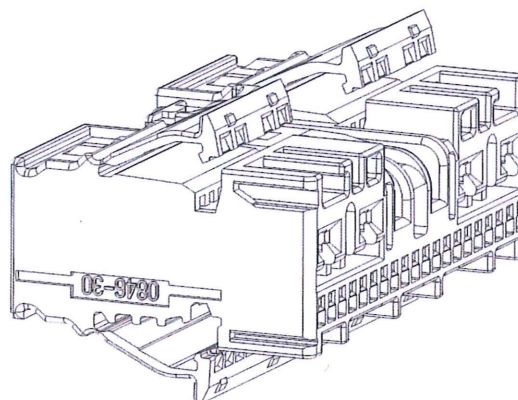




Prepared M.Svraka	Sign 	Checked M.Valjak	Sign 	Approved G.Greguric	Sign 		
Date 14.10.2015		Date 14.10.2015.		Date 14.10.2015.			Doc. No. YPES-15-1406E
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1 Scope

This Handling Manual contains the guidelines for the application of the **YAZAKI 24P Hybrid System NWP Connector** together with 0.5mm & 2.8mm System Unsealed Female Terminals.

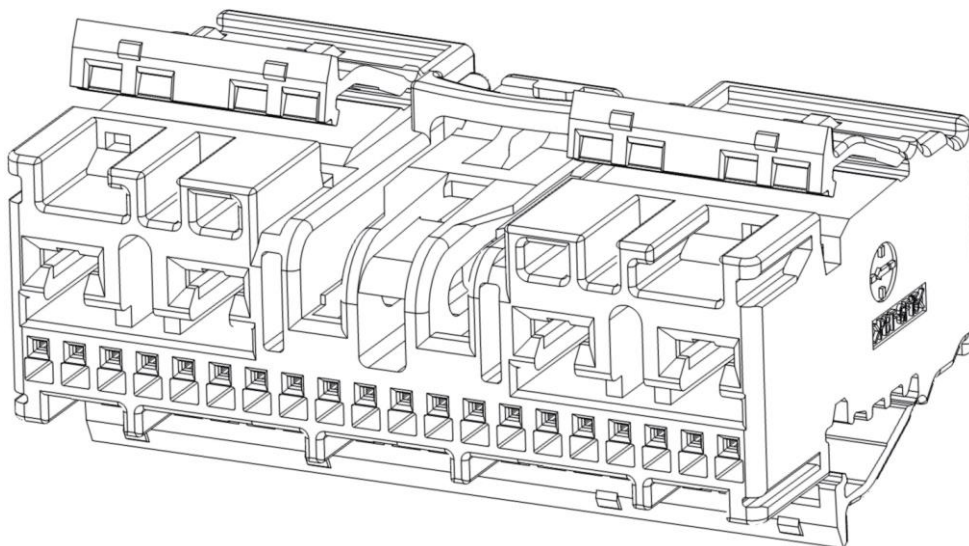
The Connector is a Hybrid type for power and signal current applications.

1.1 Delivery Condition

Female Connector with Hinged Terminal
Secondary Lock in Pre-Set Position, as presented on Picture 1: 7189-0846-30 ETC.

For all other information, see YAZAKI-Drawing:

7189-0846-30:R



Picture 1
Female Housing – Delivery Condition

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2 Part Description and Function

2.1 Female Connector Parts and Part Numbers

The Handling Manual applies to the following products:

24P Hybrid System NWP (F) Connector Housing,
Code A:

YAZAKI Part No.: 7189-0846-30 Colour: Black

24P Hybrid System NWP (F) Connector Housing,
Code B:

YAZAKI Part No.: 7189-0849-40 Colour: Light Grey

24P Hybrid System NWP (F) Connector Housing,
Code C:

YAZAKI Part No.: 7189-0852-10 Colour: Dark Grey

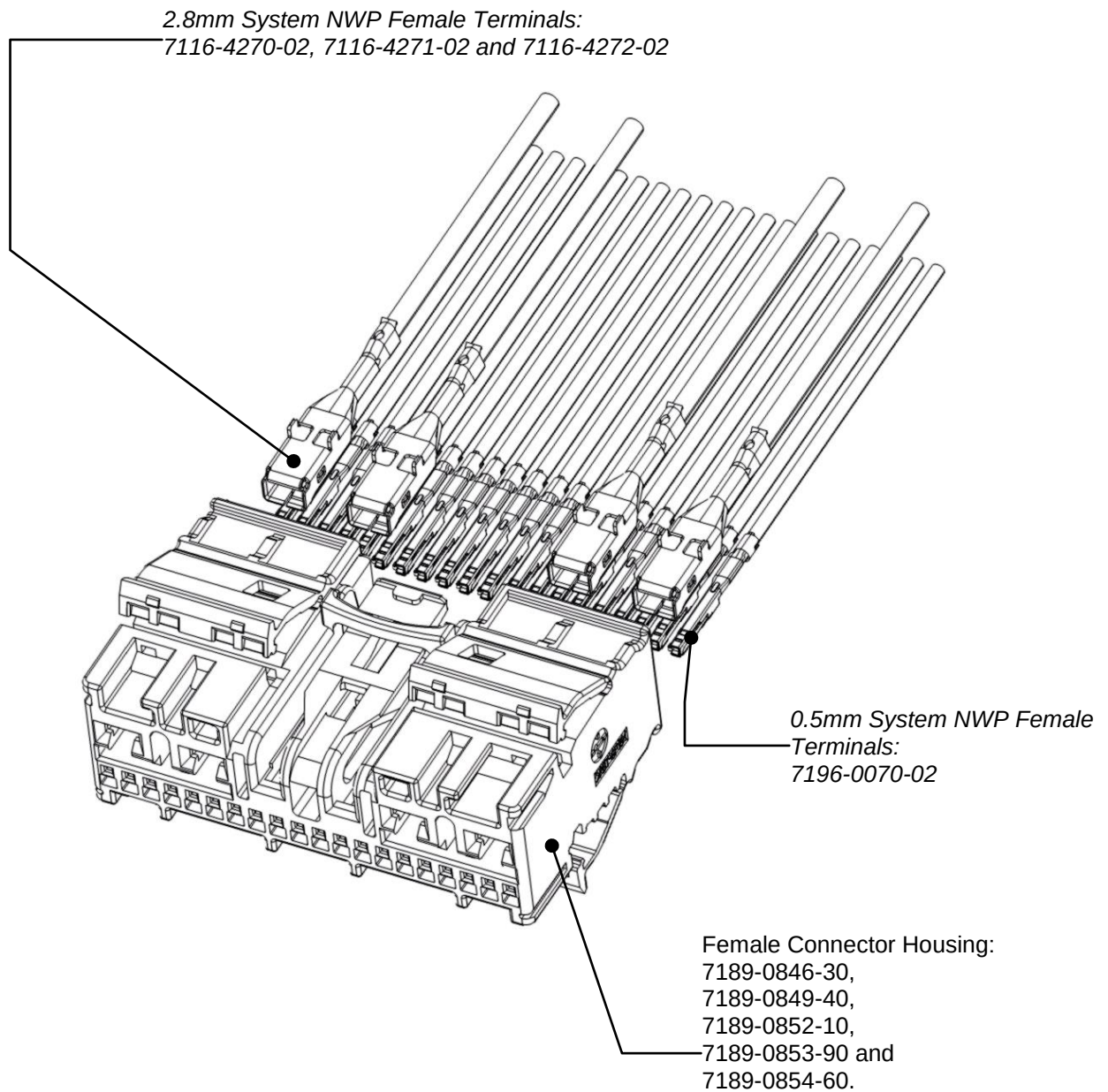
24P Hybrid System NWP (F) Connector Housing,
Code D:

YAZAKI Part No.: 7189-0853-90 Colour: Blue

24P Hybrid System NWP (F) Connector Housing,
Code E:

YAZAKI Part No.: 7189-0854-60 Colour: Green

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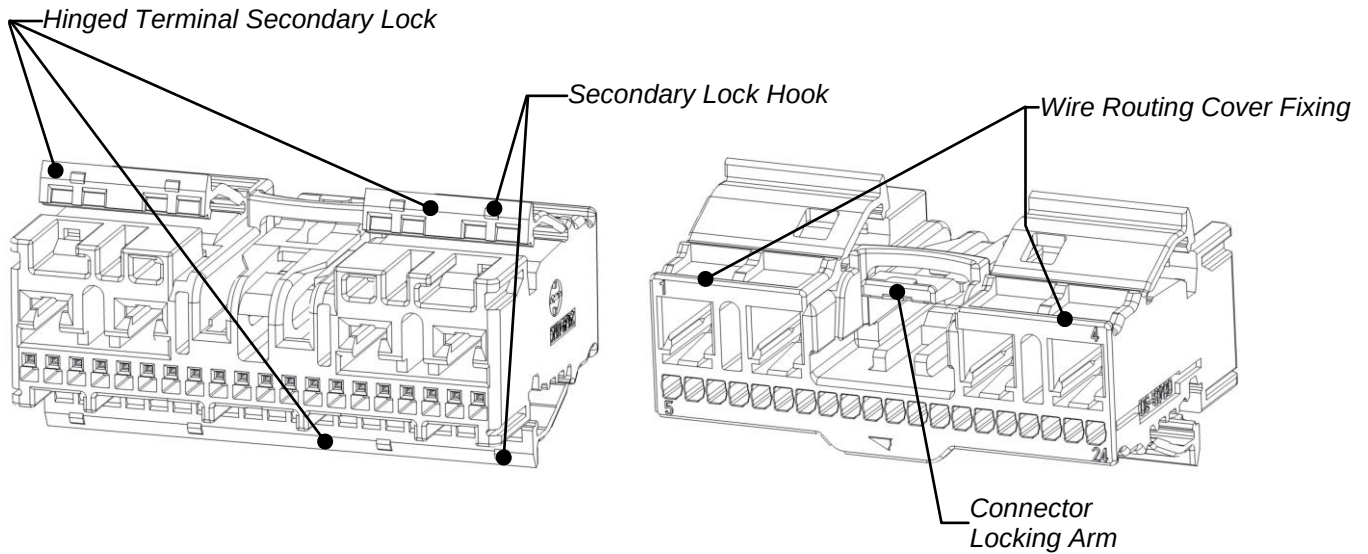


Picture 2

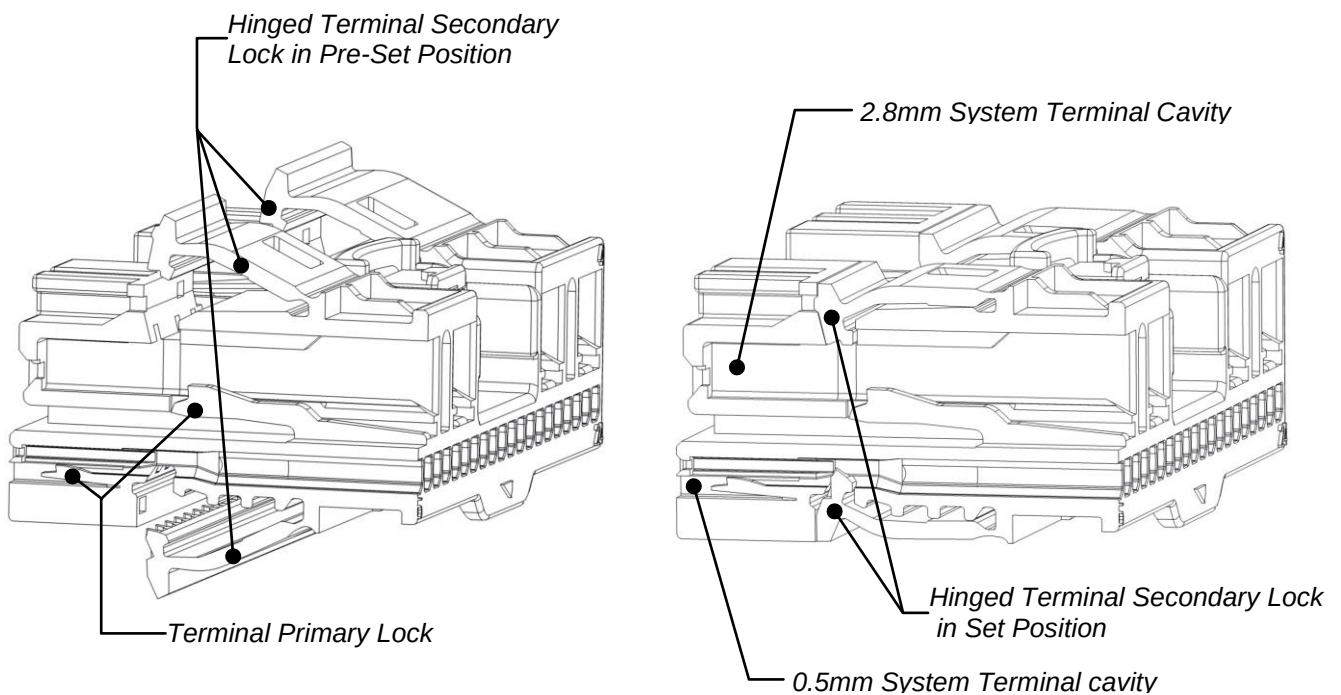
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2.2 Significant Features: Description and Function

2.2.1 Female Connector



Picture 3



Picture 4

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2.2.2 Terminal Primary Lock

Locks Terminal in correct position inside Terminal Cavity.

2.2.3 Terminal Secondary Lock

Checks if all Terminals are completely inserted.
If Secondary Lock is not fully engaged in Set Position, then Female Connector cannot be mated with header.

2.2.4 Connector Locking Arm

Locks connector halves (Female and Male) if Connector is fully mated.

3 Referenced Documents

3.1 Customer Drawings

The dimensions and materials are shown in the following YAZAKI Customer Drawings:
7189-0846-30:R.

3.2 Specifications

Connector meets specifications:

USCAR Connector Performance Specification
(SAE/USCAR-2, Rev.6, dated February 2013)

3.3 Terminal Documents

Terminal Handling Manual YPES defines transportation and storage rules.
0.5mm System NWP Terminal: YPES-15-1389E
2.8mm System NWP Terminal: YPES-15-599E
All data about applicable Terminals are given in YAZAKI Customer Drawings:
7189-0846-30:R.

3.4 Interface Drawings

The dimensions of the Connector Interface are shown on
YAZAKI Interface Drawing 7189-0846-30:A.

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4 Connector Storage and Transportation

Ensure that the products are not subjected to any external stress or harsh impact during storage and transportation.

Ensure adequate packaging to prevent any damaging during transportation.

The products should be stored inside, in a clean dry atmosphere, away from direct sunlight.

Do not store them without covering with a box or plastic bag; they should be protected especially from water, oil and dust.

5 Instructions for Installation

1 5.1 Terminal Insertion

Check, if the Hinged Secondary Lock is in Pre-Set Position. If not, pull out Secondary Lock from Set to Pre-Set position, as shown in Chapter 6.

Pay attention to the Terminal Guiding Feature (see picture 5) and insert the terminals with a correct orientation into the connector housing (see picture 7).

Insert the Terminal until an audible "Click"-sound can be heard.

Terminal is hooked by housing Cavity Locking Lance (Terminal Primary Lock) as shown on Picture 8.

Ensure that the terminals are fully inserted into the cavity and hooked (latched) by the Housing Cavity Locking lance. Pay attention especially to the 0.5mm terminal system.

After insertion, pull the wire slightly to check that the Terminal is locked. However, don't pull the 0.5mm terminal with the force exceeding 10N, because the Housing Cavity Locking lance could be damaged.

For additional check-up recommendations please see Chapter 9.

