



yagi antenna

50700WA8

Artikel nr: 17810.64-8

EAntenna's multi-band OWA antennas also represent the biggest development in HF to 70MHz single-band antennas, but optimizing the results in the same boom several bands.

This performance is characterized by:

The feed is direct to 50 Ohms with a single coax.

The bandwidth of the OWA is the best development of technology to cover the entire bandwidth and have a low SWR.

The radiation lobe is similar to LFA, but has more front gain than LFA.

The F/B ratio is medium to high, compensating for the high frontal gain.

All of this is explained, because in EAntenna: Millimeter by millimeter, we manufacture and build with CNC machinery and/or prepared for measurements with centimeters, for an exact measurement. Every piece of aluminum is taken care of, filing it of external and internal surfaces. All this is done by hand, by qualified people prepared for a final product of extreme quality.

All the hardware is stainless Steel W4.

The aluminium used is T5 6061/6063 and T6 6082; the best alloys for manufacturing antennas with extreme weather resistance. Weather was double here

EAntenna's OWA antennas are always insulated from the boom, with German PP (Polypropylene, -30°C/+60°C) plastic clamps.

Specifications of the 5070OWA8:

Square boom size is 30x30x2mm.

The elements are with 13mm diameter, splitted in 2 parts to get along with a suitable transport length. Mast to plate is an 100x100mm with 6mm thickness and M6 square U-bolts for the boom to the plate and M8 U-bolts for the plate to the mast.

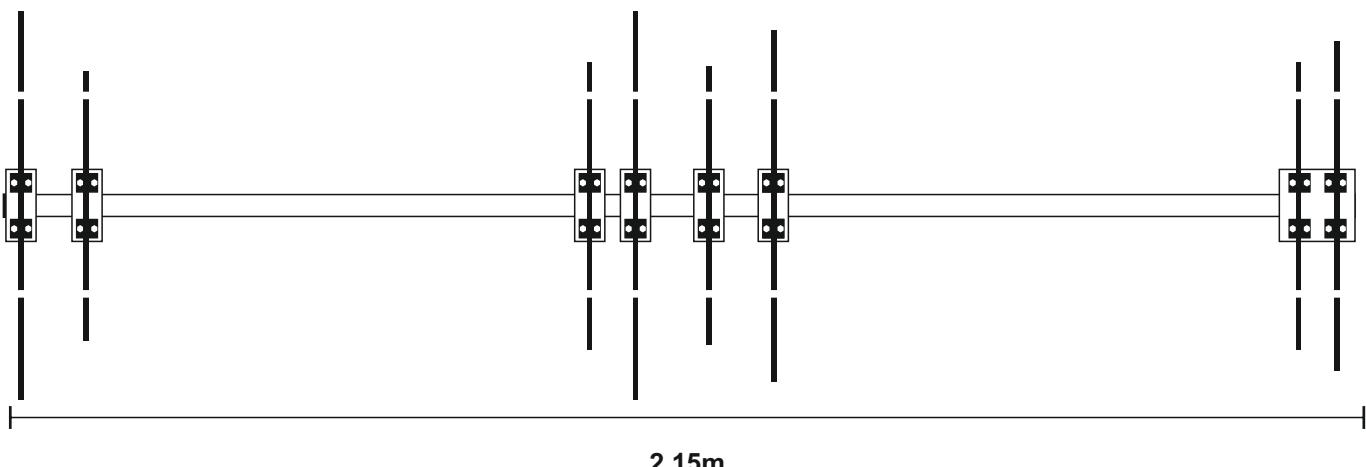
Characteristics of the 5070OWA8

If you can't put 2 antennas on your tower, don't worry, this is your solution to take advantage of the propagation ES seasons on these 2 bands, You don't need 2 coax cables, this antenna have only 1 coax to the Radio.

Even when you go to the field or portable, with a simple TV rotor you can move without problems.

Simple and fast assembly, because the pieces of the boom connection are very easy to assemble.

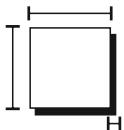
Very solid antenna construction, and with an acceptable weight.



