

Avro 90 set-up guide ---

Introduction

The Avro has been designed to perform at the highest level. It is extremely important that you follow the guide lines for the set-up you require accurately. Do not mix and match set-ups as this could lead to a machine that behaves incorrectly. Each set-up has been carefully designed and tested. The Avro will perform aerobatics in all set-ups and can respond rapidly when cyclic commands are applied, so please be realistic about you own flying ability and experience when deciding on witch set-up and settings to fly.

Stable

The stable set-up has been design for maximum lock in the hover, and for precision flying and aerobatics. This is a sharp and accurate set-up with a fast roll rate.

Sport/3D

The sport/ 3D set-up have been designed for a crisp cyclic response orientated towards a more aggressive flying style.

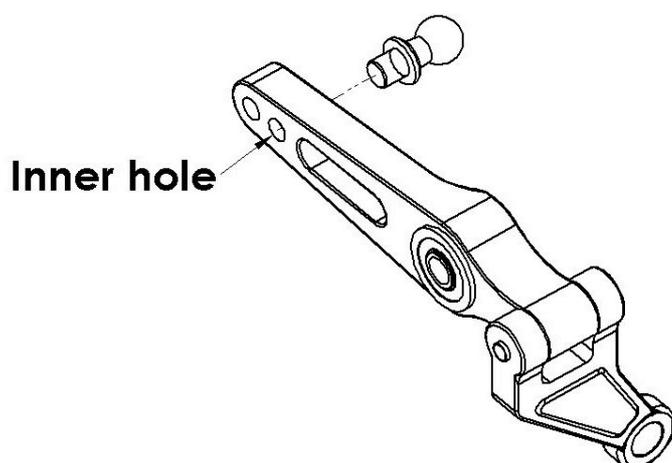
3D

The 3D set-up is designed to give more pitch and cyclic range and accelerated response for extreme flying styles and manoeuvres. Some stability in the hover has been sacrificed to maximise the dynamics and response characteristics of the machine, while still maintaining an accurate lock on line for stunts, such as Knife edge flight.

Stable:

1. Washout assembly/page 32

Fit the 7.5mm control ball on each washout arm into the hole, closest to the main mast. Fit the washout arm assembly as per Stable: trailing link



2. Flybar carrier/page 33

Orientate the flybar carrier as per the Stable option. This is correct when the threaded hole for the 10mm control ball is the one furthest away from the main mast and is facing towards the direction of rotation of the main blades.

3. Trailing link/page 36

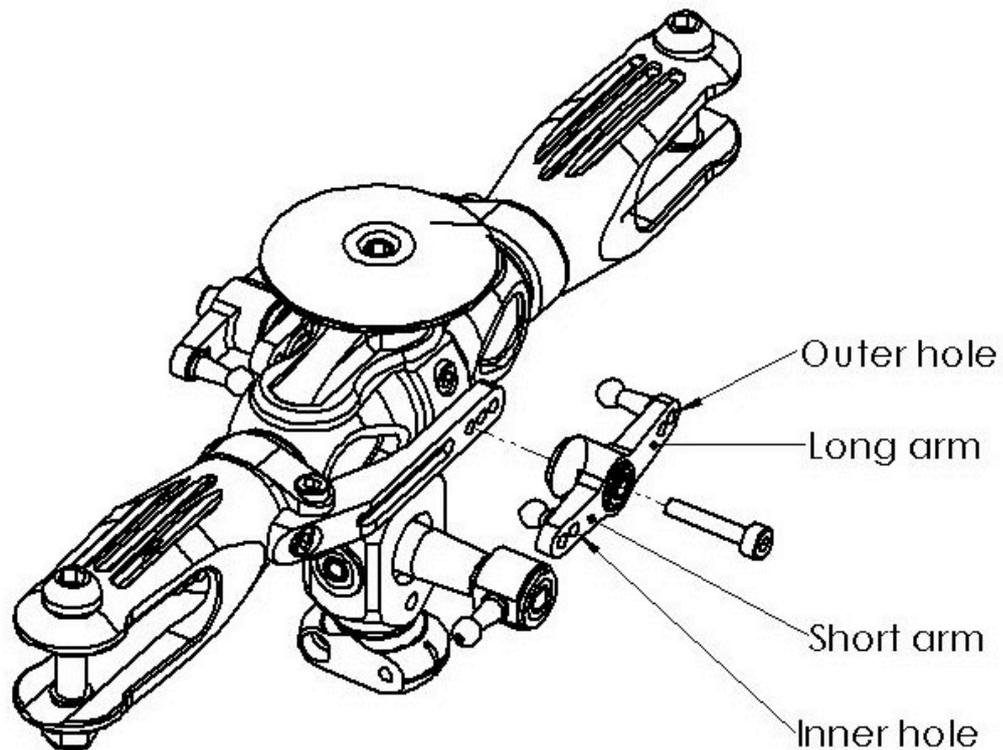
Position the bearings inside the blade grip as per the Stable option, radial bearing/radial bearing/shim/thrust race.