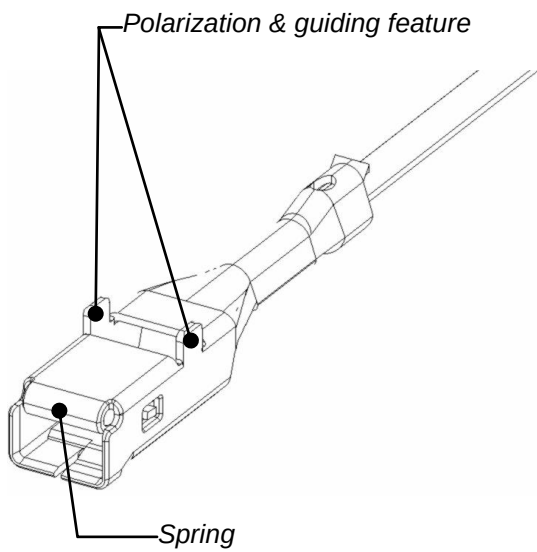
2 Precautions:

Check for any foreign objects on Terminals or in Terminal Cavity!

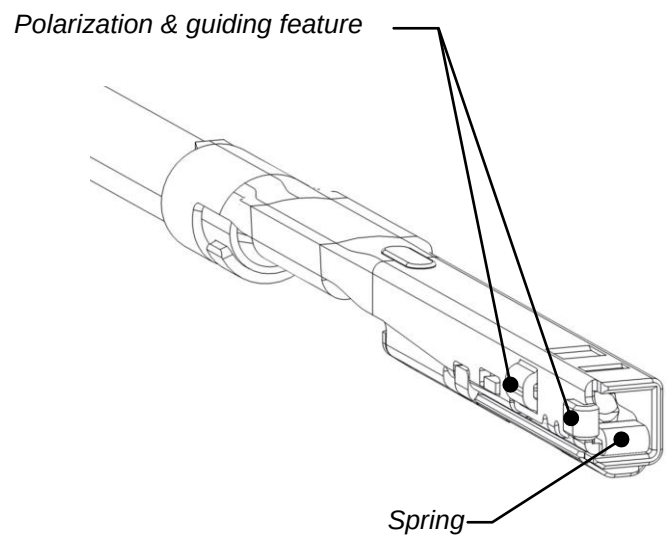
Do not use 0.5mm terminal if the terminal has been previously wrongly inserted.

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Female Terminals with Polarization

