rod and tighten the whole package
6. Mount the push rod on the servo horn and place the control horn with at 10 mm from the rotation slot open with a bur \varnothing 2.00 two slots of an appropriate length.
7. Prepare the adhesive EP30 with filler and fill the slots previously obtained by inserting the group control horn / uniball and wait to dryness occurred taking care to position the axis of rotation parallel to the axis of rotation of the mobile part



WIRING WING ASSEMBLY

Is possible buy the pre-cabled kit (Optional), or in alternative made the wires with all connectors by yourself. On the root rib of fuselage and of the wing you can find the hole for mounting the connectors.

FUSELAGE ASSEMBLY

RUDDER

To install the rudder servo proceed as follows:

1. Secure the servo in the dedicated seat made by the factory in the rib inside the fin.
2. Cut a hole in correspondence the servo arm
3. Prepare a push rod with axle spacing 82.0 mm using a uniball + aluminum rod L = 50.0 mm + rod M3
4. Mount on the uniball No. 2 horns having care to hone the terminal bonding area of the rod and tighten the whole package.
5. Mount the push rod on the servo horn and place the control horn with at 10 mm from the rotation slot open with a bur \varnothing 2.00 two slots of an appropriate length.
6. Prepare the adhesive EP30 with filler and fill the slots previously obtained by inserting the group control horn / uniball and wait to dryness occurred taking care to position the axis of rotation parallel to the axis of rotation of mobile part.

(see photo)

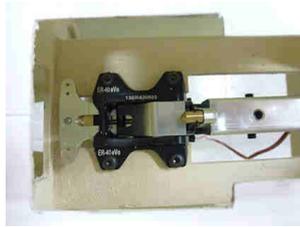
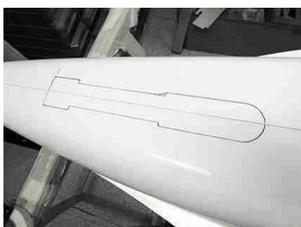


FRONT LANDING GEAR ASSEMBLY

The UNICO is provided for the installation of electric retracts, we suggest ELECTRON retracts, you can also mount other types of landing gears with similar dimensions.

For the assembly of the Landing gear proceed as follows:

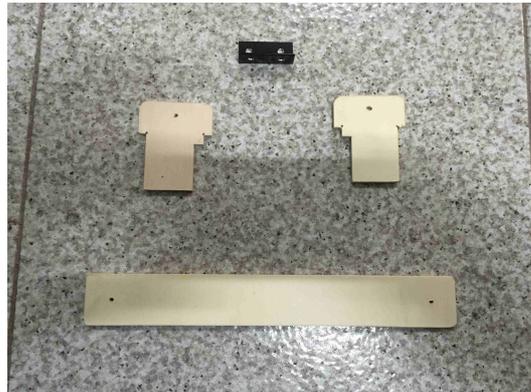
1. Using the template drawing the edge for open the hole for mount the landing gear.
2. Using a Dremel with cutting disc open the landing gear hole and finish with sand paper the edge.
3. Put in the hole of support plate, Nr.4 blind nut with the correct diameter for the landing gear, and glue it With EP30.
4. When dry mount the landing gear and take care to pass the cables or air tube in the correct hole.



