



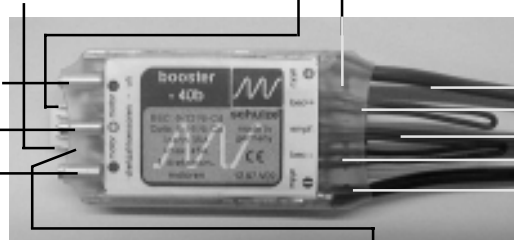
**Installation Example**

**3-pin motor socket:**

Plet-	Aveox	Köhler
ten-	Kon-	
berg	tronik	
blue	blue	black
yellow	green	green
red	red	white

**connecting sensor wires of Köhler motors:**

grey, yellow, green, brown, white



**Protective capacitor:**

If the capacitor gets warmer than 60°C (140°F) by half throttle use and/or long cables, add 1 ... 2 capacitors across the power leads.

- Pos (+) wire to flight/drive battery
- BEC++, + 5 V positive power to receiver
- Receiver cable
- BEC--, negative power to receiver
- Neg (-) wire to flight/drive battery

**Motor connectors:**

**booster** is supplied with three 3.5 mm gold plated sockets. Mating plugs are temporarily inserted in these sockets. Remove these plugs and solder them to the motor wires (see pp35-information in section 8)

**Jumper (plug):**

Use it to reverse the motor's direction of rotation.

**!!! Remove this little plug for normal operation !!!** (e.g. with Plettenberg motors). Check motor timing if you reverse motor from its normal direction (others than Plettenberg motors)!

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## 1 Warning notes, cautions

Electric motors fitted with propellers are dangerous and require proper care for safe operation. Keep well clear of the propeller at all times when the battery pack is connected.

Technical defects of an electrical or mechanical nature may result in unintended motor runs; loose parts may cause serious personal injury and/or property damage.

The CE-certificate on the speed controller does not absolve you from taking proper care when handling the system!

Speed controllers and soft-switches are exclusively for use in RC models. Their use in man-carrying aircraft is prohibited.

Speed controllers are not protected against reverse polarity (+ terminal and - terminal reversed). Connecting the **battery pack** to the **motor sockets** of the controller will almost certainly cause irreparable damage.

Electronic equipment is sensitive to humidity. Speed controllers which have got wet may not function properly even after thorough drying. You should send them back to us for cleaning and testing.

Do not use speed controllers in conjunction with a power supply connected to the mains. Energy reversal occurs when the motor slows down and stops, and this may damage the power supply or cause an over-voltage condition which could damage the controller.

Never disconnect the flight pack while the motor is running, as this could cause damage on the speed controller or soft-switch.

Check carefully that all 3 motor wires and all 5 sensor wires are plugged into the correct connectors. Incorrect or incomplete connection of the power and sensor cables will damage the speed controller and/or the motor.

Switch (plug/unplug) to reverse rotational direction only when motor is not running.

Do not exceed the maximum stated length of cable between battery and **booster** (max. length: 20 cm / 7...8"). The wiring inside the battery pack must also be as short as possi-

ble. Use in-line soldered "stick" packs.

For the same reason, use a clamp-type amperemeter, not a series meter with shunt resistor.

On no account connect a separate receiver battery or an electronic battery switch (two receiver batteries) if you use the BEC system, as this may cause damage to the speed controller and could cause current to flow from the receiver battery to the motor. If you want to use a separate receiver battery, cut the ++ and the -- wire (both = opto-coupler use).

Protect the speed controller or soft-switch from mechanical loads, vibration, dirt and contamination.

Keep the cables to the battery and to the motor as short as possible.

Never leave the flight battery connected when ...

... the model is not in use and/or

... the battery pack is being charged.

(Although some speed controllers feature a separate On/Off switch, this does not isolate it completely from the battery.)

Speed controllers and soft-switches can only function properly if they are in full working condition. The protective and monitoring circuits can also only work if the speed controller is in good operating condition.

In the case of motor failure (e.g. short circuits in the windings) or stalled prop, the over-temperature sensor in the controller may react too slowly to prevent damage. Switch the motor off immediately to prevent permanent damage to the speed controller.

**Note:** Please remember that the monitoring circuits are unable to detect every abnormal operating condition. If the motor runs irregularly: Switch off immediately and send the controller back to us for repair.