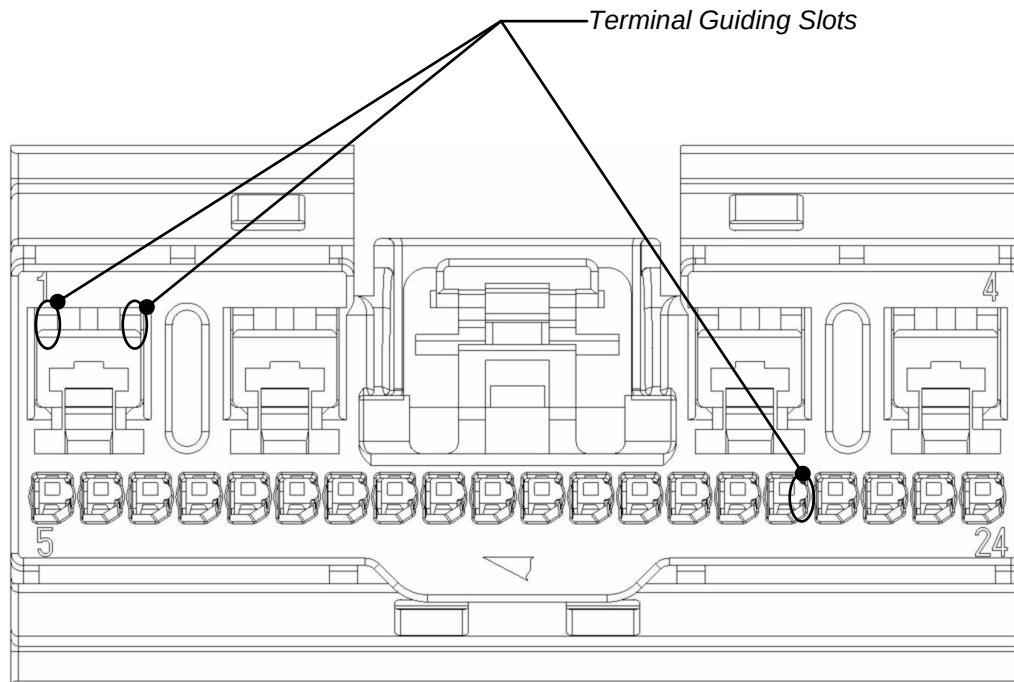


2.8 Terminal system



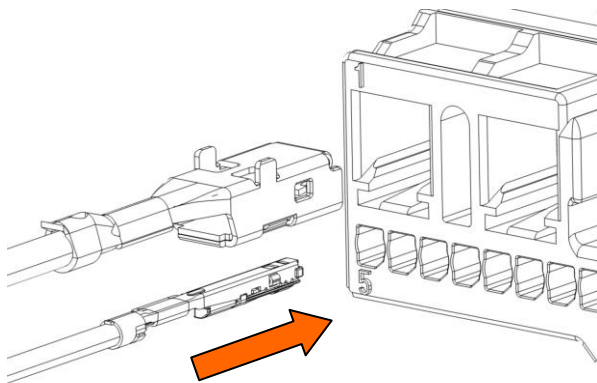
0.5 Terminal system

Picture 5

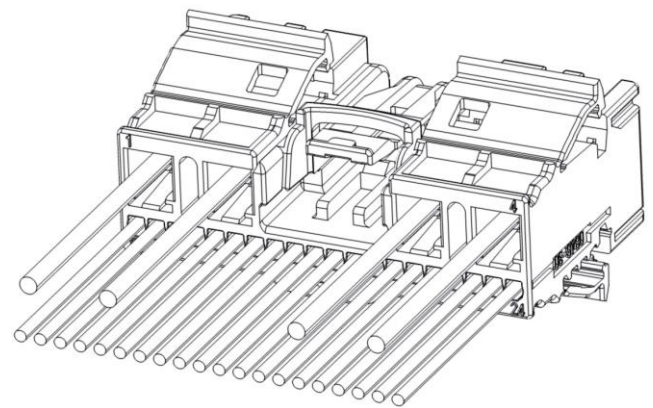


Picture 6

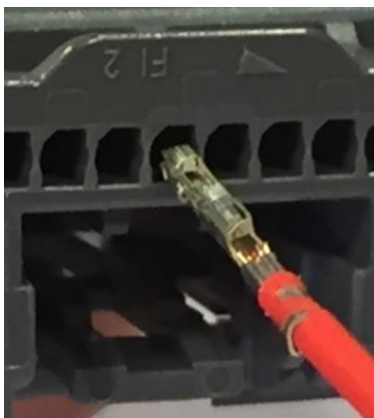
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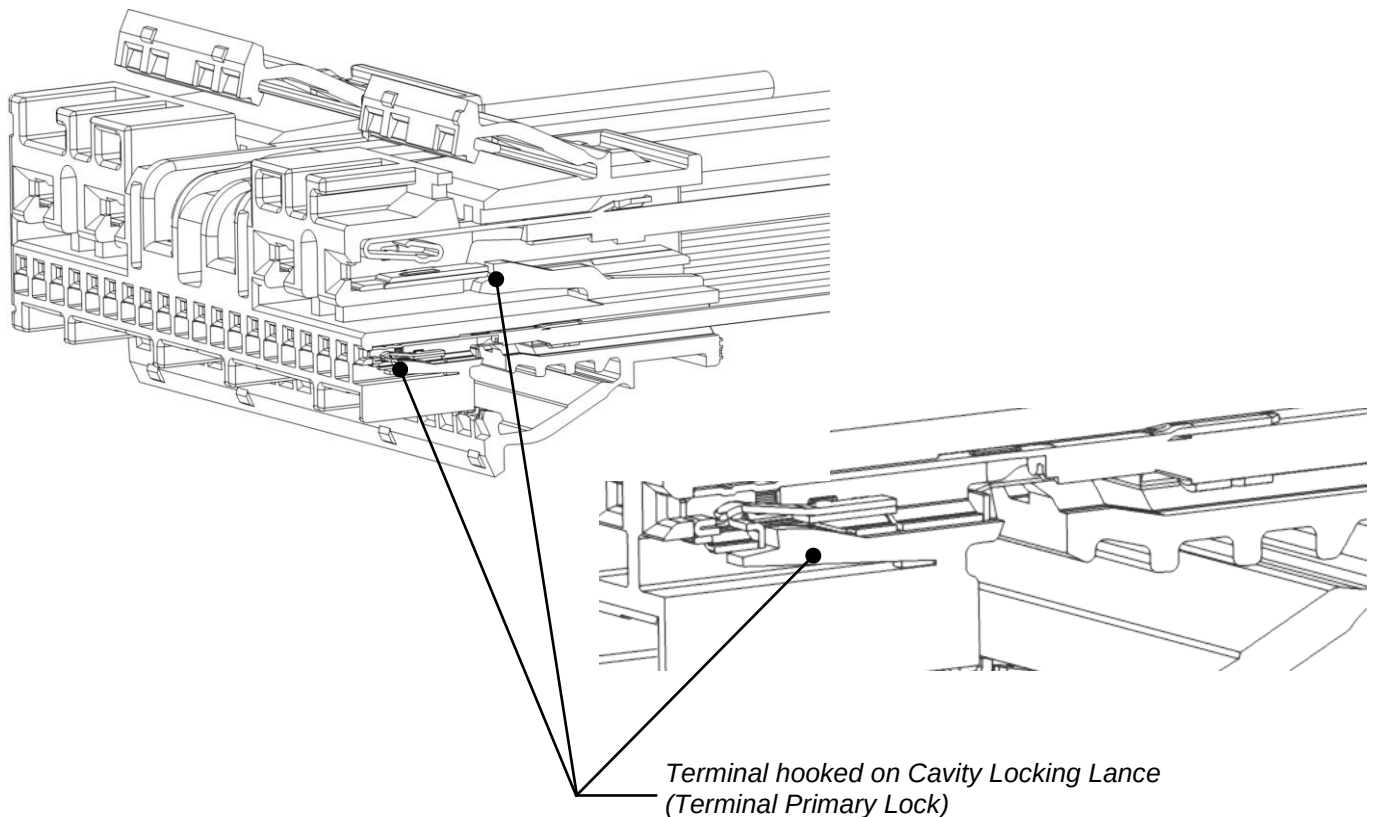
Inserting Direction at Female Housing



⚠ Inserting 0.5 Terminal System



Picture 7



Picture 8

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5.2 Hinged Terminal Secondary Lock Engage

After all Terminals are inserted, push in Hinged Terminal Secondary Locks into Connector Housing in sequence according to Picture 9 & 10.

Press on arrow marked area.

Push the Terminal Secondary Locks until Hooks on Terminal Secondary Lock are hooked in openings on Connector Housing and "click"-sound is heard.

There are three Hinged Terminal Secondary Locks on every Connector, two for 2.8 Terminal system and one for 0.5 Terminal system. 0.5 System Secondary lock is designed to be closed by simultaneous pressing with two fingers (thumbs) as on Picture 10.

Precaution:

Make sure that all Terminals have been inserted properly.

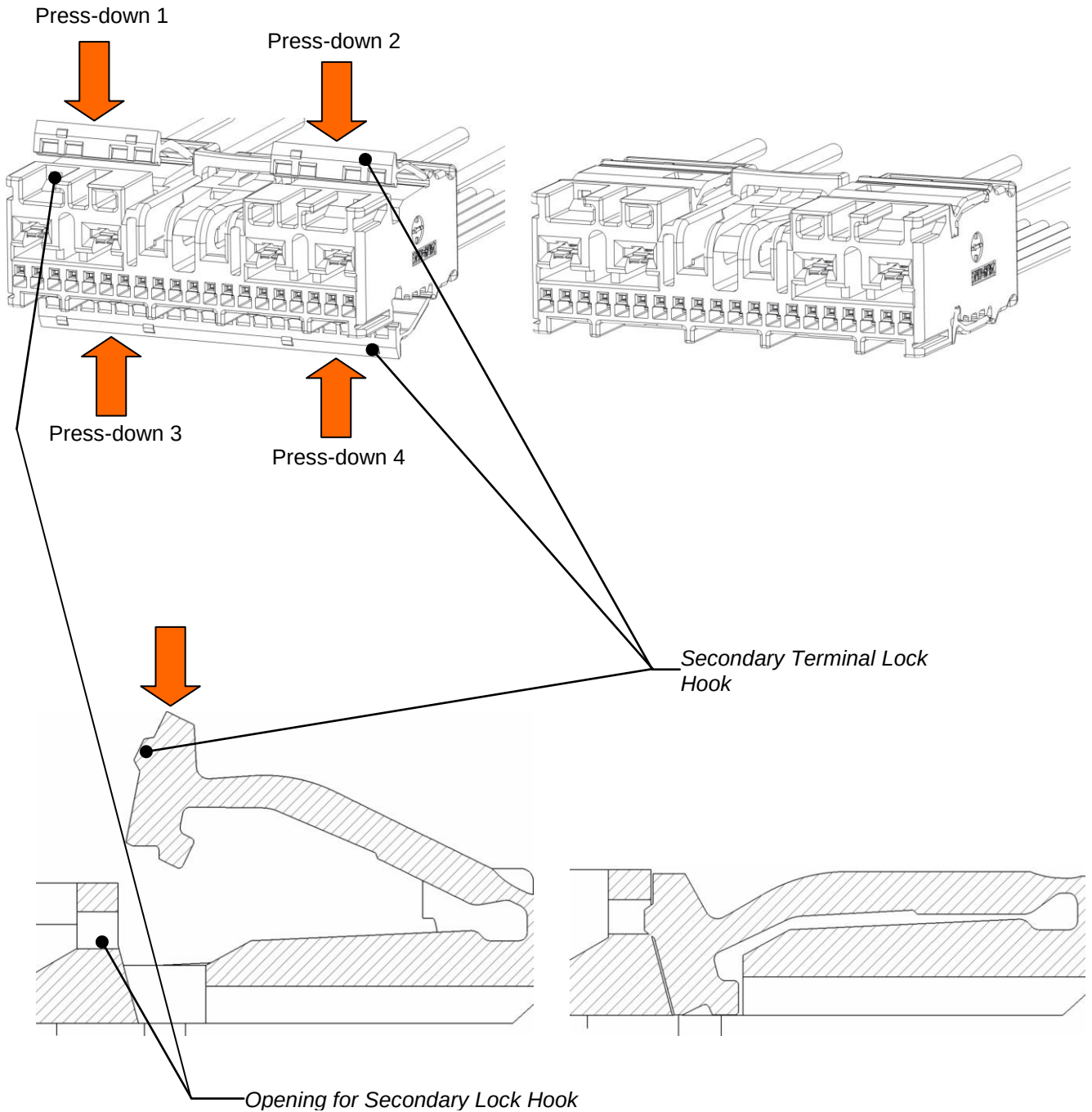
If Hinged Terminal Secondary Locks can not be closed at all or can only be partially closed, one or more terminals may not be completely inserted. Therefore, if needed, unlock hinged terminal Secondary lock according Chapter 6 and re-install those terminal(s) which are half-inserted.

 In case of wrong insertion, do not use that 0.5mm terminal.

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Hinged Terminal Secondary Lock in Pre-Set Position

Hinged Terminal Secondary Lock in Set Position



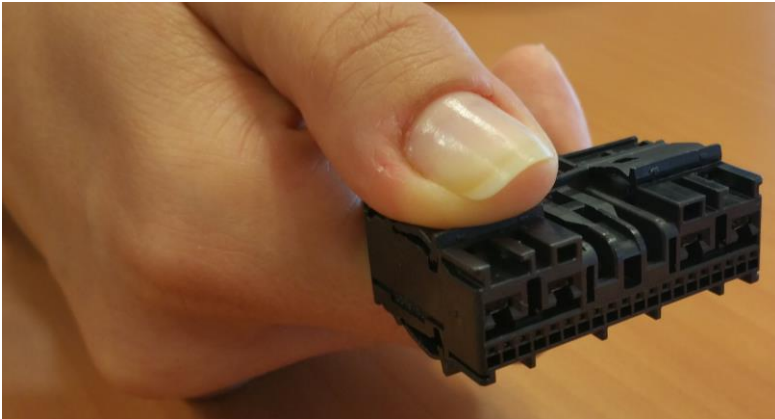
Hinged Terminal Secondary Lock in Pre-Set Position.