TANK ASSEMBLY

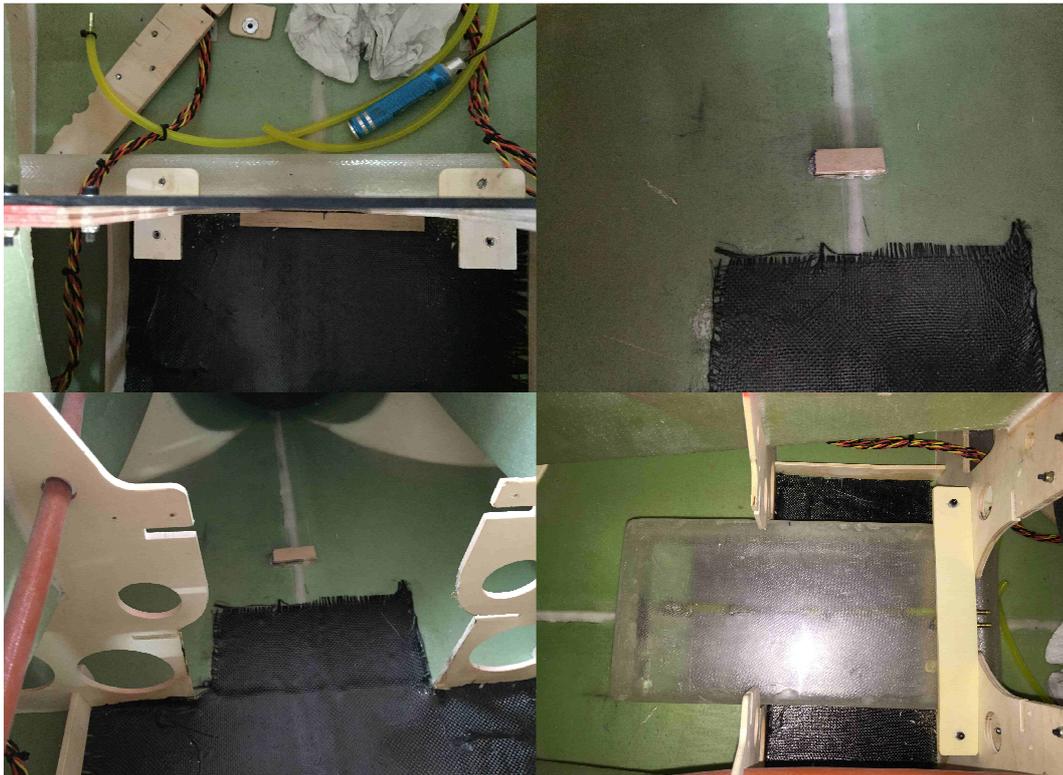
For the assembly of the tank proceed as shown:

- 1 - Insert the two double-tabs in the slots with the widest part facing the front of the model.
- 2 - Fit the tank between the turbine supports and glue the wood on the bottom of the fuselage at the end of the tank.
- 3 - after sanding the tank in the area concerned, glue the aluminum "L" bracket which will be used to screw the tank to the wood positioned previously
- 4 - Screw the bar supplied on the tabs previously positioned to hold the tank in place

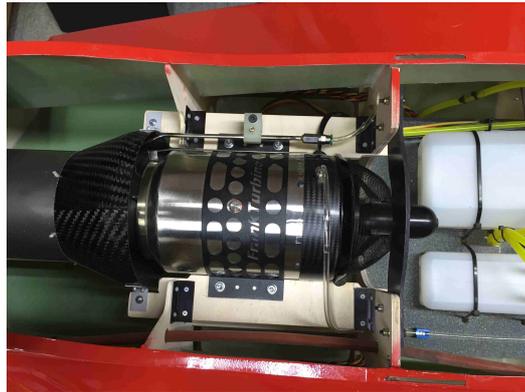


TURBINE SUPPORT ASSEMBLY

For installation of the turbine proceed as shown:



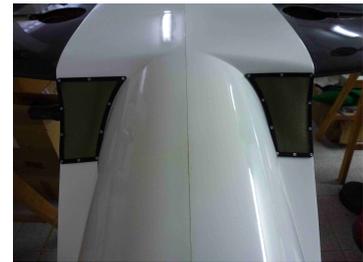
1 - In the kit are provided two supports turbine which, without being glued, installing interlocking and screwing the turbine will keep their places.



INTAKE

To realize the air intakes proceed as follows:

- 1 - Drawing the cutting profiles as shown in the picture.
- 2 - Using a Dremel with a cutting disc remove the part drawn and finish with sandpaper.



SUPPORT ELECTRONIC PLATE ASSEMBLY



JOIN WING / FUSELAGE

To install the screws for joining the wings proceed as follows:

1. Drill a hole in the Root rib with a 5.5 mm diameter hole, on both wings.
2. Insert the main joiner in the fuselage.
3. Insert both wings until they are perfectly juxtaposed to the fuselage and the pivot fit perfectly in their seats.
4. Mark the location of the holes .
5. Remove the wings and drill with a \varnothing 5.5 mm the fuselage in the two previous references.
6. Insert the two M5 blind nuts and glue them with epoxy EP30 and wait until drying.
7. Put the wings and using the two supplied M5 allen-screw and the two steel washers fasten until the wings touch the fuselage.