Peso: 4,2 Kg.
Max. Potencia: 5,0 kW



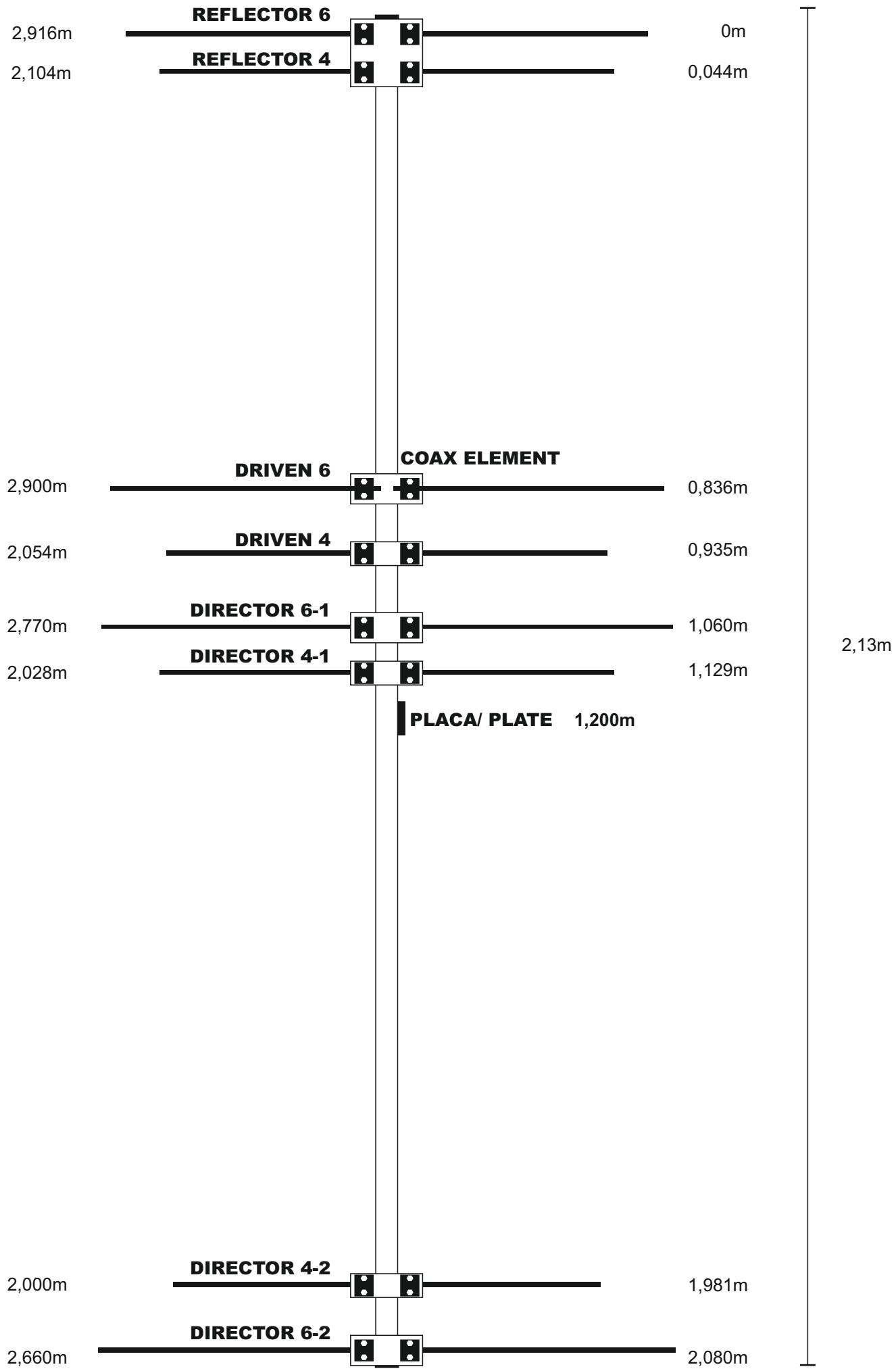
SPECIFICATIONS		EAntenna	5070OWA8
	Elements:	4	4
14,0.....21,0 MHz.	Frequency Range:	50~52 MHz.	70~70,5 MHz.
	Gain:	8,6 dBi	8,58 dBi
	F/B:	20,43 dB	18,76 dB
	SWR:	1,0:1~1,4:1	1,0:1~1,3:1
Ω	Impedance	50 Ohms	50 Ohms
	Max. Power:	10 kW.	10 kW.
	Boom Length:	2,05m	6,72'
	Wind Survival	$\geq 160 \text{kmh} / \geq$	$\geq 100 \text{mph}$
	Weight:	5,1 Kg.	11,3 Pounds



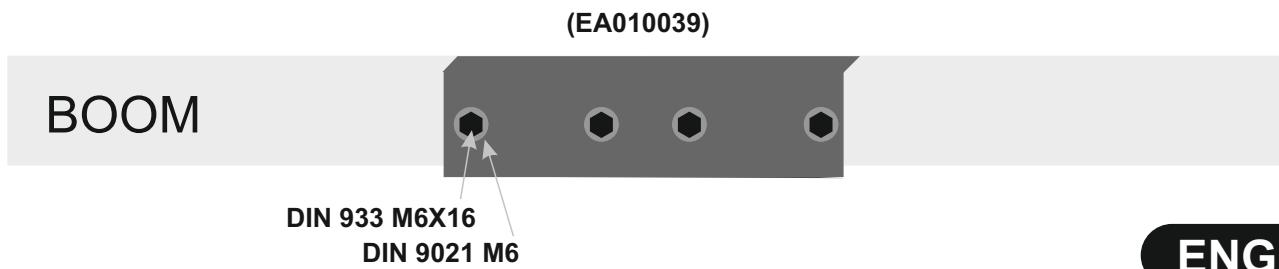
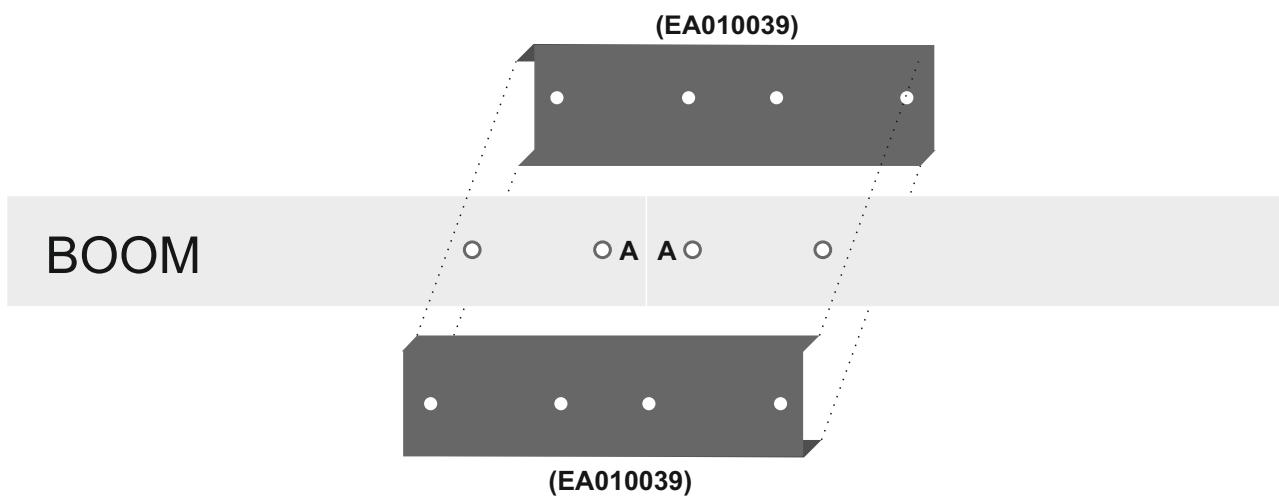
Boom Size: 30x30x2mm



