



SAB HELI DIVISION

## Head HPS - Goblin700

## Foam, Bag1, Bag3, Bag4

## Uniball Radius Arm x 2 Assembly

Flanged Bearing  
 $\varnothing 2.5 \times \varnothing 6 \times 2.5 \text{mm}$   
 (HC400-S)

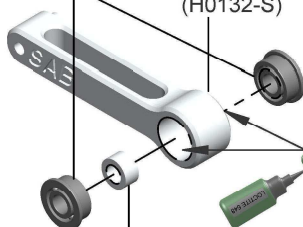


Spacer Arm  
 $2.5 \times 4 \times 6.3 \text{mm}$   
 (H0253)

Uniball Radius Arm  
 (H0205-S)

## Radius Arm x 2 Assembly

Flanged Bearing  
 $\varnothing 3 \times \varnothing 7 \times 3 \text{mm}$   
 (HC402-S)



Radius Arm  
 (H0132-S)

Spacer Arm  $3 \times 5 \times 2.7 \text{mm}$   
 (H0134)

## Center Hub Assembly

Damper Derlin  
 (H0144-S)

O-ring  
 (HA024)

Center Hub  
 (H0135-S)

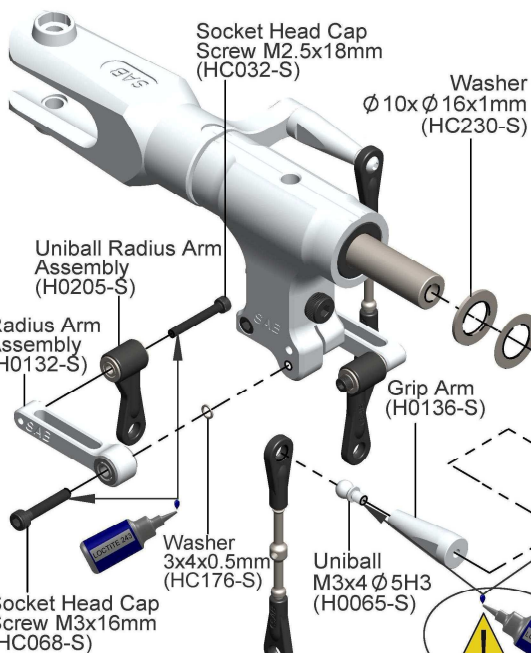
Metric Hex Nylon  
 Nut M4 H5  
 (HC218-S)

Socket Head Cap Screw  
 $M3 \times 12 \text{mm}$   
 (HC062-S)

Spindle  
 (H0079-S)

Socket Head Cap Screw  
 Shouldered M4x24mm  
 (HC111-S)

## Foam, Bag1, Bag2, Bag3, Bag4



Socket Head Cap  
 Screw M2.5x18mm  
 (HC032-S)

Washer  
 $\varnothing 10 \times \varnothing 16 \times 1 \text{mm}$   
 (HC230-S)

Uniball Radius Arm  
 Assembly  
 (H0205-S)

Radius Arm  
 Assembly  
 (H0132-S)

Grip Arm  
 (H0136-S)

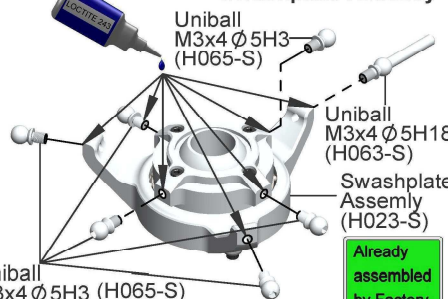
Washer  
 $3 \times 4 \times 0.5 \text{mm}$   
 (HC176-S)

Socket Head Cap  
 Screw M3x16mm  
 (HC068-S)

Uniball  
 $M3 \times 4 \varnothing 5 \text{H3}$   
 (H0065-S)

Socket Head Cap  
 Screw M3x10mm  
 (HC056-S)

## Swashplate Assembly



Uniball  
 $M3 \times 4 \varnothing 5 \text{H3}$   
 (H065-S)

Uniball  
 $M3 \times 4 \varnothing 5 \text{H18}$   
 (H063-S)

Swashplate  
 Assembly  
 (H023-S)

Already  
 assembled  
 by Factory.