If you are using a mechanical gyro:

Always disconnect the flight pack before turning off the receiver. As the gyro runs down it may produce sufficient voltage for the receiver to send an unwanted signal to the controller, and this could cause the motor to burst into life!



## 2 Ensuring safe, trouble-free operation

**Use** only compatible connectors. A 2mm pin cannot provide reliable contact in a 2.5mm socket. The same applies with 2mm gold-contact pins and 2mm tin-plated sockets.

### **Please also remember that ...**

... the wiring of your RC-components must be checked regularly for loose wires, oxidation, or damaged insulation, especially when using a BEC system.

... the CE certificate on the speed controller does not absolve you from the need to handle the system carefully.

... your receiver and the aerial (antenna) must be at least 3 cm (>1") away from motor, speed controller and high-current cables. For example, the magnetic fields around the high-current cables can cause interference to the receiver.

... all high-current cables must be as short as possible. Maximum length between flight pack and speed controller should not exceed 20 cm (7"), between speed controller and motor: 5 cm (2").

... all high-current cables longer than 5 cm (2") must be twisted together. This applies in particular to the motor power cables, which are very powerful sources of radiated interference.

... in model aircraft: half of the receiver aerial's (antenna's) length should be routed along the fuselage, the other half should be allowed to trail freely (take care not to tread on it). Do not attach the end of the aerial (antenna) to the fin!

... in model boats: half of the receiver aerial's (antenna's) length should be deployed inside the hull above the waterline, the other half should be threaded into a small tube mounted upright.

### **Every time you intend to use the power system - before you turn on the receiver - make sure that ...**

... no one else is using the same frequency (identical channel number).

... your transmitter is switched on and the throttle stick is (as a rule) in the STOP position (exceptions see Section 9).

**Carry** out a range check before each flight. Ask an assistant to hold the model aircraft and set the throttle stick to the half throttle position. Collapse the transmitter aerial (antenna). Walk away from the model to the distance stated by the RC system manufacturer (this might be a distance of about 50-60 m = 200'). Make sure that you still have full control of the system at this range.

As a general rule: receiver interference is more likely to occur when using a controller or governor with BEC system, as these units do not feature an opto-coupler with its optical link.

**When** Ni-Cd batteries approach the end of their charge, voltage falls drastically and quickly. The **booster** detects this and reduces power to the motor automatically. This should leave sufficient energy to bring your model safely back home. However, if you use a small number of cells of high internal resistance and operate at high motor currents, the controller may reduce power before the pack is discharged. You can eliminate this problem by using low resistance straps to connect the cells, or use the direct cell-to-cell soldering technique ("sticks") and short, heavy-gauge wire if you assemble your own batteries.

**Please** mount cables to battery, motor and receiver (booster-40b: also BEC++ and --) in straight line from the controller. Cables across the booster may receive interference.

**You** may find that there is a slight delay in your controller's response to a start or stop command; there are technical reasons for this behaviour, and it is quite normal.

**All** microprocessor controlled motor speed controllers require that the power battery is plugged in quickly and firmly.



This reduces or eliminates possible arcing and it encourages the smart controller circuitry to properly reset.



In the worst case, if you were to "play" with the plugs or wires, the motor could start up briefly (even when the transmitter sends a stop signal)!



### 3 Intended applications

**booster-40b** is the controller for all-around sport flying with medium currents (40/50 A max). Use 6-12 Ni-Cd cells in BEC-mode or 6-17 cells in opto-coupler mode. The BEC-System will supply up to 3 A (5 servos max.)

**booster-40H** is a special version of the booster-40b for helicopter use. No brake, fixed stick positions (see ...Fo types) and additional cooling ribs.

**booster-90Fo** has been especially designed for the 10-cell F5B/E class. Its 72 Cool-FETs remain cool even at max current for short periods of time, even though no external cooling fins are used. Rated for 6 to 17 Ni-Cd cells. Only available with opto-coupler. Fixed stick positions. Brake can not be switched off.

**booster-30bo** is for medium sized planes and helicopters. 30/40A max. Rated for 15-32 Ni-Cd cells. Only available with opto-coupler.

**booster-55Fo** has been especially designed for the 27-cell F5B class. Its 72 Cool-FETs remain cool even at max current for short periods of time, even though no external cooling fins are used. Rated for 6 to 17 Ni-Cd cells. Only available with opto-coupler. Fixed stick positions. Brake can not be switched off.