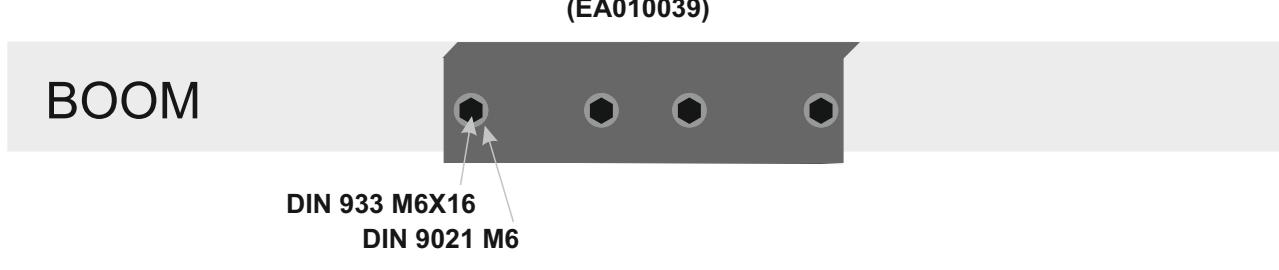
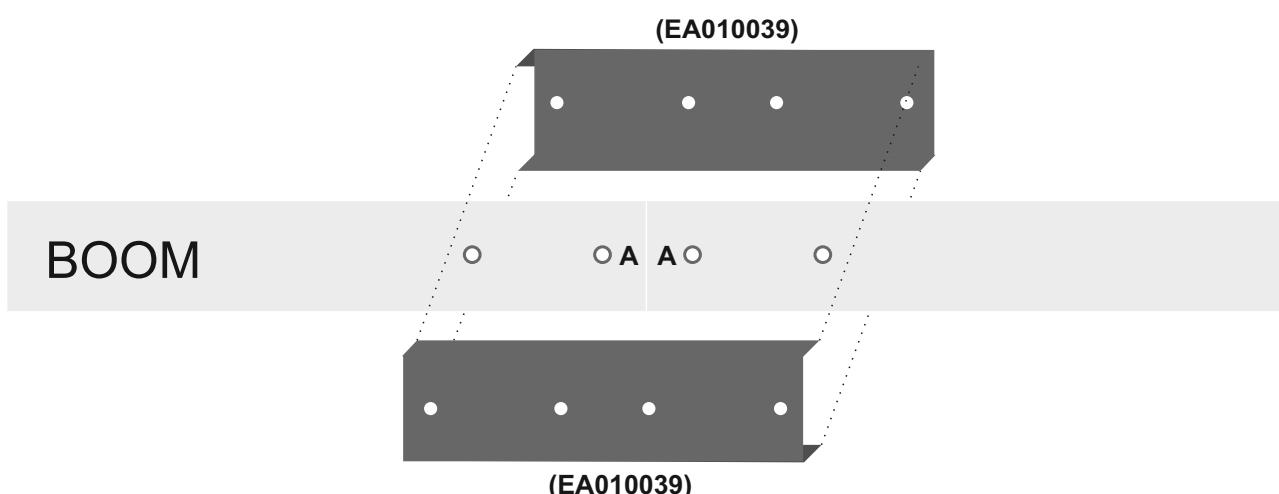
Element Diameter: 13x1mm



Para montar el BOOM, tiene que hacer coincidir frontalmente las partes de boom que tienen la misma letra (p.ej: A-A, B-B, C-C etc), y una vez hecho, las placas (EA010039) se van fijando con los tornillos DIN 933 M6X16 y arandela DIN 9021 M6. Se recomienda poner todas los tornillos y arandelas antes de fijarla a tope para no dañar ninguna rosca del BOOM.



To mount the BOOM, you have to match frontally boom parts **with the same letter** (eg: AA, BB, CC etc), and once done, the plates (EA010039) go with fixing screws DIN 933 M6X16 and washer DIN 9021 M6. It is recommended to put all of the screws with washers in first, with all in the start with tightening the screws. This avoid damaging the threads in the Boom.