## Main Blade Grip Assembly x2

Main Blade Grip  
 (H0034-S)

Bearing  
 $\varnothing 10 \times \varnothing 19 \times 5 \text{mm}$   
 (HC422-S)

The HPS head should be assembled with one, 1 mm shim (HC230) and one, 0.2 mm shim (HC232) on each side. If the blade grips are too tight, you can remove the 0.2 mm shim (HC232) from each side. After approximately 10/20 flights, please check the preload, you can add one or two 0.2 mm shims (HC232) if the preload has changed.



Thrust Bearing  $\varnothing 10 \times \varnothing 18 \times 5.5 \text{mm}$   
 (HC438-S)

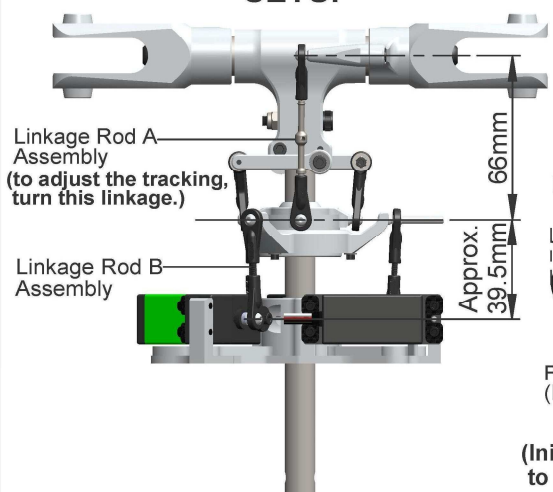
Washer  $\varnothing 10 \times \varnothing 16 \times 1 \text{mm}$   
 (HC230-S)

Bearing  $\varnothing 10 \times \varnothing 19 \times 5 \text{mm}$   
 (HC422-S)

Washer  $\varnothing 6 \times \varnothing 14 \times 1.5 \text{mm}$   
 (HC194-S)

Button Head Cap Screw M6x10mm  
 (HC122-S)

## SETUP



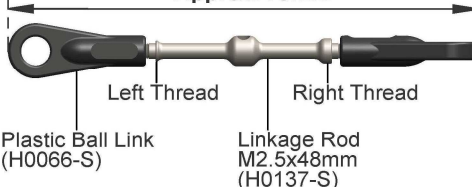
Linkage Rod A  
 Assembly  
 (to adjust the tracking,  
 turn this linkage.)

Linkage Rod B  
 Assembly

Approx. 66mm  
 Approx. 39.5mm

## Linkage Rod A Assembly x2

Approx. 75mm



Left Thread

Right Thread

Plastic Ball Link  
 (H0066-S)

Linkage Rod  
 $M2.5 \times 48 \text{mm}$   
 (H0137-S)

(Initial length for the rods from the swash plate to the Blade Grip.)

## Linkage Rod B Assembly x3

Approx. 48.5mm



Plastic Ball Link  
 (H0066-S)

Set Screw M2.5x18mm  
 (HC140-S)

(Initial length for the rods from the servos to the swash plate.)

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# Head HPS - Goblin700

## Spare Parts

### Swashplate [H0023-S]



- 1 x Swashplate Assembly.
- 2 x Bearings 30x Ø37x4mm.
- 6 x Uniballs M3x4 Ø5 H3.
- 1 x Uniball M3x4 Ø5 H18.
- 3 x Socket Head Cap Screws M2x5mm.
- 4 x Socket Head Cap Screws M2x8mm.

### Blade Grip [H0034-S]



- 1 x Blade Grip.
- 2 x Bush Blade Grips.

### Spindle [H0079-S]



- 1 x Spindle.
- 2 x Button Head Cap Screws M6x10mm.
- 2 x Washers Ø6xØ14x1mm.

