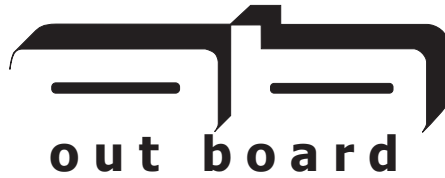


Fitting Encoder:

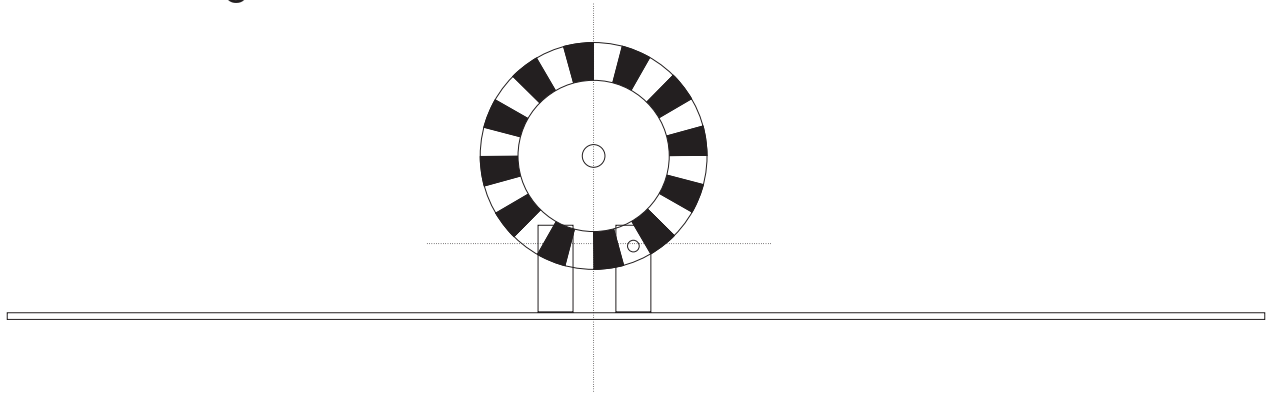
1. Remove hoist end cover to expose brake and limit switch assemblies.
2. Remove bolts (a & b) and position encoder mounting brackets and replace bolts. Make sure that the flat faces of the mounting brackets are in the same plane.
3. Mount encoder disk onto shaft (c) and tighten grub screw.
4. Mount encoder circuit board onto the mounting brackets. Make sure that the encoder wheel is central between the two opto couplers on the encoder circuit board. Make sure that the encoder wheel is positioned so that it is at the maximum possible depth into the opt coupler gap with around 0.5mm clearance between the top edge of the opto coupler and the encoder wheel mounting boss. The adjustments are made by gently bending the encoder mounting brackets. If the hoist has a double brake assembly fitted, use a piece of nomex (RS 349 9740) insulation material cut to the same size as the encoder circuit board with fixing holes to align with the encoder circuit board fixings between the back of the encoder circuit board and the brake assembly. It may also be necessary to crop down component legs on the back of the encoder circuit board as flush as possible to gain a little extra clearance.
5. Pull encoder cable through hoist power grommet (d), the best way to do this is to tape the stripped ends of the encoder cable onto the hoist power cable. Then apply a lubricant to the cable and slide the grommet down. Once enough cable is pulled through to get a grip on it, remove the tape and pull the cable through, then slide the grommet back up to its normal position.
6. Terminate cable ends onto encoder circuit board terminal strip:

<u>PCB</u>	<u>Cable</u>
Red	Red
Black	Black
Blue	Blue
Brown	Green
Orange	White
Yellow	Yellow
7. Test the installation using the encoder tester, A+ and A- and B+ and B- indicators should go on and off alternately, while the Up or Down indicators should come on continuously depending on the direction of rotation. The A & B indicators should come on and off 12 times for one complete rotation of the encoder wheel.