UAT AND MAIN TANK ASSEMBLY

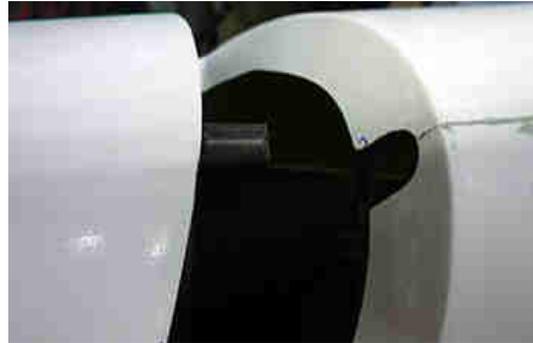
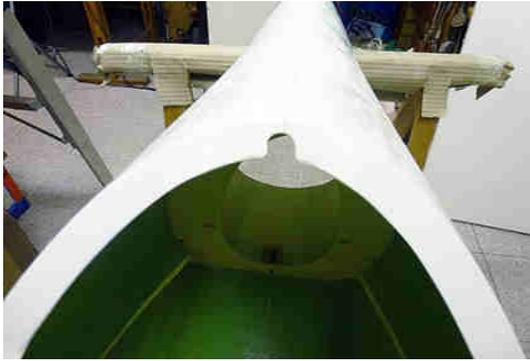
To install the tanks achieved proceed as follows:

1. Assembly the UAT realizing the various holes and inserting the fittings supply .
2. Using the Tygon tube achieve the necessary connections according to your fuel system / type of turbine.
3. Insert the UAT into the appropriate area on the back plate and secure it with two band.
4. Prepare a hole for the passage of the overflow pipe at one of the air intake.
5. Place the tank and secure it with the half-rib and by two bands.



CANOPY ASSEMBLY

For mounting the canopy proceed as shown:



BATTERIES

UNICO has been provided for the insertion of batteries packs on the compartment where you installed the nose gear steering servo.

In this compartment are easily placed:

No. 2 2600 2S 35C Lipo batteries to power the on-board electronics

No. 2 2600 2S 35C Lipo batteries to power the turbine and electric Landing gear

ELECTRICAL WIRING

For electrical wiring we recommend to purchase the kit pre-wired cables supplied by us, otherwise provided by your-self to make the right wiring in according with the layout choose for the model.

For the cables of the elevators, rudder and wing servos, we suggest to use Bauden spring steel as a probe.

The electrical connections to the wings including any electric landing gear connections can be made using the MPX connectors with their boxes to be screwed on root-rib after have draw and cut a proper seat, while the connection to the Elevator can be made with glued with epoxy resin the connector

On the UNICO has been provided the opportunity to enter a counterweight variable depending on the type of turbine and system adopted by the Customer. using the hole on the first Rib on the nose of the model that allows you to contain within about 500 grams of lead weights.

Based on the tests performed with almost all the engines it was necessary to insert about 500 grams of lead weights to get a pre balance to be refined after the assembly of all the accessories and battery power.

The best flight results on the basis of the carried out tests have shown That the best position of the center of gravity (CG) is September using the jig provided in the kit by inserting it into the wingtube before joining the wing to the fuselage and hanging model for the anchor holes being the center of gravity (CG) positioned at 210 mm from the leading edge of the wings at the connection to the fuselage.



FOTO



BASIC SET UP

To get the best flight performance from your UNICO we recommend to use the following Set-Up:

Flight	Aileron	15mm	Up	Elevator	15mm	Up
		0,00	Center		0,00	Center
		15mm	Down		15mm	Down
	Flap	0,00	Center	Rudder	13mm	Right
0,00		Down	0,00		Center	
				13mm	Left	
Mix Rudder-Elevator: Off						

Take OFF	Aileron	15mm	Up	Elevator	14mm	Up
		0,00	Center		-1 mm	Center
		15mm	Down		14 mm	Down
	Flap	0,00	Center	Rudder	13mm	Right
25mm		Down	0		Center	
				13mm	Left	
Mix Rudder-Elevator: Off						
Mix Elevator - Throttle						

Landing	Aileron	14mm	Up	Elevator	14,00	Up
		0mm	Center		-4mm	Center
		14mm	Down		14mm	Down
	flap:	0,00	Center	Rudder	13mm	Right
70mm		Down	0,00		Center	
				13mm	Left	
Mix Rudder-Elevator: Off						

With this set-up you can fly in a very wide speed range thanks to the high stability performance of the model and at the same time you can have a great acrobatic experience. thanks to the Stall Wing practically non-existent and landings speeds so low you will be amazed.