### 4 Specifications

Type unit	Current [A]	Ni-Cd [cells]	Size [mm]	Weight [g]	Cable [mm <sup>2</sup> ]	Thrott. [mΩ]	Brake [mΩ]	BEC
<b>booster-40b/H</b>	40/ 50	6-12/17	65x37x 9	31-45	2,5	2,8x2	(2,8/3)	5V/3A peak + Optok.
<b>booster-90Fo</b>	90/120	6-12/17	65x37x14	48-67	4,0	1,2x2	1,2/3	Opto-coupler
<b>booster-30bo</b>	30/ 40	15-32	65x37x 9	31-45	2,5	4,8x2	4,8/3	Opto-coupler
<b>booster-55Fo</b>	55/ 70	15-32	65x37x14	48-67	4,0	2,0x2	2,0/3	Opto-coupler

**Current rating:** **maximum current / nominal current:** The excess current level lies above the maximum current value for each (cold) **booster**. The nominal current is the continuous current at full throttle, at which the **booster** can be operated when connected to a 2 Ah battery.

**Weight:** **excluding** - including cables.

**Throttle, brake:** **Internal** resistance of FETs as stated in the data sheet.

**Other features:** Overtemperature threshold approximately 110°C. Pulse frequency max. 12 kHz.

**BEC:** **The stated peak current** is dictated by the maximum current value of the 5V voltage regulator; it can only flow for less than 1 second, followed by a cooling-off period.

**The stated continuous current** is much lower and is determined by the maximum power dissipation of the voltage regulator used in the unit: 3,0W (at 14V = 333 mA continuous current)

**all types:** Range for input pulse widths about 0,5 ... 2,5 ms.

**...F types:** Arm- and brake-point: lower than about 1,15 ms; full throttle greater than about 1,75 ms.

#### Common highlights:

**Small** and light due to absence of cooling fins

**Better** than 200-step (0,5 %) resolution over the whole control range for fine speed control

**Forward-Reverse** switchable by jumper

**Controllers** work reliably down to the last milli-Watt of energy in the battery pack

**“Auto-arm”**-function and “power on reset”

**“ips”** (intelligent programming system, only **booster-30** and **-40**) with no pots! The speed controller configures itself every time when you connect your battery pack. At this time, it "reads" the stick position and stick travel and sets the end points. In the same fashion, you can activate or disable the brake function.

**Fixed** stick travel points in **booster-55** and **-90**

**Integral** high-current sockets for motor-wire plugs and sensor cable socket to allow motor or speed controller to be changed quickly and easily

**Note:** **booster** is designed to work with short motor and battery cables. Should you use long battery cables and/or you use **booster** a long time with half throttle, the protective capacitor may reach temperatures in excess of 60°C (140F). In this case, add one or two capacitors (1000µF/25V or 470µF/63V as built-in) across the battery leads. Observe polarity!



## 5 Protective circuits

Note: the monitor circuits are effective, but they cannot detect every possible operating condition.

### Reverse polarity protection:



These speed controllers are not protected against reversed polarity!

### Temperature monitor:

The temperature monitor switches off the motor. You can reset the unit using the "auto-arm" function (throttle stick to stop for about 2 sec.)



If the motor windings are short-circuited or the motor is stalled the temperature monitor reacts too slowly to prevent damage. Switch the motor off immediately to avoid permanent damage to the speed controller.

### Voltage monitor:

As soon as the voltage of the flight/drive battery falls back to the 5V threshold (**booster-30** and **-40**) or 12V (**booster-55** and **-90**) the motor is throttled back.

If the situation which caused the controller to throttle back continues for more than a few seconds, the unit switches the motor off.

Of course, you can re-start the motor again briefly by moving the throttle stick back to "stop" for about 2 seconds to re-arm the system. The speed controller - and your model - remain fully controllable until the last drop of usable energy is exhausted.

If you use the BEC system, we can not predict how long you can still control your model with the residual battery charge as this depends on many parameters such as the number of cells in the pack, the cell type, actual motor current and the way you control your model. The only solution is for you to time the period yourself with the model on the ground. If the voltage monitor trips, i.e. the motor starts to throttle back without your intervention, you should stop the motor at once with the throttle stick in any case so that you have the maximum possible reserve of power.

### Current monitor:

Our **booster** controllers feature a current monitor circuit which trips when the current rises highly above the specified maximum value. The motor is throttled back. This means, that a motor which draws an excessive current will never reach full-throttle, and the current may stay below the specified maximum value. If the **booster** is a short time in current limiting mode, it will disarm itself (switching off the motor).

