



HARWIN

Test Report Summary

HT04402

Latch Integrity Testing of
Datamate L-Tek (M80 Series) Connectors

1. Introduction

1.1. Description and Purpose

The Harwin L-Tek (M80 Series) connector is a 2mm pitch connector series, the following tests have been carried out using de-latching tools Z80-299 & T5746. Showing the durability of the latches over a number of operations when using either tool.

NOTE: Tool T5746 is now obsolete and can no longer be purchased.

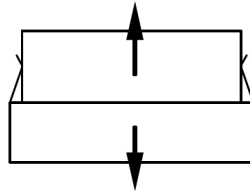
1.2. Conclusion

The following data has been collated from Harwin test report 1132. These tests show that latches will still meet C005 specification after 3 operations using tool T5746 and 8 operations using tool Z80-299.

2. Test Method and Requirements

2.1. Specification

C005xx States that "when an unloaded female connector moulding is mated with a latched male connector, and a force of 20N is applied for 10 seconds in the directions shown in Figure 3, there shall be no failure of any part of the latch mechanism.



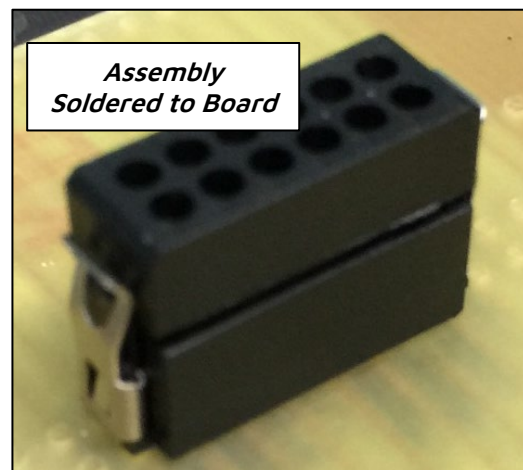
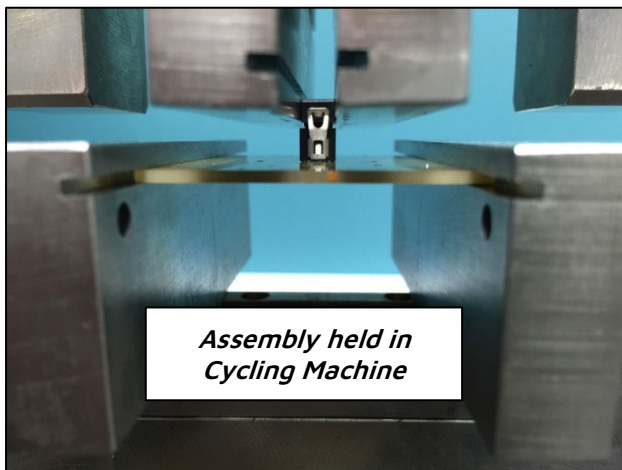
2.2. List of Samples

The following pair of connectors were mated throughout the testing:

- M80-8671205 - Datamate L-Tek male with locking latch, 12 contacts
- M80-8881205 - Datamate L-Tek female, 10 contacts

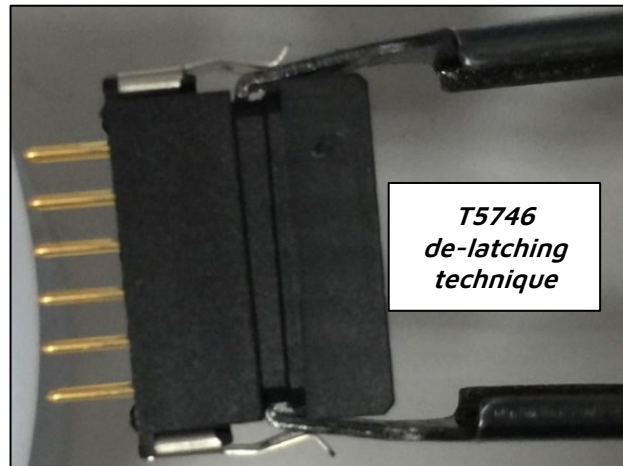
2.3. Test Summary

Pull-apart destructive testing of 12-position male and female connectors with female contacts removed so they do not affect the results. Connectors were separated with de-latching tool and cycled.



2.3.1. Test for T5746 Separation Tool

Methodology: Pull-apart destructive testing of a 12 way latched connector, with the contacts removed from the female moulding. Connectors were cycled in increasing number of separations (up to 20) using tool T5746 to de-latch, then after each specified number of separations, the mated pair was then separated without using the de-latching tool.



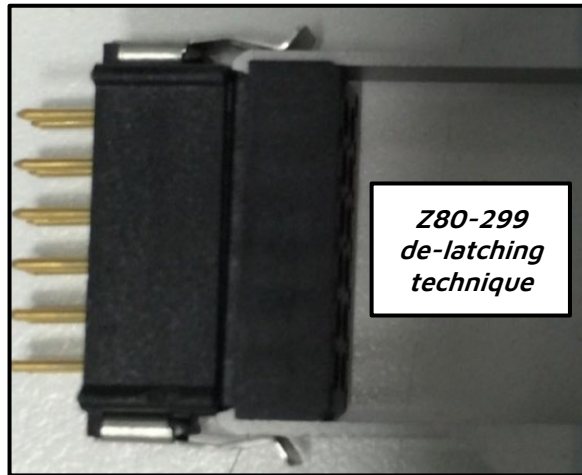
Results:

Separations	Minimum	Maximum	Average
1	39.5N	44.5N	42.0N
2	43.7N	43.0N	43.4N
3	35.6N	30.7N	33.2N
4	23.7N	20.3N	22.1N
5	22.2N	24.4N	23.3N
6	26.3N	20.2N	23.3N
7	23.4N	21.5N	22.9N
8	28.2N	22.9N	25.6N
9	21.1N	24.0N	22.6N
10	21.9N	22.1N	22.0N
15	22.9N	9.80N	16.4N
20	17.1N	17.3N	17.2N

The typical mode of failure was that the Latch locking feature broached through the plastic of the female moulding. The Male latch remained intact but slightly bent.

2.3.2. Test for T5746 Separation Tool

Methodology: Pull-apart destructive testing of a 12 way latched connector, with the contacts removed from the female moulding. Connectors were cycled in increasing number of separations (up to 15) using tool Z80-299 to de-latch, then after each specified number of separations, the mated pair was then separated without using the de-latching tool.



Results:

Separations	Minimum	Maximum	Average
1	32.0N	41.5N	36.8N
2	13.0N	42.3N	27.8N
3	44.1N	33.9N	39.0N
4	43.3N	31.5N	37.4N
5	28.9N	24.2N	26.6N
6	22.8N	24.0N	23.9N
7	23.9N	29.6N	26.8N
8	23.0N	20.0N	21.5N
9	18.8N	21.7N	20.3N
10	24.6N	16.6N	20.6N
15	13.4N	14.3N	13.9N

The typical mode of failure was that the Latch locking feature broached through the plastic of the female moulding. The Male latch remained intact but slightly bent.