

## Appendix A.5

# Making Cat5 Cables

Refer to the following instructions to make a Cat5 cable.

**Note:** There are two protocols for making Cat5 (or ethernet) cables — T568A and T568B. The Uponor Climate Control Network System uses T568B.

### Tools required:

- Wire cutters
- Cable stripper (optional)
- RJ45 crimp tool
- RJ45 connectors
- Cat5 cable
- Cable tester

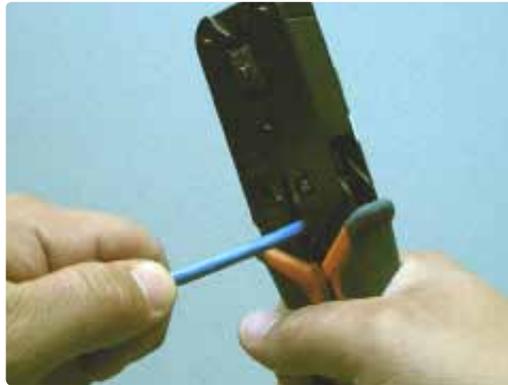
### Procedure

1. Using wire cutters, cut the end of the wire. Ensure the individual wires inside are even (see **Figure A.5-1**).



**Figure A.5-1: Cutting the Cable Wiring**

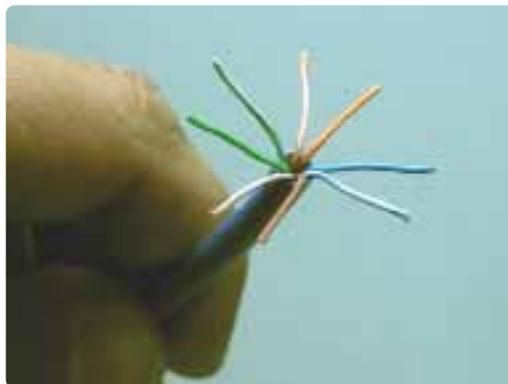
2. Using either the attachment on the RJ45 crimp tool, a knife or wire strippers, strip approximately 1/2" of outer insulation from the wire cable (see **Figure A.5-2**).



**Figure A.5-2: Stripping the Outer Insulation**

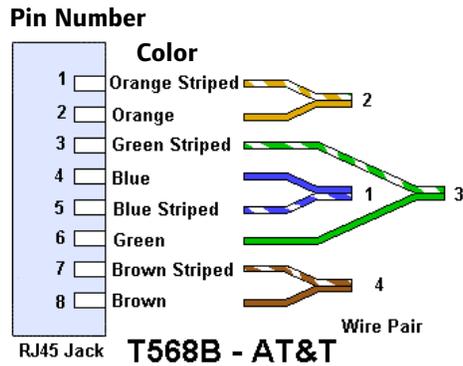
**Note:** Take care not to damage the inner insulation or wires. If damage occurs, cut off the damaged end and start over at step 1.