Note: Do not stall the motor.

### Receiver signal monitor:

If the receiver signal fails, or the signal is longer or shorter than the usual range of values, the controller reverts to hold mode for few seconds before switching to disarmed mode.

### Watchdog:

If this circuit is tripped the speed controller stops working briefly and then reverts to normal operation.

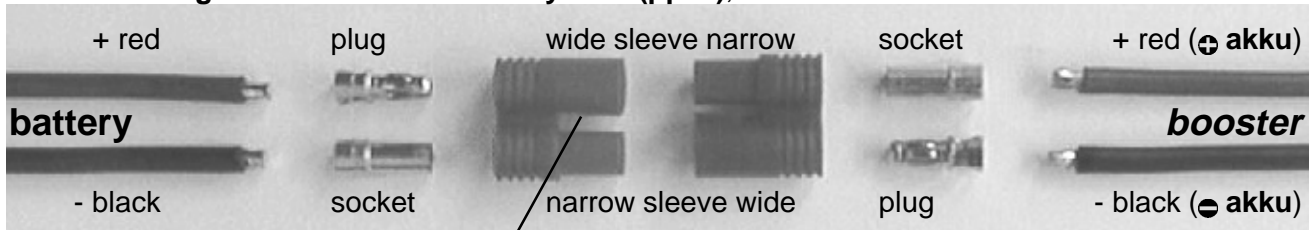
## 6 Monitor displays

The **booster** is not fitted with LEDs to indicate its operating status.



## 7 Connector systems and mounting instructions

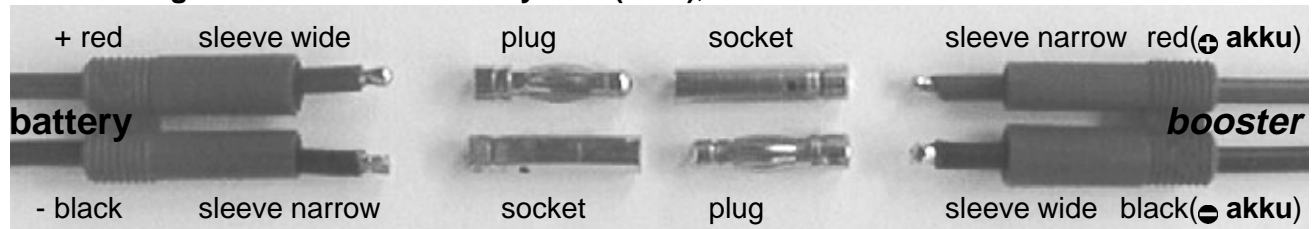
### 7.1 3.5 mm gold-contact connector system (pp35); max. load > 80A



Caution: remove locating lug from battery cable. Do not remove lug from any cables attached to controllers or charge leads! Fit the connectors in the order shown above; the contacts are pressed in as follows:

- Place plastic sleeve vertically on table, grip end up.
- Push contact down into sleeve.
- Place 2.5mm wide screwdriver blade on top of cable solder joint inside sleeve.
- Tap screwdriver to press contact into sleeve until latch engages.

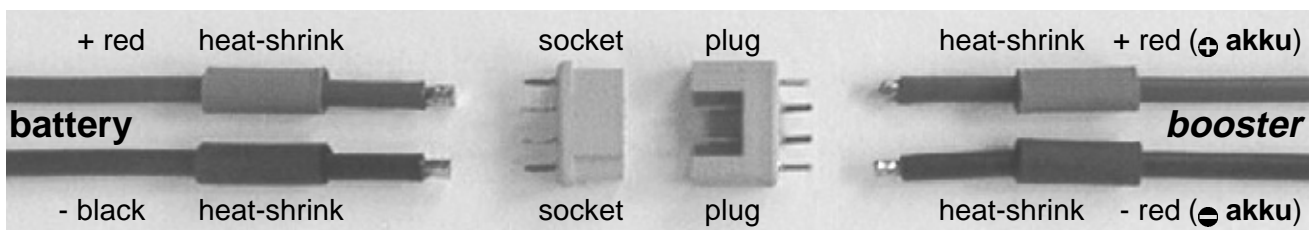
### 7.2 4 mm gold-contact connector system (CT 4); max. load > 80A



Fit the connectors in the order shown above; the contacts are pressed in as follows:

- Rest plastic sleeve on vice jaws with cables hanging down.
- Close vice jaws until cables are just free to move.
- Fit plug into socket and tap into sleeve until latch engages.
- Fit socket onto plug and tap into sleeve until latch engages.