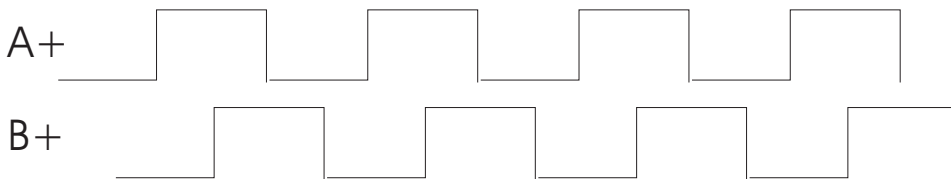


Technical Detail

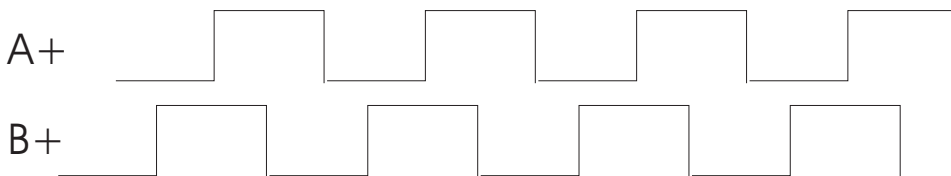
Correct alignment of the encoder circuit board to the wheel



Scope output of encoder with correct alignment



Clockwise rotation of encoder wheel
A leads B



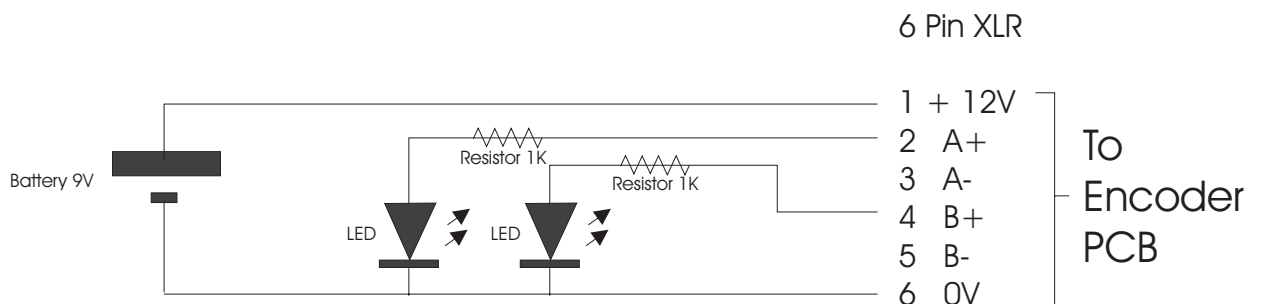
Anti-clockwise rotation of encoder wheel
B leads A

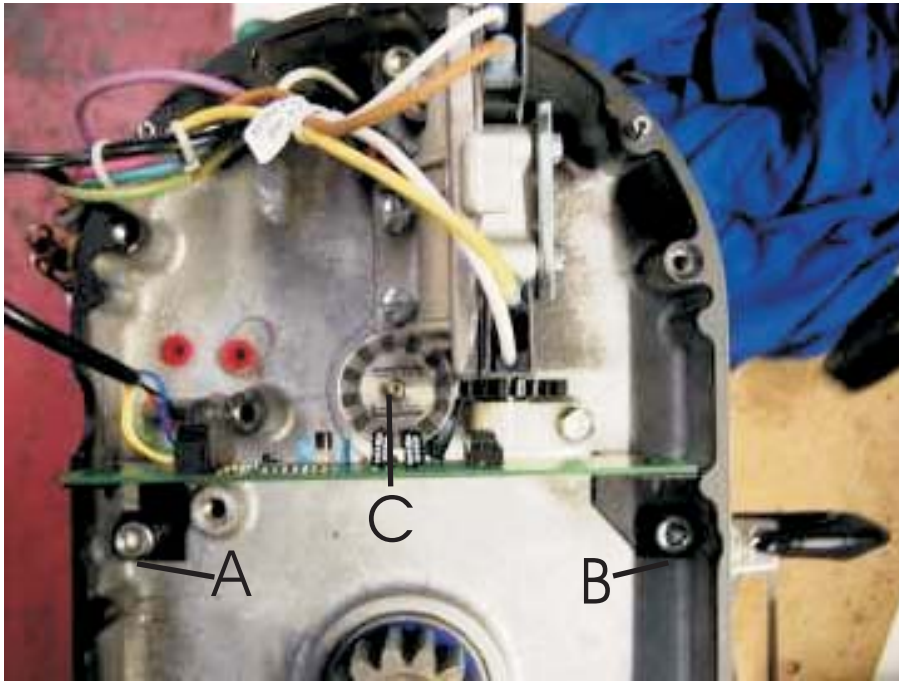
Notes:

A- and B- outputs (not shown) are inverted forms of A+ and B+

Incorrect alignment can be easily seen by using an encoder test box and monitoring A+ and B+ LED indicators

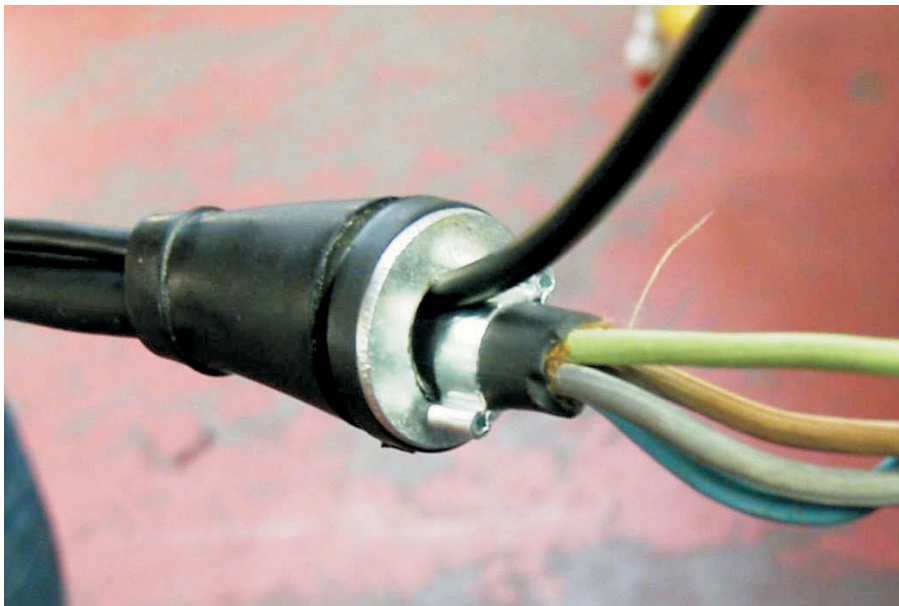
A simple tester can be made as detailed below:



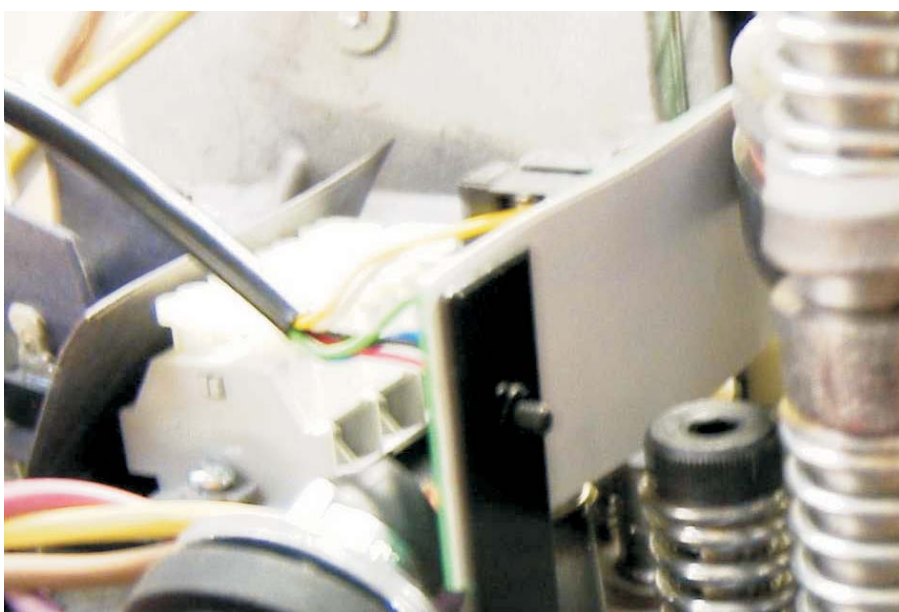


Mounting of brackets to support encoder PCB

Mounting encoder wheel onto shaft



Thread encoder cable through motor power grommet



Shows nomex insulation with double brake assembly