### Radius Arm [H0132-S]



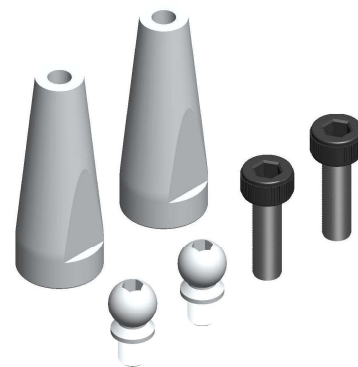
- 2 x Radius Arms.
- 2 x Spacer Arm Ø3xØ5x2.7mm.
- 2 x Spacer Arm Ø2.5xØ4x6.3mm.
- 2 x Uniball Radius Arms.
- 2 x Socket Head Cap Screws M3x16mm.
- 2 x Socket Head Cap Screws M2.5x18mm.
- 2 x Washers Ø3xØ4x0.5mm.
- 4 x Flanged Bearings Ø2.5xØ6x2.5mm.
- 4 x Flanged Bearings Ø3xØ7x3mm.

### Center Hub [H0135-S]



- 1 x Center Hub.
- 2 x Socket Head Cap Screws M3x12mm.
- 1 x Socket Head Cap Screw Shouldered M4x24mm.
- 1 x Metric Hex Nylon Nut M4 H5.

### Blade Grip Arm [H0136-S]



- 2 x Blade Grip Arms.
- 2 x Uniballs M3x4 Ø5H3.
- 2 x Socket Head Cap Screws M3x10mm.

### Linkage [H0137-S]



- 2 x Linkages M2.5x48mm.
- 4 x Plastic Ball Links.

### Damper Derlin [H0144-S]



- 2 x Damper Derlin.
- 2 x Washers Ø10xØ16x1mm.
- 4 x Washers Ø10xØ16x0.2mm.
- 4 x Orings 3050.

## About HPS

HPS stands for "High Precision System". This head has been developed in order to increase the usable rotor RPM range without having to change the rigidity of the dampening system.

The new head is developed specially to limit the teetering effect of the spindle by means of dampening achieved by a special technopolymer material.

The maximum teetering amount can be adjusted based on the amount of play shown in figure "A" of the drawing. The O-ring is necessary to create a radial and axial preload. The preload can be kept relatively low, thanks to the mechanical locking properties of the technopolymer dampeners.

With this solution, finding the correct preload is less complex.

This solution is safer because there is a physical "stop" of the teetering effect with the technopolymer dampeners, also with low axial preload.

The change of preload will serve exclusively to customize the response of the model.

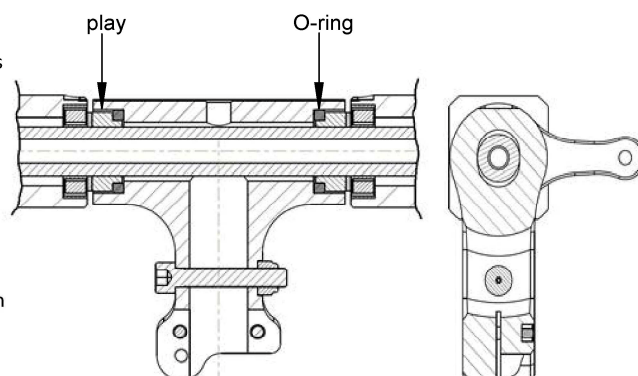
Furthermore, the spindle can only move vertically thanks to the elongated hole shown in section "B" of the drawing.

This solution allows an optimal control of the geometry even when large amounts of torque are introduced into the system.

The head is very accurate and reliable.

Figure A

Section B



## Recommendations

- These parts should be used only with models SAB Goblin
- Please follow all the instructions shown in the Goblin main manual. In this manual please read Chapter 2, Important notes
- Use Loctite on all threads.
- Put a small amount of grease inside the hub and the O-Ring.
- Check for axial play of the spindle at least after the first flights.
- Firmly tighten the blades before flight.

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