4. Blade grip/ page 37

Use the 60/90-90/60 O-rings combination and position the blade grip arm to trailing.

5. Mixing arms/ page 38

Fit the control balls to the mixing arm as per the Stable option. Fit the mixing arm assembly to the blade grip arm in The hole closest to the blade grip bolt.



Sport/3D

1. Washout assembly/page 32

Position the 7.5mm control ball on each washout arm into the hole, closest to the main mast. Fit the washout arm assembly as per Sport 3D: Leading link

2. Flybar carrier/page 33

Orientate the flybar carrier as per the Sport/3D option. This is correct when the threaded hole for the 10mm control ball is the one furthest away from the main mast and is facing away from the direction of rotation of the main blades.

3. Trailing link/page 36

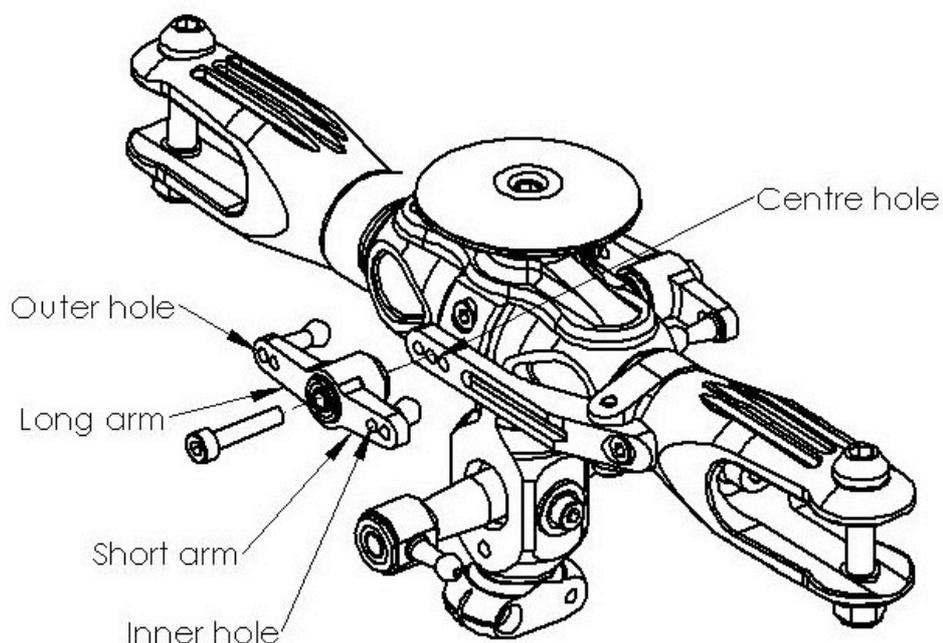
Position the bearings inside the blade grip as per the Sport/3D option, radial bearing/thrust race/shim/radial bearing.

4. Blade grip/ page 37

Use the 70/90-90/70 O-rings combination and position the blade grip arm to leading.

5. Mixing arms/ page 38

Fit the control balls to the mixing arm as per the Sport/3D option. Fit the mixing arm assembly to the hole in the centre of the 3 holes in the blade grip arm.



3D

1. Washout assembly/page 32

Position the 7.5mm control ball on each washout arm into the hole, closest to the main mast. Fit the washout arm assembly as per Sport/3D: Leading link

2. Flybar carrier/page 33

Orientate the flybar carrier as per the Sport/3D option. This is correct when the threaded hole for the 10mm control ball is the one furthest away from the main mast and is facing away from the direction of rotation of the main blades.

3. Leading link/page 36

Position the bearings inside the blade grip as per the Sport/3D option, radial bearing/thrust race/shim/radial bearing.