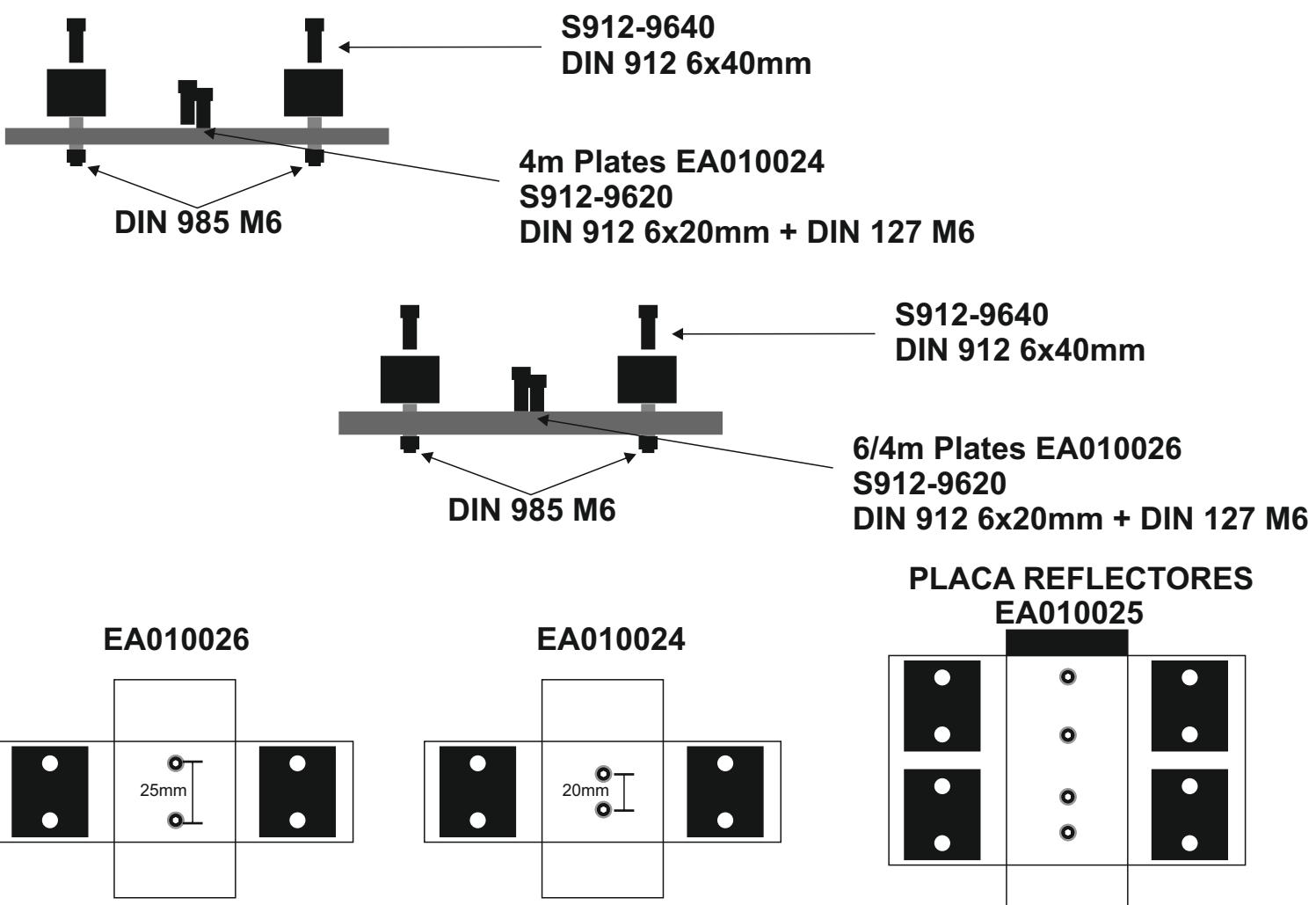


El primer paso de ensamblaje de los elementos es colocar en orden por diámetros según la pagina 2. Una vez hecho esto tener en cuenta que en cada extremo de los elementos hay una parte de cada tubo que tiene los agujeros mar gruesos. Estos son los que van en el extremo hacia el extremo de la antena, ya que los agujeros anchos son donde entra la cabeza del tornillo DIN 7984 y presiona al tubo interior. Tener en cuenta que la **cabeza del tornillo** tiene que **quedarse alojada dentro del hueco del elemento** y en la otra cara, el remache tiene que quedar insertado para atornillarse con la llave allen suministrada. Mirar ejemplo debajo:



Una vez que tiene los elementos ensamblados, y el boom, es momento de **montar** los las placas al boom y después los elementos a la placa. Lo que **aconsejamos** es que se **empiece por el las placas al boom, si montara la antena de una pieza**. Si lo que **quiere** es subir los elementos, una vez el **boom puesto en el mástil**, aconsejamos poner los elementos a las placas para su mejor union del conjunto "placa/elemento" al boom.

Para poner los elementos a la placa, tendría que centrar con la ayuda de una cinta métrica, cada elemento de 13mm Ø, a la mitad (60cm), y una vez centrado, fijar con la otra parte del (**EAHYP013**) con los tornillos **DIN 912 M6X40**, como aparece en el dibujo inferior.



Para colocar cada placa al boom, se fija mediante los tornillos **DIN 912 M6X20** y arandela **DIN 127 M6**. Esta placa debe de quedar bien firme para la colocación del elemento. El paso siguiente sería igual que los demás elementos, **pero teniendo en cuenta que los tornillos que utilizaremos son DIN 912 M6X40 y tuercas autoblocante DIN 985 M6 una vez que esté ensamblada toda la antena**.

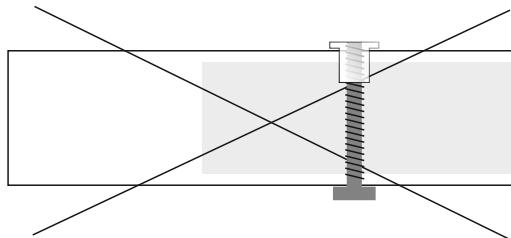
The first step of assembling the elements is to place in order by diameters according to page 2. Once this is done keep in mind that at each end of the elements there is a part of each tube that has thick sea holes. These are the ones that go at the end towards the end of the antenna, since the wide holes are where the head of the DIN 7984 screw enters. and press the inner tube. Bear in mind that the head of the screw has to be housed inside the hollow of the element and in the other side, the rivet has to be inserted to be screwed with the Allen key supplied.

See example below:

YES



NO



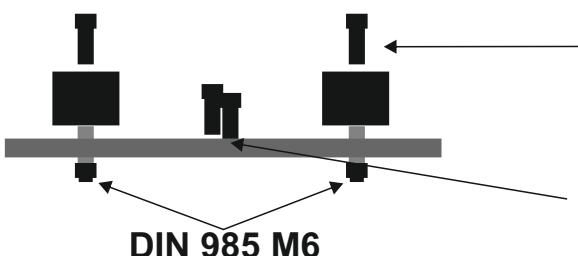
Measures page 2 are expressed in external length, ie, measuring from each end of the tube. Once elements are assembled correctly , proceed

to put each item on the plate to the boom , which would be the last step assembly . Attach plates to boom as specified below .