WARRANTY

1 - ARG S.A.S. guarantees only the physical integrity of the Products at the time of delivery (hereinafter, the "Guarantee ARG Sas"). The warranty covers defects or malfunctions identified out of the box and does not cover breakages, defects or damage from falls, misuse, improper installation, wear and tear over time. In case of operation of Warranty, Customer will be entitled only to repair or replace the product if required, at the discretion of ARG Sas that can be performed using the same product and / or with equivalent features to the problematic one, being excluded the right of the Customer to compensation for any further damage caused or related to the use and / or use of the faulty product.

Any defects covered by warranty must be reported by the customer, subject to forfeiture, no later than 7 (seven) days from the date of delivery by email to info@argweb.eu or a fax to +39 011-9700112 explaining the defect found. Once you have our permission to return to where it will be assigned a case number inside the RMA customer ONLY then will send the material to our office. The return of the product may only be charged to the customer, without prejudice to his responsibility for any possible damage incurred during the transport. The costs of returning goods, are to be understood against ARG Sas for the entire duration of the warranty.

To exercise the warranty is sure to keep the purchase invoice or sales receipt and the Bill of Shipping, original packaging and / or packaging complete products, manuals and any original accessories present at the time of the product.

In the event that after the inspection carried Technical / use product / prove the functioning will be charged € 50,00 VAT included in reimbursement of costs incurred to verify the defect + shipping, upon receipt of payment from the Customer we will be ship the product to the customer.

In the case of products whose defect is attributable to causes not covered by the warranty, ARG Sas will send the customer an estimate of repair and only after written acceptance by the customer, ARG Sas will give way to the repair. Items returned for repair will be shipped only after the payment of repair and transport cost. If the customer does not accept the quote and does not communicate the desire to regain the material at the end of the 30 days since communication will be disposed of.

2 - Notwithstanding the provisions of article 1, ARG S.A.S. does not provide any guarantee on the products additional to that provided by individual producers. Technical support and warranty work on products are made, where applicable, by the individual producers, according to the terms and conditions listed in the documentation attached to the Products.

In particular, ARG S.A.S. does not give any guarantee about the compatibility of products with other products or equipment used by the customer, nor give any guarantee regarding the suitability of products for the specific use intended by the customer.

3 - Without prejudice to the case of willful misconduct or gross negligence of ARG Sas, It is now agreed that, if found responsible for ARG Sas in any capacity against the customer - including the case of default, in whole or in part, the obligations assumed by ARG Sas against the Customer as a result of the execution of an order responsibility for ARG Sas can not be higher than the price of the Products purchased by the Customer from ARG Sas and for which the dispute arose.

SAFETY - WARNING

Please pay attention this RC aircraft is not a toy !

If misused, it can cause serious bodily harm and damage to property.

Fly only in open areas, preferably in official flying sites, following all instructions included with your radio and turbine.

Do NOT fly your airplane at to high speeds, because this may cause structural failures or fluttering surfaces

The plane has been tested until 250 km/h, flying the plane over this speed is not recommendable.

In this respect, since ARG S.A.S. as the manufacturer of the product called UNICO can not oversee how to use it. The same ARG Sas assumes no responsibility for any damage caused to persons and property by use of the UNICO. The use of the product called UNICO by the customer automatically implies acceptance of full and total responsibility of the Customer for any damage to persons and property caused by or arising directly or indirectly. Tacitly confirm that you have read and understood all the installation instructions contained in this installation Manual before using the same above.

In the event that the customer does not intend to take total responsibility is obliged to return the product to ARG Sas within 7 days of receipt of the product purchased, uncut and complete package which will be advised on receipt ARG Sas will after verification of integrity 'of the product to a full refund of the product purchased, net of transport costs by bank transfer within 7 days. of receipt.

Many thanks to purchase our products, ARG Team wishes You good fly !