Hinged Terminal Secondary Lock in Set Position.
Secondary Lock Hooks are locked inside corresponding
Openings.

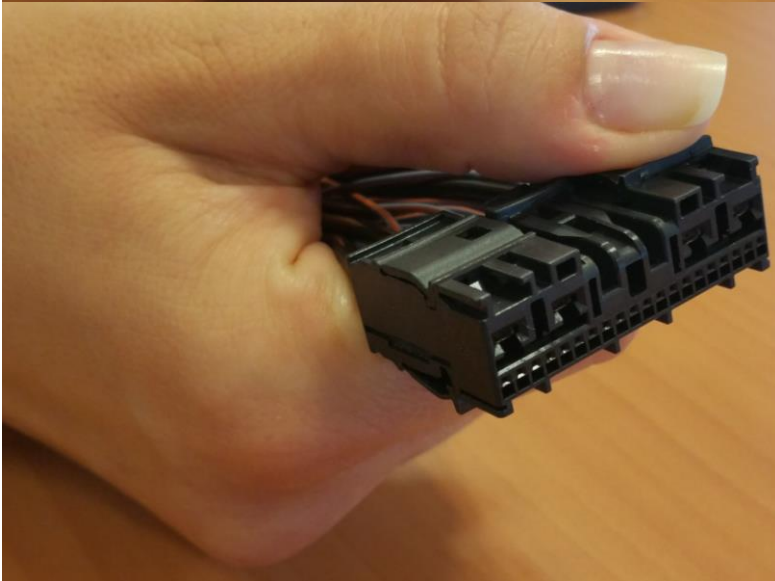
Picture 9

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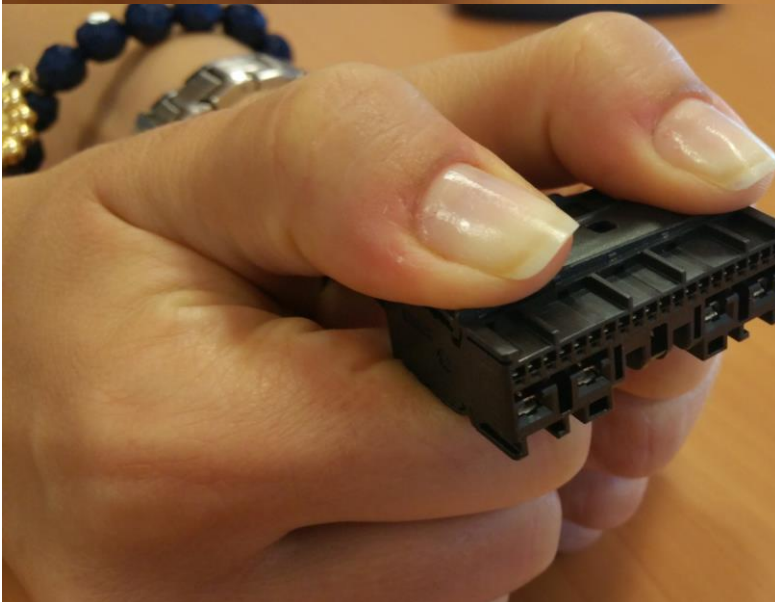
 Terminal Secondary Lock from Preset to Set position



Start engages of secondary locks with first 2.8 Terminal system lid.



Close second 2.8 Terminal system lid.



Use both thumbs to close secondary lock on 0.5 Terminal system lid.

Picture 10

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6 Instructions for Disengage

6.1 Hinged Terminal Secondary Lock Disengage

To disengage Terminal Secondary Lock from Set to Pre-Set Position slightly push in Secondary Lock Hooks with screwdriver through Openings in the arrow 1 direction as shown on Pictures 11 and 12. There are two hooks on each of two Hinged Secondary Locks for 2.8 System and four hooks on one Hinged Secondary Lock for 0.5 System on the Connector.

For handling with Secondary Lock Hooks a small Screwdriver (1.2mm) can be used.

Pull out Secondary Lock to Pre-Set Position in the arrow 2 direction as shown on Pictures 11 and 12.

Precautions:

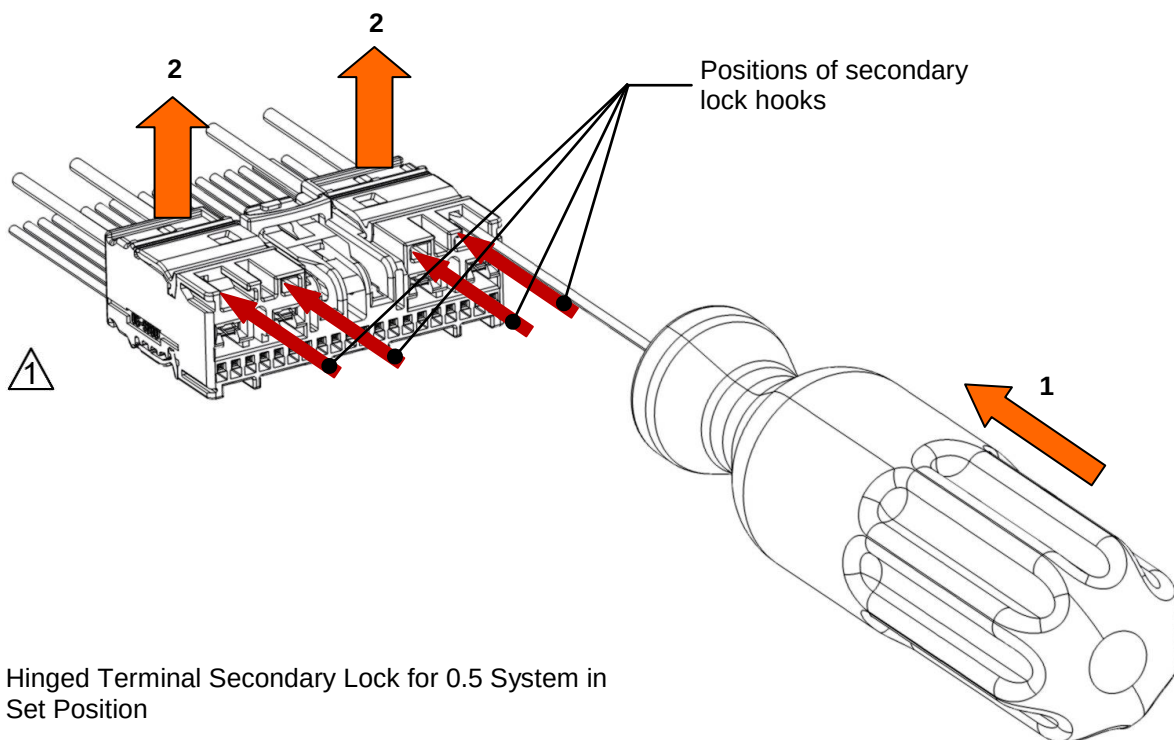
Be sure that Secondary Lock is pulled up into the Pre-Set Position, and not between the Set and Pre-Set Position, because then it is not possible to extract Terminals from the Cavities.

Do not pull Secondary Lock more than Pre-Set Position, because then it will be damaged and detached from the Housing.