Once you have the elements assembled, and the boom, **it's time to mount the plates** to the boom and then the elements to the plate. **What we advise is to start with the plates to the boom, if you rise up the antenna in one piece.** If what you want is to raise the elements once the boom is placed on the mast, we recommend putting the elements to the plates for their best way of the "plate / element" assembly to the boom.

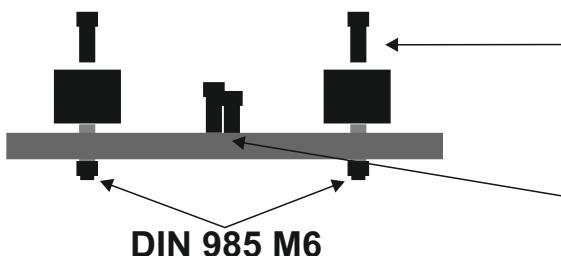
To add the elements to the plate would have to focus with the help of a tape measure, each element of Ø 13mm, mark in the half with a edding, and a once centered fix to the plate with the green plastic blocks (**EAHYP013**) with screws **DIN 912 M6X40**, as shown in the drawing below .

**S912-9640
DIN 912 6x40mm**



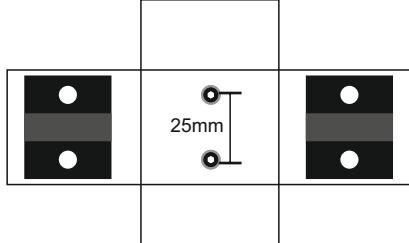
**4m Plates EA010024
S912-9620
DIN 912 6x20mm + DIN 9021 M6**

**S912-9640
DIN 912 6x40mm**

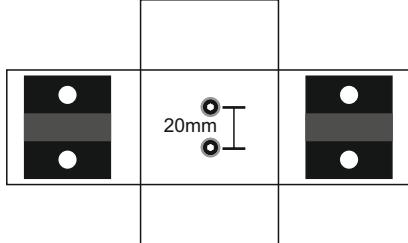


**6m Plates EA010026
S912-9620
DIN 912 6x20mm + DIN 9021 M6**

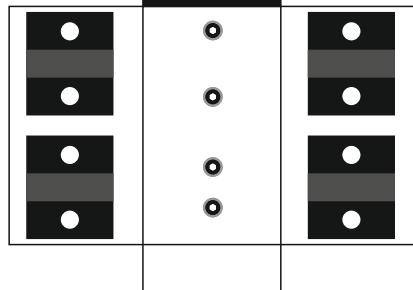
EA010026



EA010024



**REFLECTOR PLATE
EA010025**

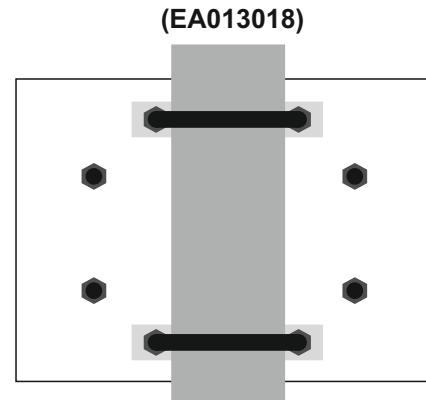
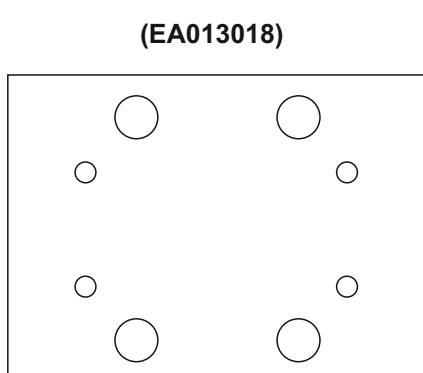


To place each plate to the boom, are fixed by screws **DIN 912 M6X20** and **DIN 127 M6** washer. This plate must be very firm for positioning the element. The next step would be like the other elements, but considering that the screws use are **DIN 912 M6X40** and **DIN 985 M6 self-lock nuts** once it is all assembled antenna.

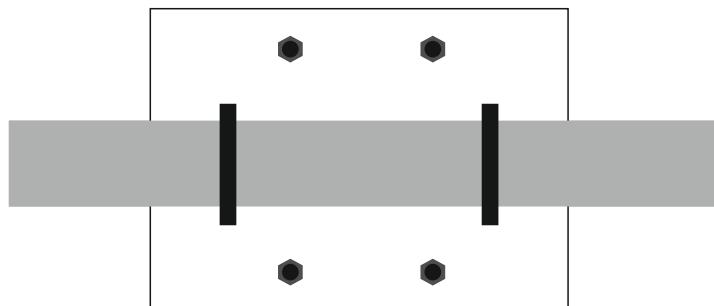
La placa de sujeción BOOM/MÁSTIL (EA013018) de 200X100X6mm consta de 8 agujeros; 4 gruesos para los abarcones redondos y 4 para los abarcones cuadrados que sujetan el BOOM.

Los 4 agujeros de mayor grosor tienen la función de que hagan la mayor fuerza sobre el mástil, mediante abarcones redondos de M8. Los abarcones redondos de M8 (A-0163), van fijados mediante arandela DIN 9021 M8 y tuerca DIN 934 M8 proporcionadas en el mismo abarcón, y fijada al mástil con la Mordaza (23035.50).