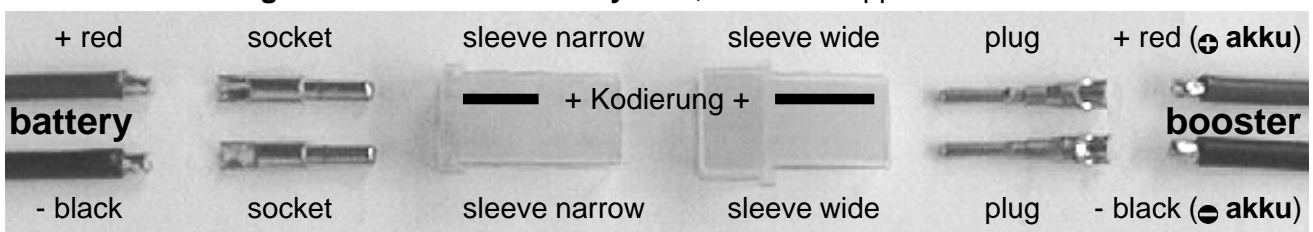
### 7.3 MPX gold-contact connector system (green or red); max. load approx. 30A



Fit the connectors in the order shown above; the contacts are soldered as follows:

- To center the contacts fit plug and socket together before soldering.
- Tin all 6 exposed contacts of plug or socket.
- Fit cable end into triangle of contacts, solder to all three contacts.
- Position heat-shrink sleeve and shrink over joint.

### 7.4 2.0 / 2.5 mm gold-contact connector system; max. load approx. 30A



Fit the connectors in the order shown above; the contacts are pressed in as described for the pp35 system.



## 8 Installation, connections

### Installing in the fuselage:

Velcro (hook and loop) tape is the ideal method of mounting the controller in the fuselage. Do not pack the **booster** in foam as this may lead to a heat build-up in the controller.

### Length and mounting of connecting cables:

The cables to the flight battery and - in particular to the motor - should be kept as short as possible. Long cables tend to act as aerials (antennas) and radiate interference; they also add unnecessary weight and are the reason for additional heating of the protective capacitor. See also section 2.

### Manufacturer's information about pp35:

The pp35 plug is very short, and this presents the danger that the spring contact could lose its resilience due to excessive heat build-up during the soldering process. You can side-step the problem by keeping the temperature below 200°C as follows: either remove the contact carefully before soldering, or simply push the plug into a piece of wet fine-grain sponge for soldering.

### Power-connection battery <--> booster:

It is essential to use **polarized** gold-plated-contact connectors - fitting any other type of connector invalidates the warranty.

**Connectors** which do not have a polarised insulator can be made safe (i.e. polarised) by soldering the **booster's** positive battery wire to a socket, and the **booster's** negative wire to a plug.

**We** recommend that you choose your connectors from our selection in Section 7.

### Power-connection booster <--> motor:

**Shorten** existing motor cables to a length of max. 5 cm (2"). Solder the cables to the **pp35** plugs supplied (plugged into the **booster's** sockets). See also manufacturer's information.

### Receiver connection:

**Connect** the receiver cable attached to the **booster** to the receiver's throttle output channel. Alternatively, and for ON/OFF use only, you could use a switched channel.

### BEC / Opto-coupler use:

BEC Function Active: With the BEC function, **booster** receives (as usual) its control signal via this receiver cable. Also, **booster** supplies (battery) power to the receiver.

**Caution:** Do not use a separate receiver battery. In this case you will damage the **booster** and/or the rotational sensors in the motor.

If you want to use a separate receiver ON/OFF

switch, you may solder this switch in series with the (cut) BEC++ wire to the receiver.

Opto-Coupler Mode (BEC function inactive): To activate it, cut the BEC++ and BEC-- wire. This completely insulates the motor-battery and the receiver-battery power. In this case, you must use a separate receiver battery and switch to supply power to the receiver.

**Hint:** In general, you will want to select the opto-coupler mode in case of receiver interference caused by high motor current switching, and/or in the case that motor currents exceed 30 Amps.