3. Separate all eight wires and straighten them (see **Figure A.5-3**).

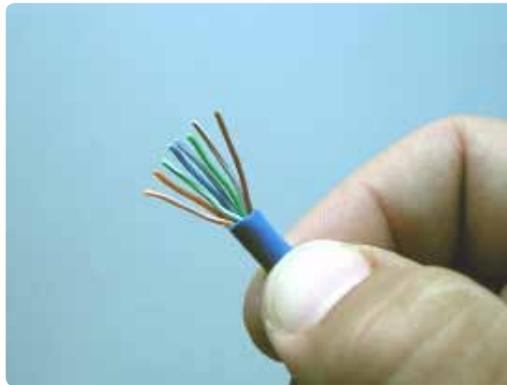


**Figure A.5-3: Separating the Wires**

4. Arrange the wires from left to right in the following order (see **Figures A.5-4** and **A.5-5**).

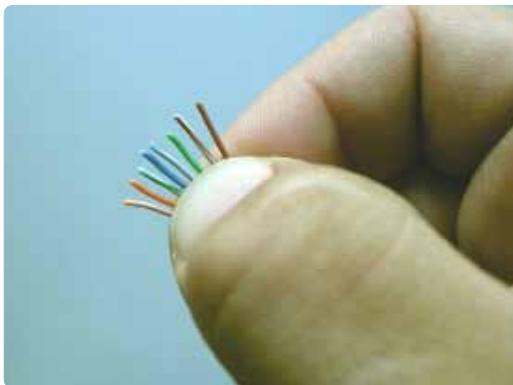


**Figure A.5-4: Wire Arrangement**



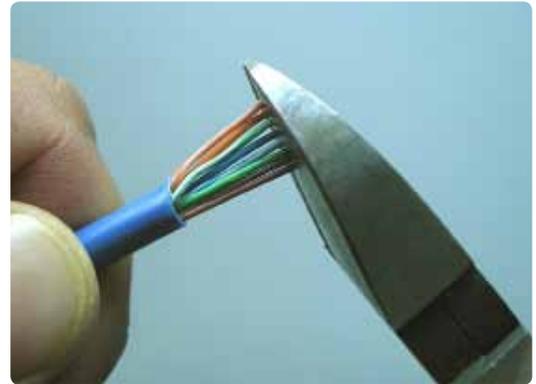
**Figure A.5-5: Straightening the Wires**

5. Push the wires together in a neat row. It may help to hold the wires between the index finger and thumb of one hand while straightening them with the other hand (see **Figure A.5-6**).



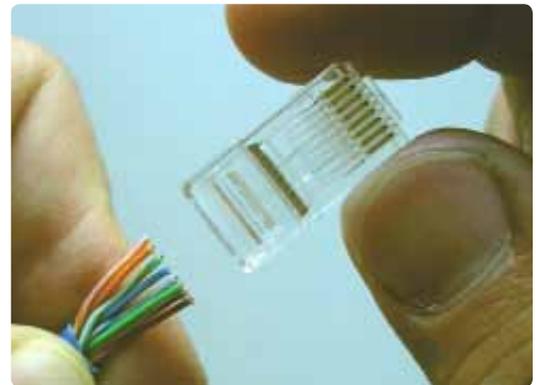
**Figure A.5-6: Preparing to Cut the Wires**

6. Trim the tips of the wires so they are even (see **Figure A.5-7**). Make sure there is about 1/2" of wire to insert into the connector.



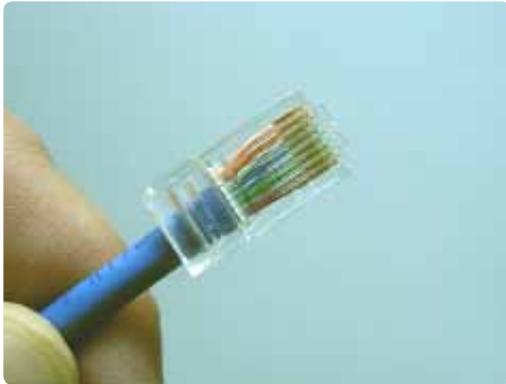
**Figure A.5-7: Trimming the Wires**

7. Holding the wires with the white/orange on the left and the brown on the right, slide on the RJ45 connector. Ensure the metal pins are facing up and the locking tab is facing down (see **Figure A.5-8**).



**Figure A.5-8: Sliding on the RJ45 Connector**

8. Make sure all wires reach the end of the RJ45 connector. Rotate the plug for visual inspection (see **Figure A.5-9**).



**Figure A.5-9: The Wiring Assembly**

11. Test the cable before installation (see **Figure A.5-11**). Refer to the cable tester manufacturer's literature for proper cable testing instructions.



**Figure A.5-11: Testing the Cable**

9. Insert the assembly into the crimper and tightly crimp the connector (see **Figure A.5-10**).



**Figure A.5-10: Crimping the Wire Assembly**

10. Repeat steps 1 through 9 for the other end of the wire, using the same color order as the first end.