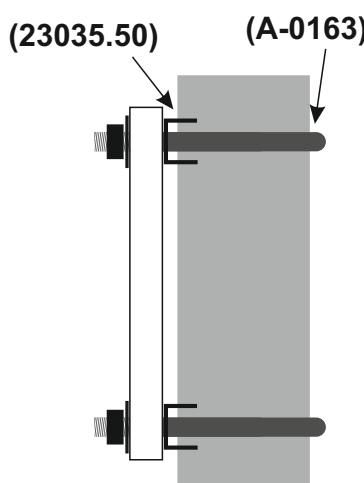
Detallamos dibujos para una mayor ilustración:



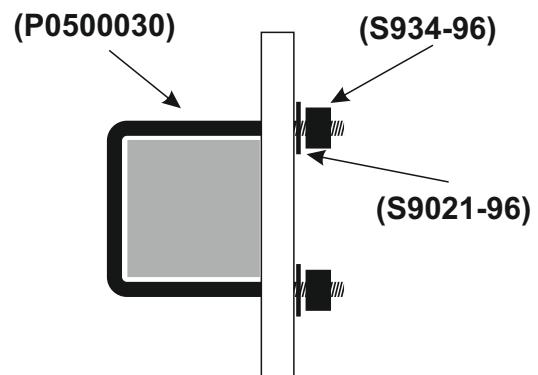
Front view from Mast



Front view from BOOM



Vista lateral desde el mástil



Vista lateral desde el BOOM

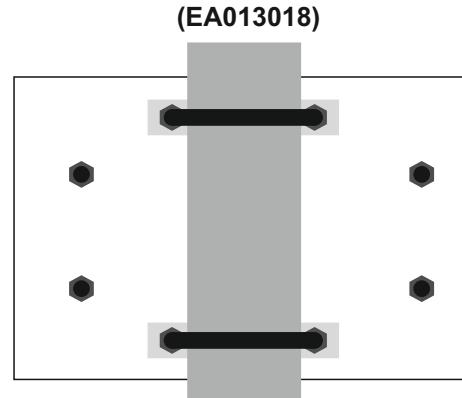
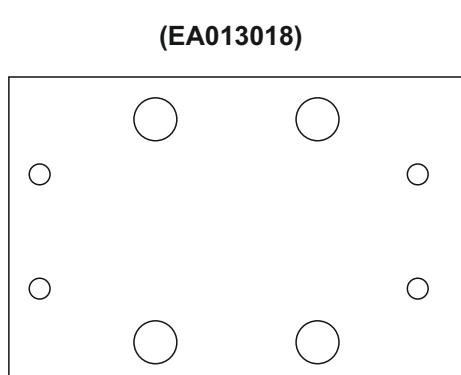
MAST TO BOOM PLATE ASSEMBLY

ENGLISH

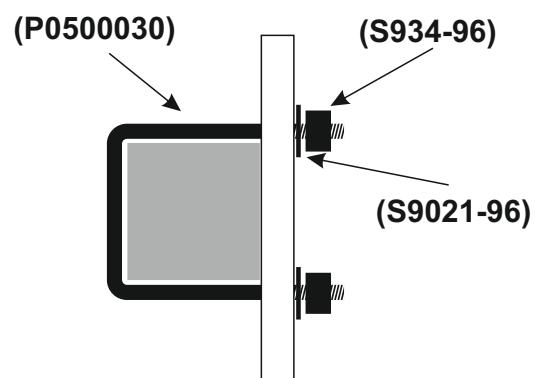
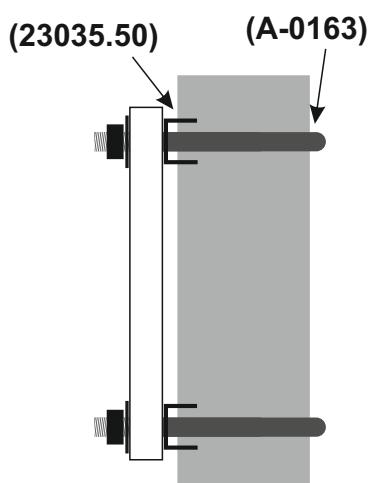
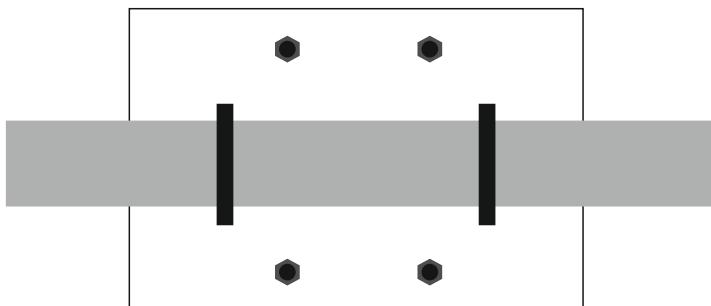
The clamping plate **BOOM / MAST (EA013018)** 200X100X6mm consists of **8 holes**; **4 thick for round U-bolts** and **4 square U-bolts for securing the BOOM**.

The **4 holes are thicker** function that make the greatest force on the mast by means of M8 round U-bolts. **Round U-bolts M8 (A-0163)**, are secured by washer **DIN 9021 M8** and nut **DIN 934 M8** provided in the same U-bolt, and fixed to the mast with clamp (23035.50).