### Motor direction:

For "normal" use (most motors), the motor polarity jumper (see picture on page 1) must be removed prior to power-on. (Always try initial motor runs without a propeller). In the rare case that the motor runs backwards, remove power from the controller, and replace this polarity jumper prior to power-on. This little jumper can be simply removed by lightly pulling on the little plastic tab. Pull straight-away from the controller. Store in a safe place.

## 9 Initial use

### 9.1 Symbols and terminology

#### Stick:

The throttle stick on the transmitter

#### Neutral position (self neutralising stick):

Idle position (position of the throttle stick where the motor just barely runs) or stop position (if brake activated).



#### Brake position or idle position:

Position of the throttle stick where the motor stops or just barely runs



#### Full throttle position:

100% voltage passed to the motor



#### Wait (2 seconds):



#### Audible indicators:

none





## 9.2 ips, the intelligent programming system

for configuring the **booster-30bo** and **-40b** to suit your application

**booster-55bo** and **-90Fo** have fixed stick positions and brake function (booster-40H no brake, -55Fo and -90Fo with brake); no configuration is necessary/possible. **booster-30bo** and **-40b** use **ips** programming system.

The ips reflects the initial set-up procedure used with our speed controllers until recently, i.e. the process of adjusting the braking point with the help of a trim pot. For any normal application with an EMF brake (for a folding propeller) the start-up procedure is entirely conventional: throttle stick to "motor stopped", switch first transmitter-, then receiver on, hold model in launch position, apply full throttle, launch.

The controller has to be adjusted to match the stick travel of your transmitter - a procedure we term "configuration" - and with these units the process is fully automatic. If you wish to use the controller in a model which does not require a propeller brake, or in a model helicopter in which the full-throttle setting of the motor does not coincide with the maximum collective pitch setting, the procedure is slightly different (see below). The brake point and the full throttle point must be configured in such a way that full stick travel is always available to operate the motor, as this provides the finest possible level of control.

If you have a transmitter with adjustable servo travel we recommend that you set throttle-servo to normal full travel, i.e. +/- 100%.

**booster** uses 1.65 ms pulse duration (slightly more than the center stick position) as its internal stick travel separation point. Should you first apply power to the system by plugging the flight/drive battery when the stick is anywhere "above" this point, then **booster** assumes that this first stick position is the "full power" position and switches brake off. The motor does not run at this time! Do you subsequently move the stick to a position slightly "below" this separation point, then booster will be "triggered" (armed) and ready to go. **Your next (=second) movement of the stick will start the motor!**

If you plug in the battery with the stick "below" the separation point (brake activated), then booster will be "triggered" (armed) instantly and **your next (= first) movement of the stick will start the motor!**

**Should** the motor not start up as desired, remove battery, reverse throttle channel and repeat as described in the following sections:

### 9.2.1 Propeller brake mode

- a Disconnect flight battery (it is not enough to switch off the BEC system)
- b Set throttle stick to brake position.
- c Switch transmitter on.
- d Switch receiver on (connect flight battery).
- e **booster** learns brake position and is now armed!
- f Hold model in launch position, keep clear of danger area around propeller.
- g Move throttle quickly to full-throttle position and ...  
... leave it there for about 1/2 second to learn full throttle position. Motor is already running - as with a conventional speed controller.
- h The **booster** is completely configured and the model can be flown.



TXon

RXon



### 9.2.2 No-brake mode

- a Disconnect flight battery (it is not enough to switch off the BEC system)
- b Set throttle stick to full-throttle position.
- c Switch transmitter on.
- d Switch receiver on (connect flight battery).
- e **booster** learns full-throttle position.
- f Move throttle quickly to idle position and ...  
... leave it there for about 1/2 second to learn idle position.
- g The **booster** is completely configured and is armed.
- h Place the model in the launch position. Keep clear of danger area around propeller. Open throttle in the normal way to start the flight.



TXon

RXon



The configured data is retained in the **booster** until you disconnect the flight pack (it is not enough to switch off the BEC system).



### 9.2.3 Propeller brake mode, half stick travel

a Disconnect flight battery (it is not enough to switch off the BEC system)

b Set transmitter stick to neutral position = brake position (for the technically minded: pulse width smaller than 1.65 ms).



c Switch transmitter on.

**TXon**

d Switch receiver on (connect flight battery).

**RXon**

e **booster** learns brake position and is now armed!



f Place the model in the launch position. Keep clear of danger area around propeller.



g Move throttle quickly to full-throttle position and ...