4. Head cradle/ page 34

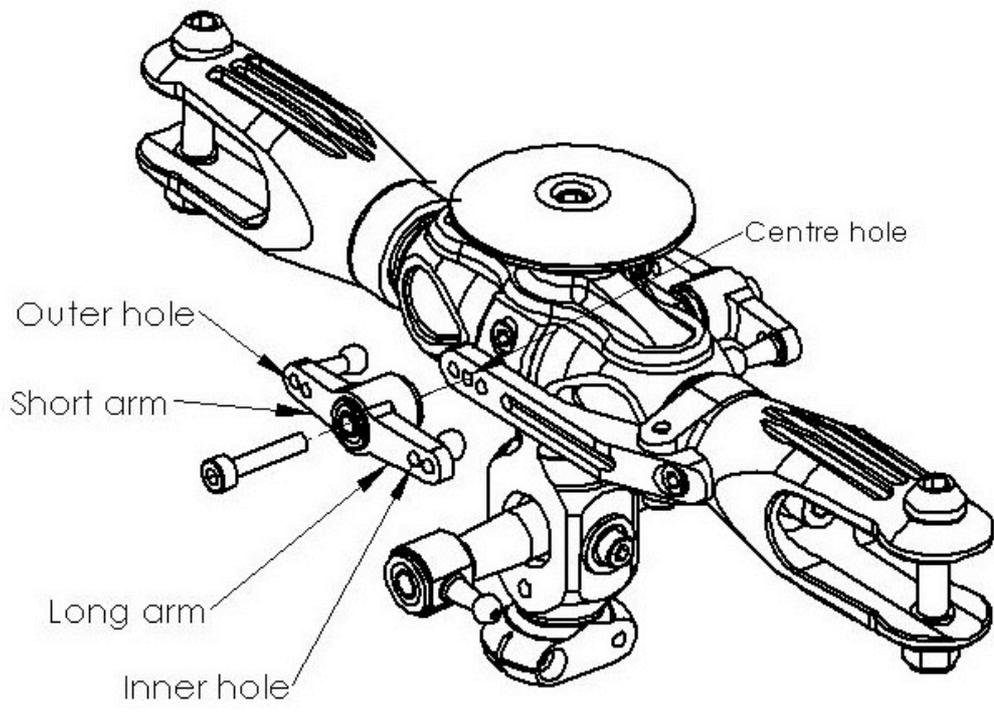
Fit the optional 3D inserts AV-24-1083D

5. Blade grip/ page 37

Use the 90/90-90/90 O-ring combination and position the blade grip arm to leading.

6. Mixing arms/ page 38

Fit the control balls to the mixing arm as per the 3D option. Fit the mixing arm assembly into the hole in the middle of the 3 holes in the blade grip arm.



Blades/auxiliaries and transmitter settings

Stable and Sport/3D:

Main blades: NHP 700 (Cam central bolt hole)
Flybar paddles: SAB 620 (25g with 10g weight)
Tail blades: Radix 105
Gyro: CSM 720
YS 91 engine: 1.5 turns/long needle
15 clicks out/top needle
Fuel: 30% nitro
Radio: JR pcm 9

Pitch range:

Normal flight	-5	+4	+10.5
Idle 1	-8	+2	+10.5
Idle 2	-10.5	0	+10.5
Hold	-8	+4	+12

Throttle curve:

Normal flight	0	26	33	37	42	48	56
Idle 1	80	60	50	45	55	65	85
Idle 2	100	75	60	45	60	75	100

Dual rates:	Aileron/Elevator	Expo:
Position 0	60%	+10%
Position 1	80%	+10%
Position 2	80%	+10%

Dual rates:	Rudder	Expo:
Position 0	60%	+5%
Position 1	75%	+5%
Position 2	80%	+5%

Gain: 90%

Swash mix:

Aileron 55%
Elevator 55%
Pitch 60%

Travel adjusts:

Aileron 100%
Elevator 100%
Pitch 100%

Head speeds:

Normal flight 1500 rpm
Idle 1 1750 rpm
Idle 2 1800 rpm

3D:

Main blades: NHP 690
Flybar paddles: NHP (with weights for hover/track)
Tail blades: Radix 105
Gyro: CSM 720
YS 91 engine: 1.25 turns/long needle
12 clicks out/short needle
Fuel: 30% nitro
Radio: JR pcm10X

Pitch range:

Normal flight	-8	0	+10
Idle 1	-8	0	+10
Idle 2	-12	0	+12
Hold	-12	0	+13

Throttle curve:

Normal flight	0	45	55	60	83
Idle 1	100	75	65	75	100
Idle 2	100	78	72	78	100

Dual rates:

Position 0	85%
Position 1	90%
Position 2	100%

Expo:

+10%
+10%
+ 5%

Swash mix:

Aileron	55%
Elevator	55%
Pitch	64%

Travel adjusts:

Throttle	120%
Aileron	100%
Elevator	100%
Pitch	100%
Rudder	120%

Head speeds:

Normal flight	1750 rpm
Idle 1	1850 rpm
Idle 2	1950 rpm