Detailed drawings for further illustration:



Front view from Mast



Side view from Mast

Side view from BOOM

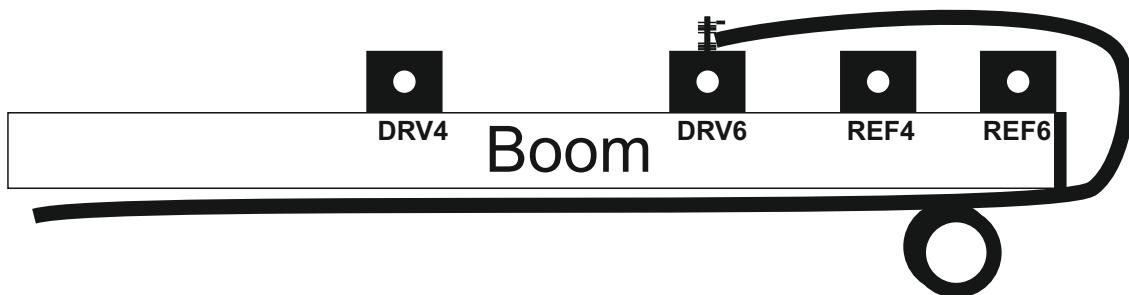
Alimentación:

Cuando el montaje está totalmente terminado, lo último es alimentar la antena con el cable coaxial. Siga los dibujos de como va la alimentación. Simplemente, abrir el coaxial y soldar los 2 terminales suministrados, después colocando estos en los tornillos del elemento de alimentación (DRV.6) y fijandolo con las tuercas y arandelas. La posición de los terminales es indiferente. No tiene porque estar el vivo o la malla en un lado u otro del elemento.



Alimentación mediante coaxial:

Después de varios ensayos, vemos que el balun de aluminio hace peor trabajo que un choque de coaxial. Por esto, recomendamos hacer a escaso centímetros o metros de la alimentación, un choque del coaxial de bajada de 5 vueltas de 8 centímetros de diámetro y así el retorno de RF será mínimo o nulo. En el dibujo aconsejamos que siempre el choque se haga por debajo de los elementos para que el coaxial no haga interacción con los elementos.

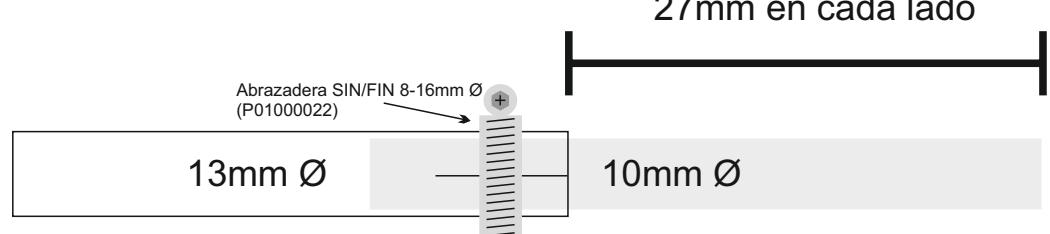


Ajuste del ROE/SWR:

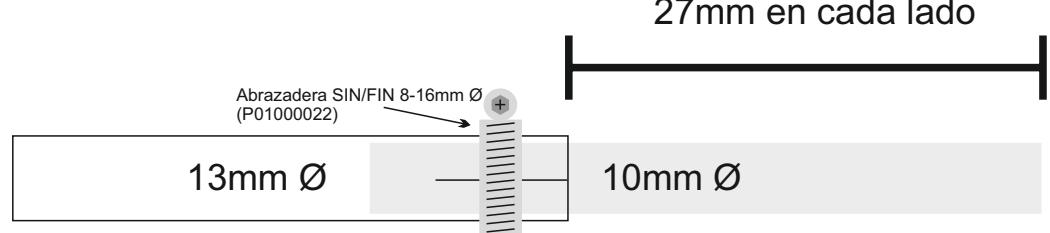
Una vez posicionada la antena con sus medidas, **quizás necesite algún retoque** para conseguir la ROE/SWR deseada. **Desplazando la el elemento DRV.6 hacia adentro o hacia afuera** varios milímetros para los **50 MHz.** y el **DRV4.** para los **70 MHz.** es la forma de hacerlo.

Buscar que el centro de frecuencia esté en 50,150 y 70,200 MHz., respectivamente. con la menor ROE/SWR. La mejor opción es ajustarla con analizador de antenas o con la ayuda de un medidor de estacionarias, y estando la antena a 1 o 2 metros del suelo es suficiente para que lo conseguido en el ajuste, nos dé el mismo resultado estando a cualquier otra altura, ya puesto en la torre/mástil.

DRV.6



DRV.4



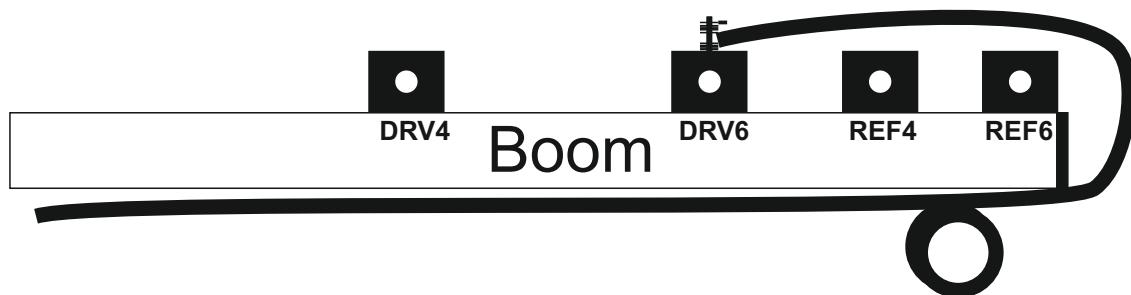
Feeding:

When the installation is fully completed, the last step is feed the antenna with coaxial cable. Follow the drawings. Simply, cut and open the 2 coax and solder terminals supplied after placing these in the Driven element (**DRV.6**) and fixing it with nuts and washers. The terminal position is irrelevant. Does not have to be alive or mesh on one side or another element.