... leave it there for about 1/2 seconds to learn full throttle position. Motor is already running - as with a conventional speed controller.



h The **booster** is completely configured and the model can be flown.



**Note:** If the stick travel between neutral point and full-throttle point is "too short" **booster** can not supply full throttle. If this happens, set the servo travel for the throttle channel as high as possible (e.g. 150%; the pulse width for full-throttle must be at least 0.55 ms greater than the stop-point).

### 9.2.4 Helicopter mode (no brake)

a Disconnect flight battery (it is not enough to switch off the BEC system)

b Set the collective pitch stick to the position\* in which the **booster** is required to provide full-throttle.



It is important that you can always call up this precise point for the start-up procedure. The best method is to assign the value to one switch position of a Dual-Rate switch.

c Switch transmitter on.

**TXon**

d Switch receiver on (connect flight battery).

**RXon**

e **booster** learns full-throttle position.



f Move throttle quickly to minimum collective pitch (idle position) ...



... and leave it there for about 1/2 second to learn idle position.



g **booster** learns idle position and is now armed! The **booster** is completely configured now.



h Place the helicopter in the take-off position. Keep well clear of danger area around rotor. Open throttle gradually to start the flight.



**Note:** to avoid the motor stopping completely when collective pitch is reduced to minimum we recommend that you switch on idle-up after completing the configuration procedure outlined above.

The configured data is retained in the **booster** until you disconnect the flight pack (it is not enough to switch off the BEC system).

[\*] **Note:** This position must not be the hover point; it should be at least 30% in the direction of maximum collective pitch. For the technically minded: throttle channel pulse width at least 1.65ms.



## 10 Legal matters

### 10.1 Warranty conditions

All **schulze** products are 100% dynamically tested by using a battery and a motor. We do not simulate tests.

If your unit develops a problem, please return it to **schulze** or to the importer. Include a description of the problem. Please be careful and precise, and list the battery voltage and capacity, motor type, conditions under which failure occurred etc. A note saying "doesn't work" does not help us much, and it may lead to wasted time in trouble-shooting. Before returning the unit for repair, please test it "one more time" carefully. If we find that the controller is operating correctly, whether it is under warranty or not, we will make a charge for our lost time.

#### One final note:

Please don't try trouble-shoot a defective unit yourself. Very few hobby shops are equipped to analyze and repair surface-mount printed circuit boards. We reserve the right to refuse repair to units which have been modified or "improved" by unauthorized "experts".

As we mentioned earlier, if you have a problem with one of our products, please send it back to us or our authorized representative (see catalogue). This ensures that the proper replacement parts will be used, and that you will gain maximum pleasure from using these products. You also have the comfort of a properly repaired unit with a renewed warranty. The warranty period of repaired devices is applicable only to the repair. This period is shorter than the warranty period of a new product (See our general conditions of business).

### 10.2 Liability / damages

We have invested a lot of effort in helping you to exploit this unit to maximum. However, since neither the manufacturer (**schulze**) nor the importer have control over how these products are used, we cannot accept liability for any direct or consequential damage, loss and/or injuries to the user, to third-parties or the environment

from the use of this product. Taking into account our legal obligations, and regardless of the legal basis for any action, our liability to compensate for damages shall be limited to the invoice amount of the portion of the merchandise directly involved in the event which incurred the damages. This does not apply in respect of our unlimited liability due to wrongful intent or gross negligence, as prescribed by law.

### 10.3 CE certification

The products described in this manual are manufactured in accordance with all specific and mandatory European CE guidelines:

**EMI 89/336/EEC, 91/263/EEC and 92/31/EEC.**

The products have been tested according to the following norms:

**EMI-emissions: EN 50 081-1:1992**

**EMI-resistance: EN 50 082-1:1992 or  
EN 50 082-2:1995**

The design and construction of our products comply with the requirements for safe operation.

EMI emissions were tested under realistic conditions, i.e. using suitable motors close to the maximum allowed currents. The use of resistors instead of motors do not create maximum emission levels.

Further testing is carried out to ensure adequate EMI resistance against emissions from other apparatus. The RF signals used for these tests are similar to those produced by mobile telephones and RC transmitters.

We wish to point out again that our products are tested under realistic conditions for the most dangerous scenario: exposed to the field of a powerful transmitter, the motor must not start while you are working on the model.

**Problems involving our products are most likely caused by unsuitable combinations of radio components or improper installations.**