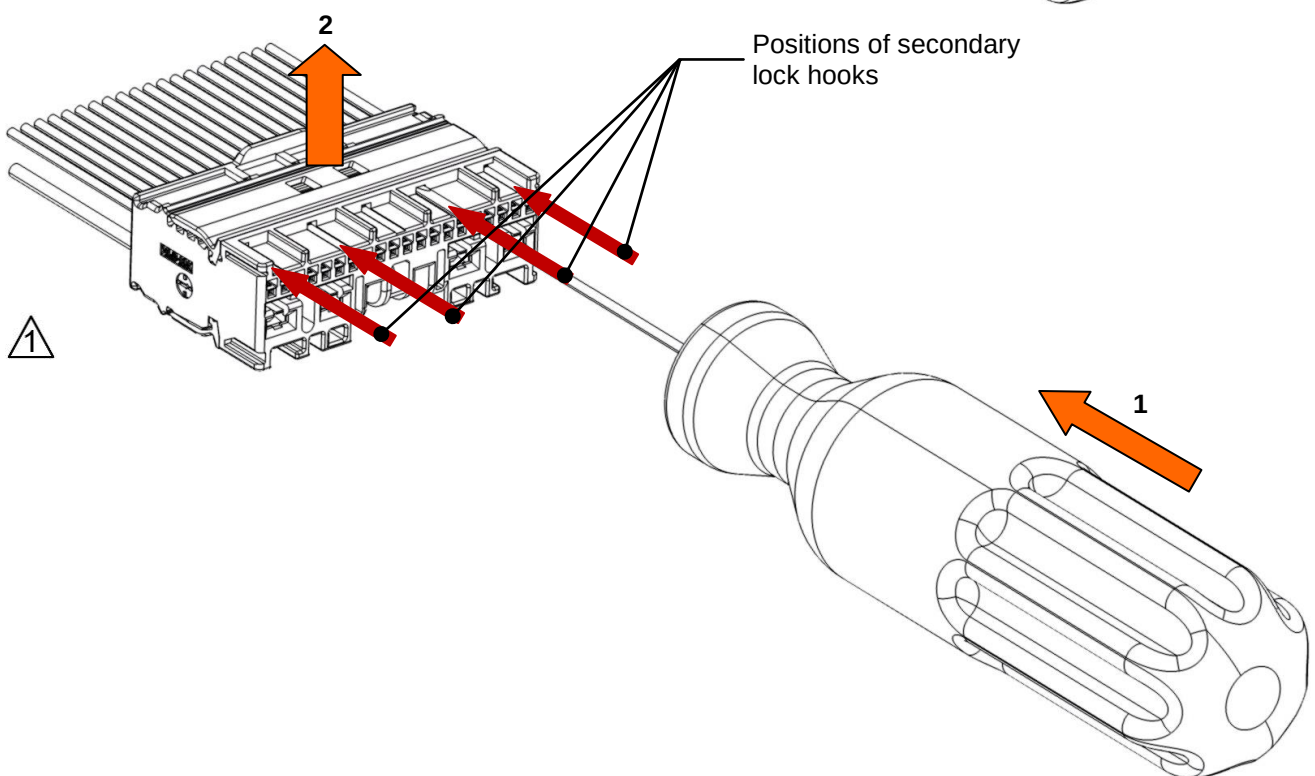
Slightly push up Secondary Lock Hooks; too much pressure on it can cause permanent damage.

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Hinged Terminal Secondary Lock for 2.8 System in Set Position



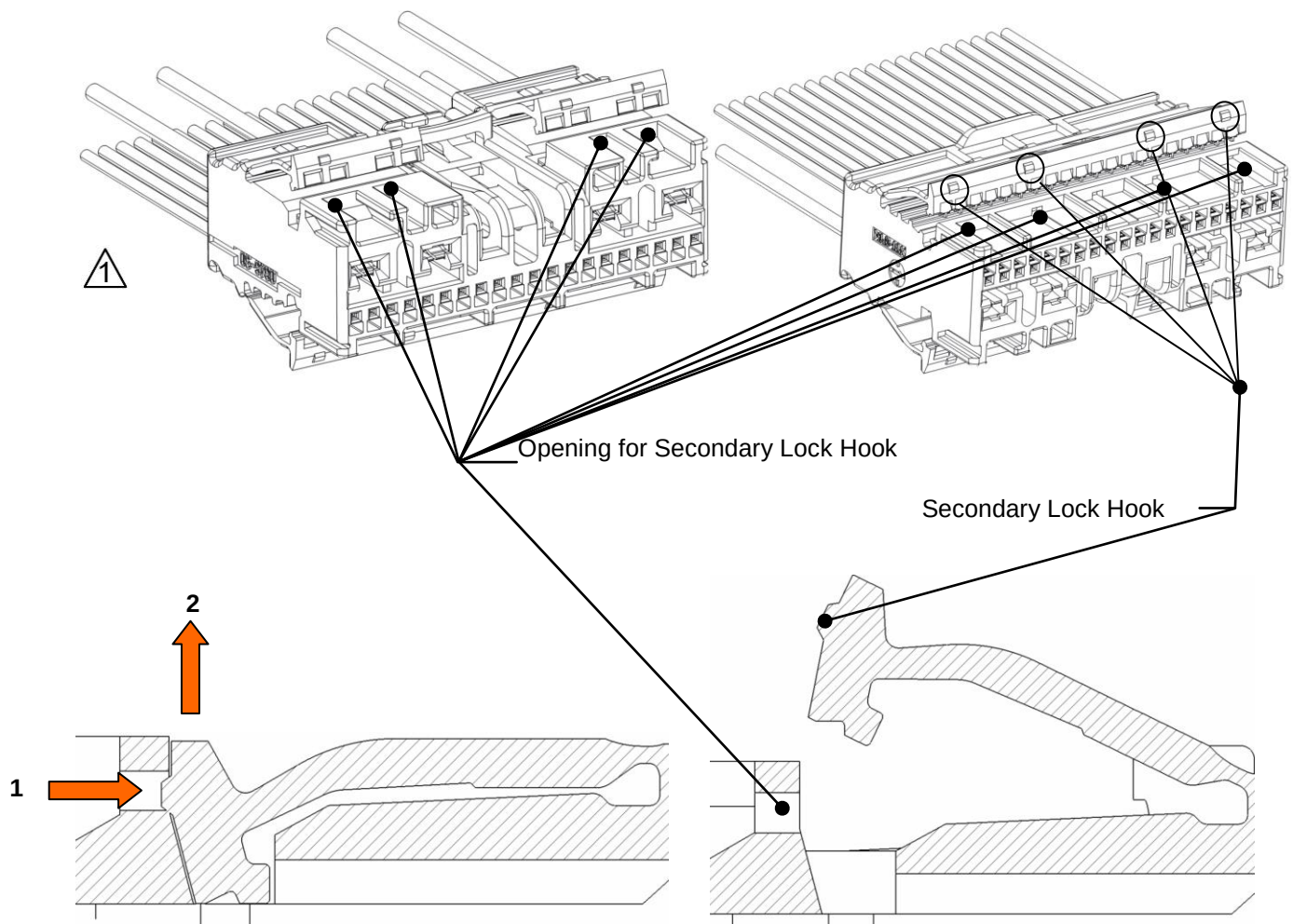
Hinged Terminal Secondary Lock for 0.5 System in Set Position



Picture 11

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Hinged Secondary Lock in Pre-Set Position



Hinged Terminal Secondary Lock in Set Position. Push in Secondary Lock Hook with screwdriver through opening in Housing and pull out Secondary Lock.

Hinged Terminal Secondary Lock is in Pre-Set Position, after pulling out in arrow 2 Direction.

Picture 12

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6.2 Terminal Extraction

Only trained personnel should perform the Terminal extraction operation.

Removing the Terminal out of the housing cavity by personnel not familiar with the removal process could result in damaging the terminal and / or connector.

Check if Hinged Secondary Lock is in Pre-Set Position.

Precaution:

For extraction of 0.5mm System NWP Terminals only extraction tool with shape according to Picture 15 can be used.

- 2 For extraction of 2.8mm System NWP Terminals only original Extraction Tool No. AI 0014 can be used. For Design and Specification see chapter 7.

Place the tool as shown in the Pictures 13 and 14; push it until Cavity Locking Lance is completely pressed.

Make sure that the tip of the Removal Tool is leaned on the Primary Lock.

Pull at the right wire until the Terminal is completely taken out of the Cavity.

If the Terminal cannot be extracted by pulling at the wire, it is possible that Secondary Lock is not in Pre-Set Position or Cavity Lance is not bent enough.

