

PO BOX 578 CASINO, NSW 2470, AUSTRALIA
 PHONE: INTERNATIONAL ++614 2902 9083
 AUSTRALIA (04) 2902 9083

Web: <http://www.rcs-rc.com> Email: rcs@rcs-rc.com

COBRA-160 ESC

7 AMP 24 VOLT ESC by FOSWORKS



SEE OVERLEAF FOR SETTING
 THE POWER CURVE DESIRED

SETTING UP COBRA-160 ESC FOR THE 1st TIME

NOTE. If you are using a 2.4GHz radio system, you must first bind the receiver to the transmitter. See the instructions with your radio equipment for this.

1. Once bound, turn your transmitter ON, then turn on your loco.
2. The red LED will flash quickly for three seconds.
3. Press and release the SET-UP button on the Cobra during the first three seconds of the flashing. If you miss it, turn off and on again.
4. The LED will now flash slowly with equally spaced flashes. Put the stick or knob to centre position and press and release the SET-UP button.
5. The LED will now flash slowly with unequal flashes mostly ON. Put the stick or knob fully forward and press and release the SET-UP button.
6. The LED will now flash slowly with unequal flashes mostly OFF. Put the stick or knob fully backward and press and release the SET-UP button.
7. The Cobra will now restart with the new settings and is ready for action.

OPERATING THE LOCO

Power up the transmitter, THEN the locomotive. Wait 5 seconds for the controller to settle. The locomotive should respond smoothly to your movement of the regulator control; the further you push, the faster it goes. Same for reverse.

FORWARDS - SPEEDING UP.

To select forwards direction twist the Large knob from neutral slowly clockwise (CW) to the right.

SLOWING DOWN. Turn the Large knob back to the left (CCW) to set desired speed.

STOPPING. Completely stop the loco by bringing the Large knob back to neutral.

REVERSE - SPEEDING UP.

To select reverse direction twist the Large knob slowly to the left (CCW).

SLOWING DOWN. Turn the Large knob back to the right (CW) to set desired speed.

STOPPING. Completely stop the loco by bringing the Large knob back to neutral.

SHUTTING DOWN. When you have finished operating, turn off the loco(s) before the TX.



+VE
MOTOR
MOTOR
-VE

**HIGH FREQ. DC
 MOTOR SPEED
 CONTROLLER
 7.2V—28 V INPUT
 30W cont.**



6 - 24 VOLT OPERATING RANGE

The operating range of the Cobra is from 6 - 24 volts, making it ideal for garden railway operation. If connected to a 8 volt supply it will give out a controlled 8 volts for the motor, and so on if connected to 12 or 14.4volts. The Cobra-160 can briefly operate up to 14 amps peak current, but is limited to 30W continuous power. Its small size makes it ideal even for small shunting locos.

DIGITAL SIGNAL PROCESSING

The Cobra will work with all makes of Radio Control equipment. We would recommend 2.4GHz, especially the RCS system, for reliable operation.

WIRING UP THE LOCO

Look at the circuit diagram overleaf to wire up your loco. Employ a suitable fuse for protection. A 5 amp fast blow fuse should be used for most locos. Do not exceed 7 amps without checking with us. For ease of use, JST (BEC) connector plugs have been fitted to the Cobra. Male and female plugs can be purchased to fit these. JST connectors are also supplied with some RCS Installation kits.

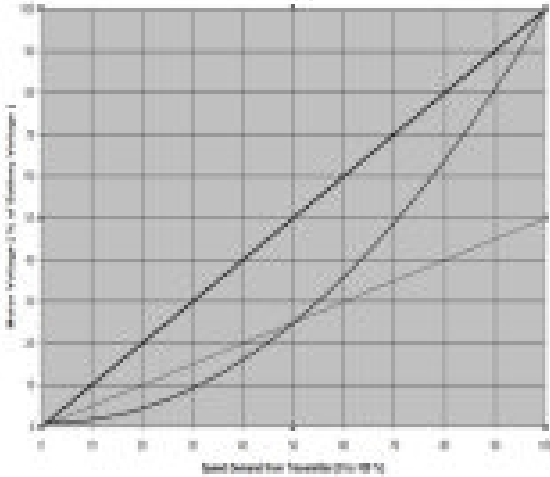
COBRA-160 ESC

Silent control

Connect the Cobra servo plug into your receiver the correct way around on the following pins:
Lemon Rx Ch # 1, Rx102-Ch # 1 pin, Spektrum-ELEV, Planet-ELEV, 27 & 40mHz-Ch.2
POWER CURVE SETTING

The Cobra has three power curves which can easily be set by the user.