**Coax cable feeding:**

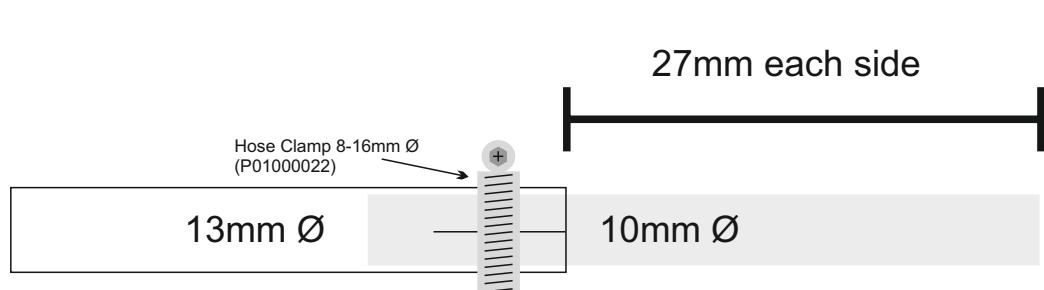
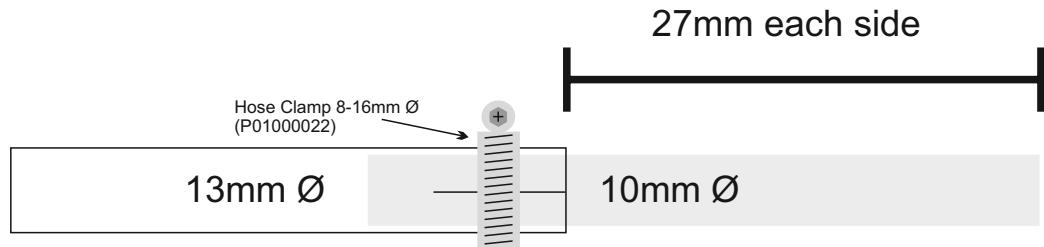
After several trials, we see that the balun aluminum makes it worse job than a coaxial choke. For this, we recommend 5 turns of 8 cm and thus the RF return will be minimal or absent.

In the drawing advise you to do the clash below the coaxial elements do not causes interaction with the elements.

**SWR adjusting:**

Once positioned the antenna with your measurements, you may need some fine-tuning to get the SWR desired. Moving the element **DRV.6** inward or outward several millimeters to 50 MHz and **DRV4**. for 70 MHz is the way to go.

Find the center frequency is at 50,150 and 70,200 MHz, respectively. with the lowest SWR. best option is to adjust with antenna analyzer or with the help of a Radio + SWR meter and antenna being 1 or 2 meters above the ground is enough , give us the same result being any other height, and put in the tower / mast.

DRV.6**DRV.4**

PACKING LIST
LISTA DE PIEZAS

BOLSA 1 - BAG #1

PART # PIEZA N°	IMAGEN PART IMAGE	DESCRIPCION DESCRIPTION	MEDIDAS SIZES	CANTIDAD QUANTITY
EA013018		Placa Mástil/Boom Mast and Boom plate	100 x 100 x 6mm	1
A-0163		Abarcon U-Bolt.	50mm, M8	2
23035.50		Mordaza Tube Clamp	50mm	2
S127-98		DIN 127 WASHER	M8	4
S934-98		DIN 934 NUT	M8	4
P0500030		Abarcon Cuadrado Square U-bolt	M6 x 30mm	2
S9021-96		DIN 9021	M6	4
S934-96		DIN 934	M6	4
P1300003		Llave Fija	10mm	1
P1300001		Llave Allen 5	5mm	1

BOLSA 2 - BAG #2

PART # PIEZA N°	IMAGEN PART IMAGE	DESCRIPCION DESCRIPTION	MEDIDAS SIZES	CANTIDAD QUANTITY
S7984-9410		DIN 7984	M4x10mm	14
RIVSS_M4		Remache M4 M4 Insert	M4	14
P0100022		Abrazadera Sin-Fin Hose clamp	8-12mm	4

BOLSA 3 - BAG #3

PART # PIEZA N°	IMAGEN PART IMAGE	DESCRIPCION DESCRIPTION	MEDIDAS SIZES	CANTIDAD QUANTITY
EA010024		Placa para Elementos Elements plates	150x50x4mm	3
EA010026		Placa para Elementos Elements plates	150x50x4mm	3
EA010025		Placa para Elementos Elements plates	150x100x4mm	1
EAHYP013		Plásticos 13mm Ø 13mm Ø Plastic Blocks	13mm Ø	16
S912-9640		Tornillo Allen DIN 912 Allen DIN 912 Screw	M6x40mm	32
S912-9620		Tornillo Allen DIN 912 Allen DIN 912 Screw	M6x20mm	16
S127-96		DIN 127	M6	16
S985-906		DIN 985	M6	32

BOLSA 4 - BAG #4

PART # PIEZA N°	IMAGEN PART IMAGE	DESCRIPCION DESCRIPTION	MEDIDAS SIZES	CANTIDAD QUANTITY
EA010039		Piezas unión de Boom Boom joint part	200 x 35mm	2
S933-9616		Tornillo Allen DIN 933 Allen DIN 933 Screw	M6x16mm	8
S9021-96		DIN 9021	M6	8
EA0120010		Union de Elementos Elements joints	200mm x 10mm	7

PACKING LIST
LISTA DE PIEZAS

PART # PIEZA N°	IMAGEN PART IMAGE	DESCRIPCION DESCRIPTION	MEDIDAS SIZES	CANTIDAD QUANTITY
50OWA8 A		BOOM A	1395mm x 30mm	1
50OWA8 B		BOOM B	740,5mm x 30mm	1
		Punta final de ajuste Adjustmen tips elements	100mm x 10mm	4
		REFLECTOR 6m	1458mm x 13mm	2
		REFLECTOR 4m	1052mm x 13mm	2
		DRIVEN 6m	1423mm x 13mm	2
		DRIVEN 4m	1000mm x 13mm	2
		DIRECTOR #1-6m	1385mm x 13mm	2
		DIRECTOR #1-4m	1014mm x 13mm	2
		DIRECTOR #2-4m	1000mm x 13mm	2
		DIRECTOR #2-6m	1330mm x 13mm	2