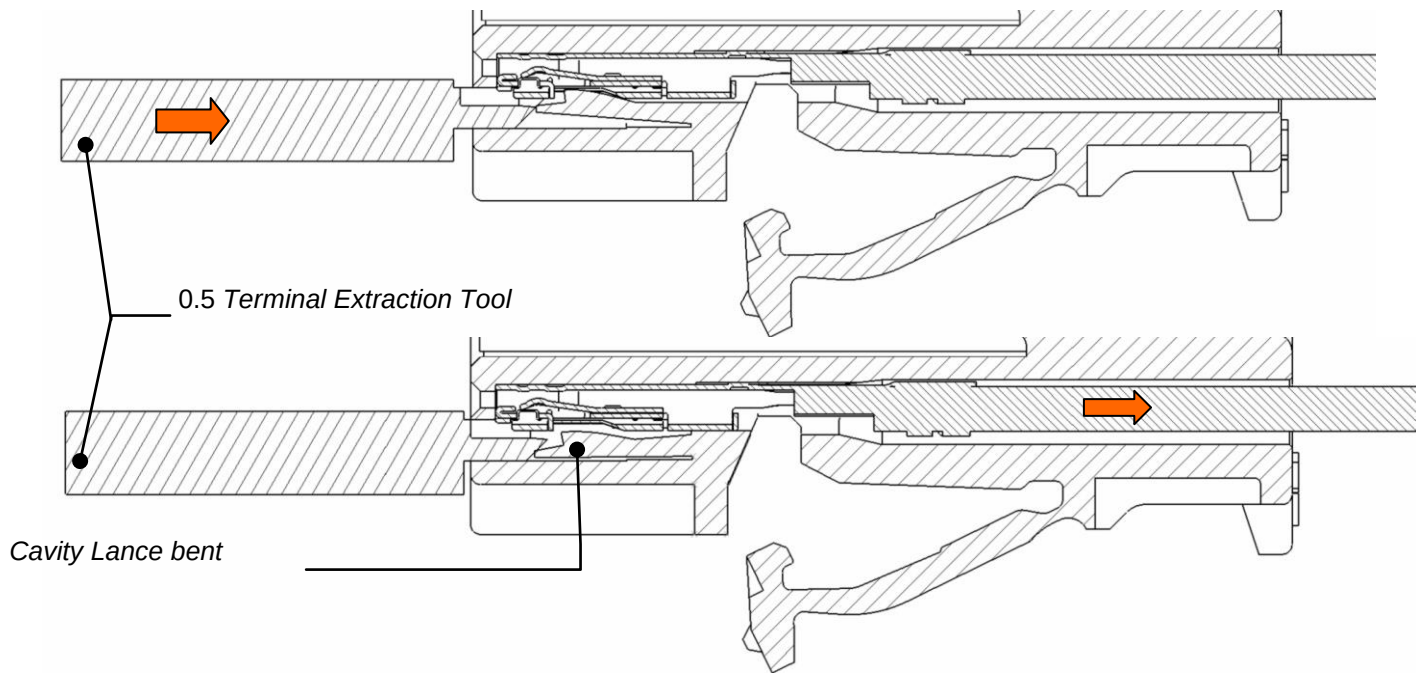
If the Terminal cannot be removed smoothly, do not try to pull it out by force. Start the procedure again.

After extraction of the Terminal, make sure that the Terminal is not damaged. If so, replace it with a new one.

Also make sure that Housing or Hinged Secondary Lock is not damaged. If so, replace it with a new Connector.

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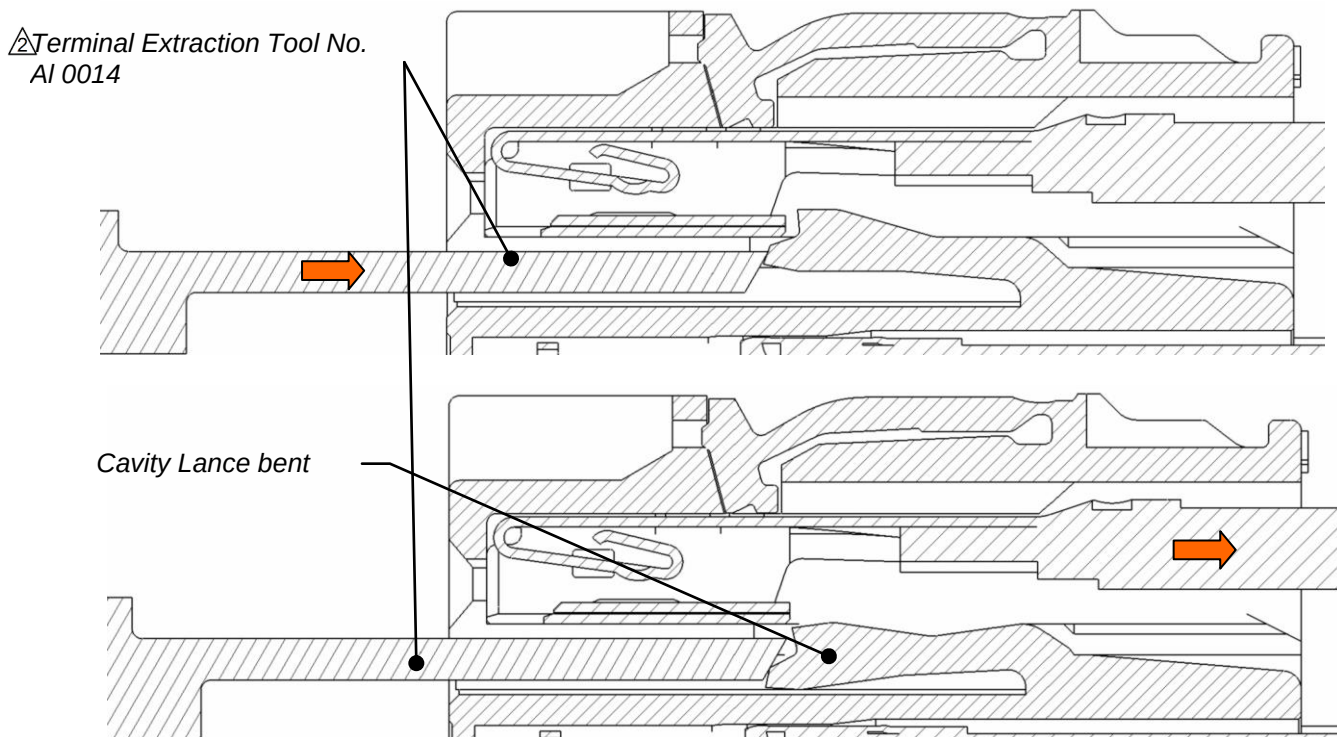
0.5mm System NWP Female Terminal