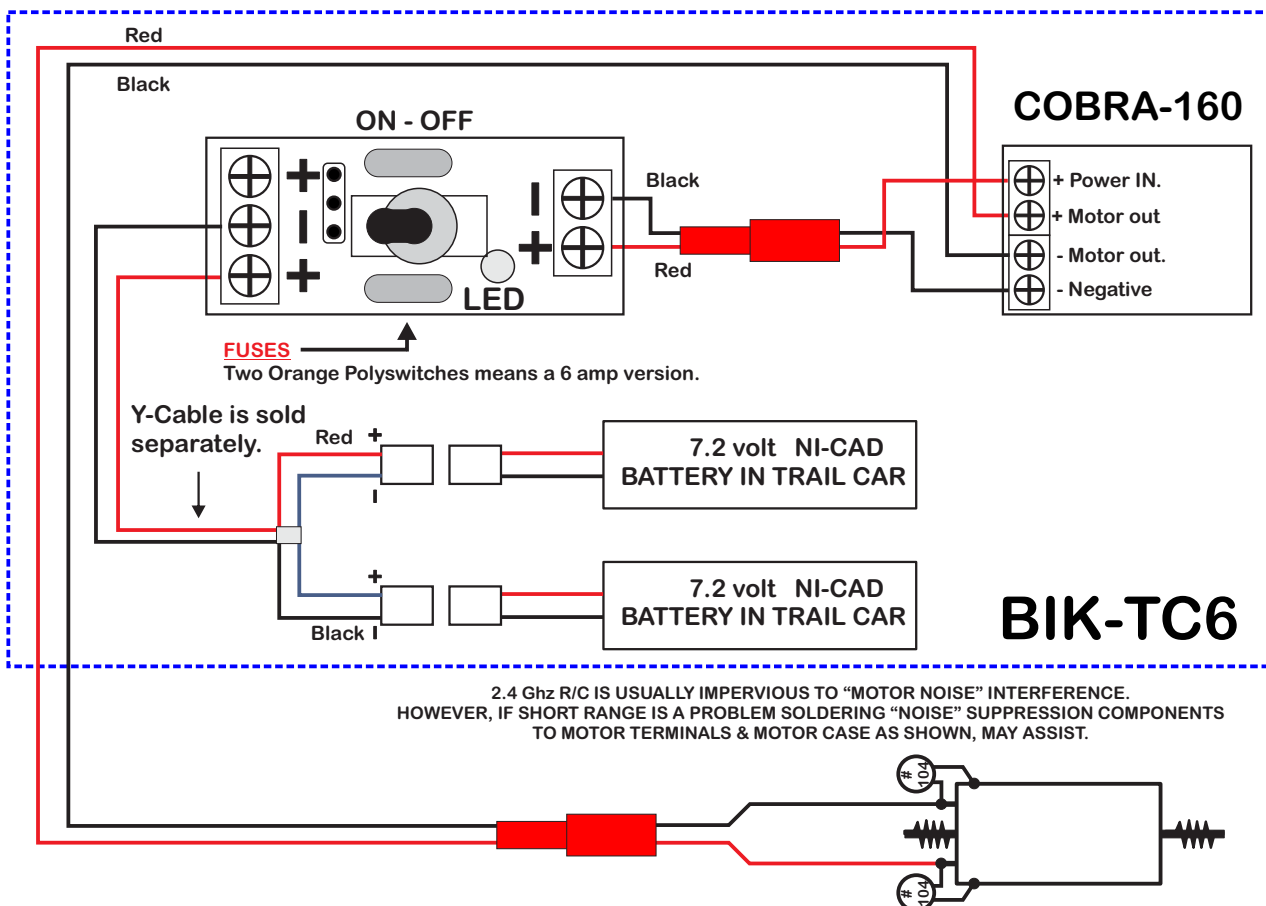
1. Standard straight line response to the regulator. (NORMAL CONTROL).
2. Slow start, and a more rapid rise at higher power up to full power.
3. Straight line up to half power for shunting.



