

# Technical Bulletin 532

## Applying SPEC779 When replacing RENCO Encoders

When ordering an British Encoder Products Company (BEPC) Encoder to replace Renco brand encoders, be sure to confirm the connector type. In some cases, to ensure connector compatibility, you will need to append "SPEC779" to your BEPC part number. When applying SPEC779, you *may* need to disconnect unused signal leads. This bulletin provides guidelines for determining if SPEC779 is appropriate for your application and if wiring adaptations will be required.

### SPEC779 Features:

1. SPEC779 applies a flat, white 8-pin connector (AMP 770602-8) to the end of the encoder cable, as shown in Figure 1.
2. While the SPEC779 connector's (AMP 770602-8) external dimensions differ from Renco's connector (AMP 103650-7) the pins have the correct 1mm spacing, as shown in Figure 2.
3. The SPEC779 pinout conforms to Renco's standard pinout, as shown in Chart 1. Note that BEPC's wire colors differ from Renco's.
4. The cable length for SPEC779 is determined by the designator in your BEPC part number. Renco provided varying cable lengths. The Renco data sheet descriptors were "CAXX" (where "CA" = 8-pin Connector and "XX" = cable length.)

BEPC Part Number Example:  
15T-02SF-0360N5R3HV-F02 SPEC779  
"F02" = 2.0 feet of cable

### SPEC779 Requirements:

1. Applicable only for BEPC Models **121**, **160**, **15T**, **15H** or **15S**
2. BEPC **Line Driver (HV)** output must be specified.
3. BEPC **Non-Commutated** output must be specified.
4. The Renco encoder to be replaced must have the standard black, flat 8-Pin Renco connector (AMP 103650-7) and the Renco pinout as shown in Chart 1. It is possible your Renco encoder may have had a non-standard connector applied or may have had the pinout altered. In these cases, SPEC779 will NOT be compatible.

Fig. 1



Fig. 2

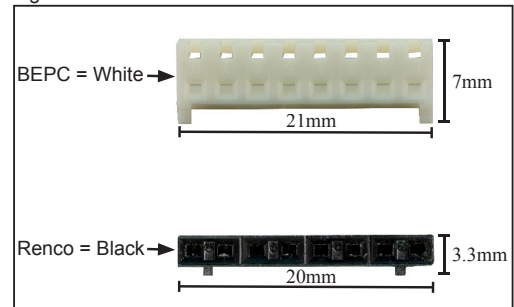
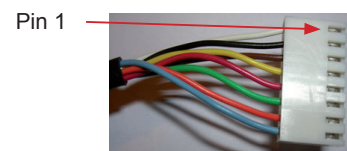


Chart 1

Pin	Function	BEPC	Renco
1	+VDC	White	Red
2	Common	Black	Black
3	Channel A	Brown	White
4	Channel A'	Yellow	Yellow
5	Channel B	Red	Green
6	Channel B'	Green	Blue
7	Channel Z	Orange	Orange
8	Channel Z'	Blue	Brown
NC	Shield	Bare	Bare



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## Special Considerations:

- In-Line Mating Connector:**  
If connecting to a pin-header, the SPEC779 connector will work. However, if connecting SPEC779 to an "in-line" cable connector, a mating connector (AMP 770666-1) is required. See chart 2 for AMP part numbers.
- Wiring Modification for Push-Pull Output:**  
SPEC779 is available only on BEPC encoders with Line Driver (HV) output. This provides 6 channels (A, A', B, B', Z, Z'). If the Renco you are replacing used Push Pull output, only 3 channels (A, B, Z) are used, leaving 3 unused channels. It is advised to modify the SPEC779 cable in order to avoid shorting unused wires.

Chart 2

	Connector Amp #	Mating Connector Amp
Renco	103650-7	103680-5 or 103659-7
BEPC	770602-8	770666-1

Perform these steps ONLY prior to installing or powering encoder and in accordance with best practices:

**STEP 1:** Clip the following 3 wires from the SPEC779 connector (See Chart 1 for Wiring Table)

**Channel A'** YELLOW wire from Pin 4

**Channel B'** RED wire from Pin 6

**Channel Z'** BLUE wire from Pin 8

**STEP 2:** To help keep the three unused wires from shorting out, trim them to differing lengths. Insulate each wire end separately with suitable installation material. Fold the trimmed and sealed wires back on to the cable covering and secure.

**STEP 3:** Follow the mounting instructions in BEPC's **Tech Bulletin 521**.