To set the power curve:

1. With everything switched on and settled, with the regulator in the middle ie OFF position, observe the Cobra. It will be flashing in groups of 1, 2 or 3 flashes.
2. To change the setting, press and hold the set-up button until the LED stays on constantly.
3. Now release the button and the setting will change to the next curve. The Cobra will again flash in groups of 1, 2 or 3 flashes to indicate the new curve selected. For example, if the Cobra was initially on curve 2 and you want to select curve 1, then steps 2 & 3 will have to be performed twice to get the power curve at setting # 1.

POWER PROTECTOR - If you have turned on the handset with the regulator away from the off position, the Cobra will not give you power until you have returned the regulator to off, then there is a one second delay.
If you find that the control is too abrupt or too sluggish, then you can adjust the **power** curve on the Cobra as shown above.



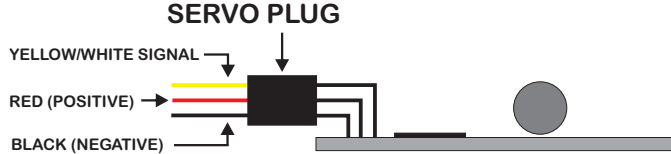
Short Antenna

WIRING THE COBRA-160 ESC by FOSWORKS.

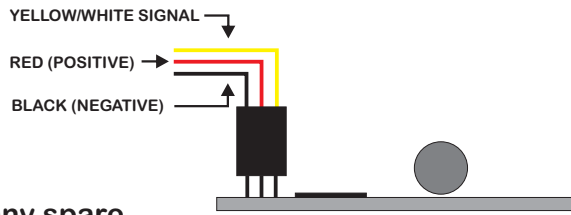
HOW TO CONNECT POWER, LIGHTS & SOUND.

Three wire cable. Ensure plugs are correctly located.
Orange/White wire towards top/front of RX.

Be aware that auto bind Rx's have a different servo pin layout.

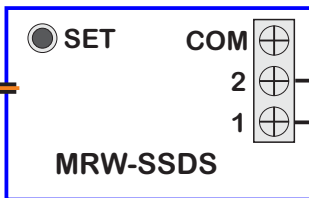


SIDE VIEW OF EM RX. **N.B. 1st version # DSM2-EM-MINI is the other way around.**



SIDE VIEW OF RA RX

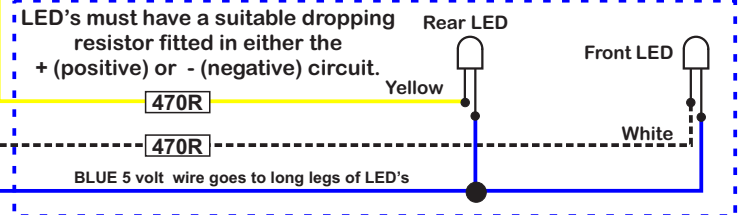
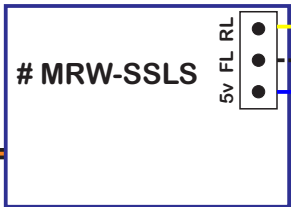
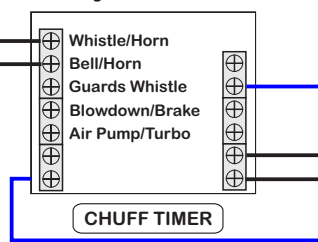
Plug # MRW-SSDS into any spare channel with a centre idle.



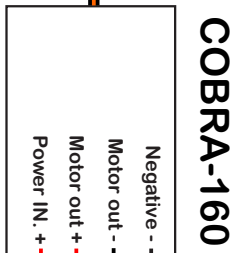
Max 2 amp load on each trigger.

GROUND (-) IS VIA THE SERVO CABLE.

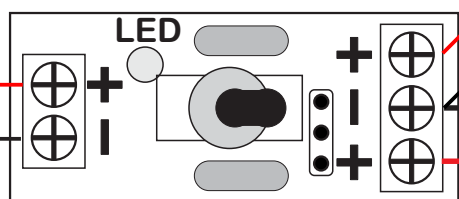
MyLOCOSOUND



PLUG SPEED & DIRECTION ESC INTO THE THREE PINS ON # SSLS. MATCH WIRE POLARITY.



POWER OUT TO THROTTLE & ACCESSORIES.



FUSES

One Orange Polyswitch mean a 3 amp version
Two orange Polyswitches means a 6 amp version.

BATTERY CONNECTION



WIRING THE RCS # BATTERY-PNP to BACHMANN & ARISTOCRAFT PnP sockets.

Using on board batteries & a COBRA-160 ESC.
Directional lights. No sound fitted.