Extraction of Female Terminals

Picture 13

2.8mm System NWP Female Terminal



Extraction of Female Terminals

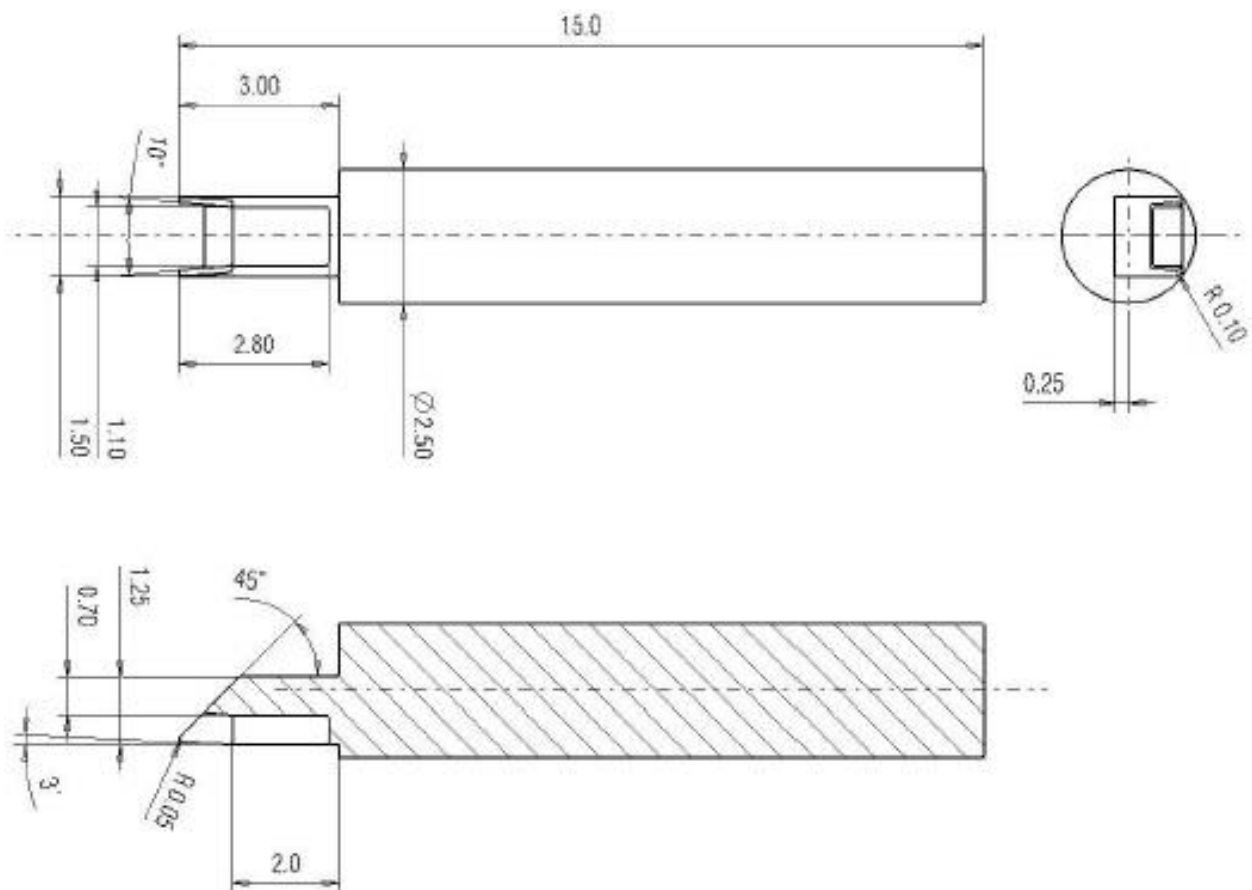
Picture 14

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7 Terminal Extraction Tool

7.1 Design

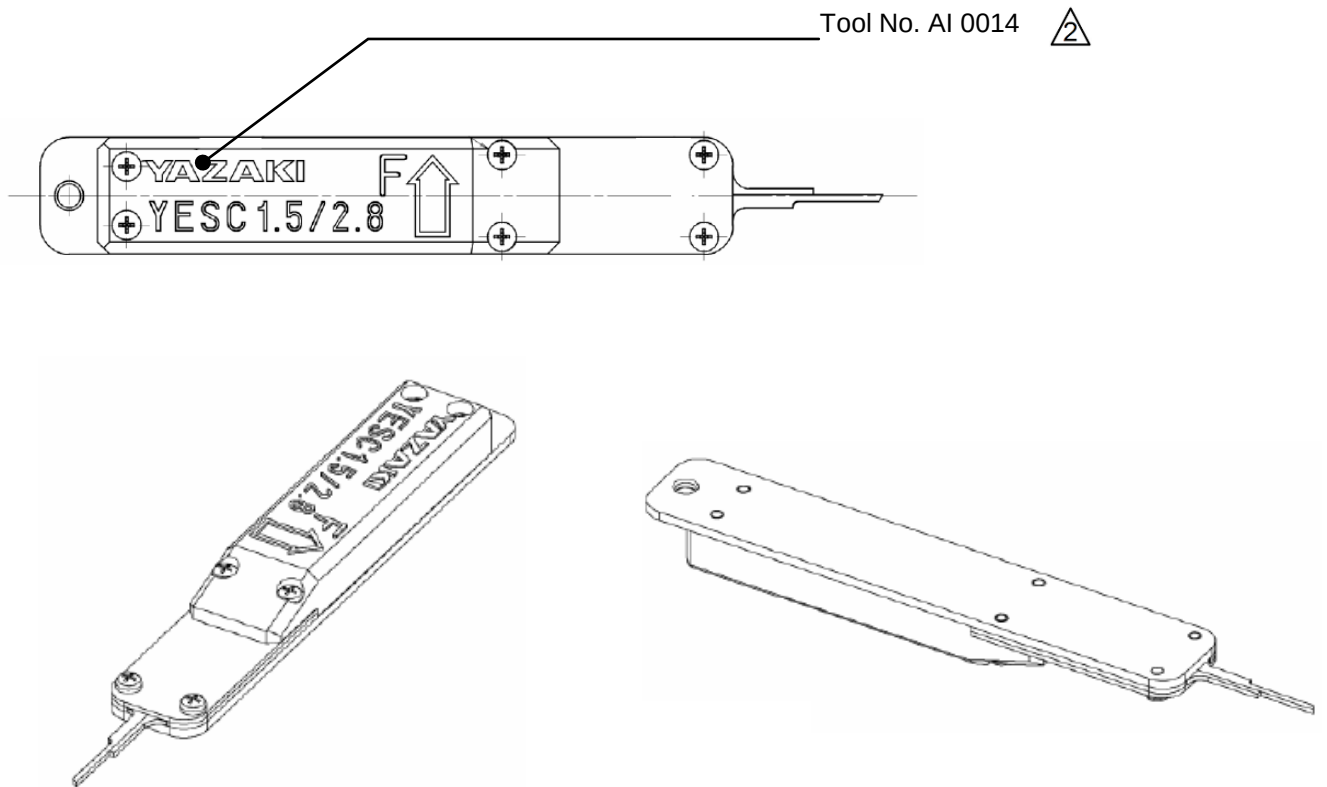
0.5mm System Terminal Extraction Tool



Picture 15

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2.8mm System Terminal Extraction Tool AI 0014



Picture 16

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8 Instructions for Connector Mating and Unmating

8.1 Connector Mating

Check if the Hinged Secondary Locks are in Set-Position.

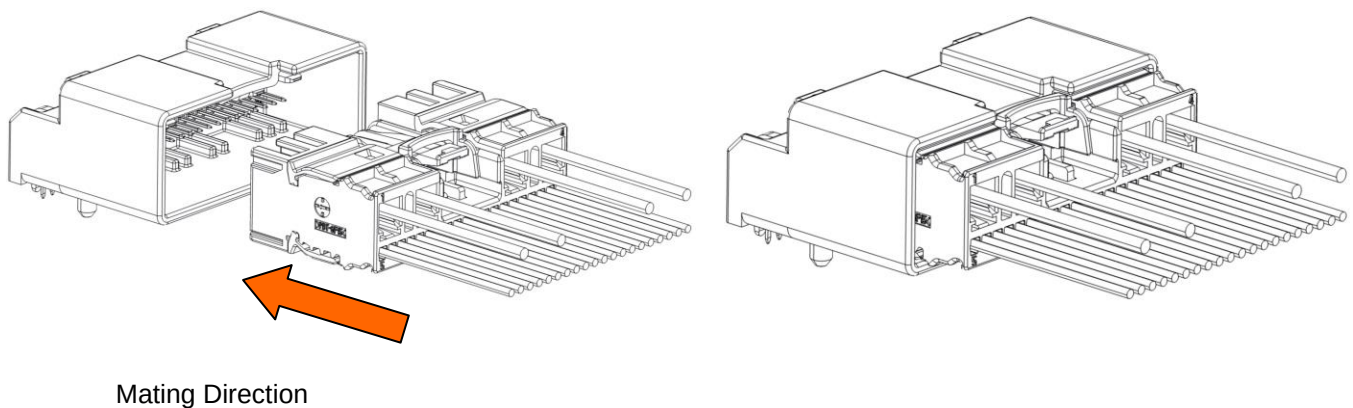
Align Male Connector with Female Connector as shown in the Picture 17 and then push at the backside of the Female Connector until an audible "Click"-sound is heard and the Lock is engaged.

After Mating pull Female Connector slightly backwards to check if the connection is securely locked.

Precautions:

If Connector Halves can not be mated smoothly stop mating and check if Connector is oriented correctly and if Secondary Locks are in Set-Position.

Do not mate Connectors by pushing the Housing Locking Arm.



Picture 17

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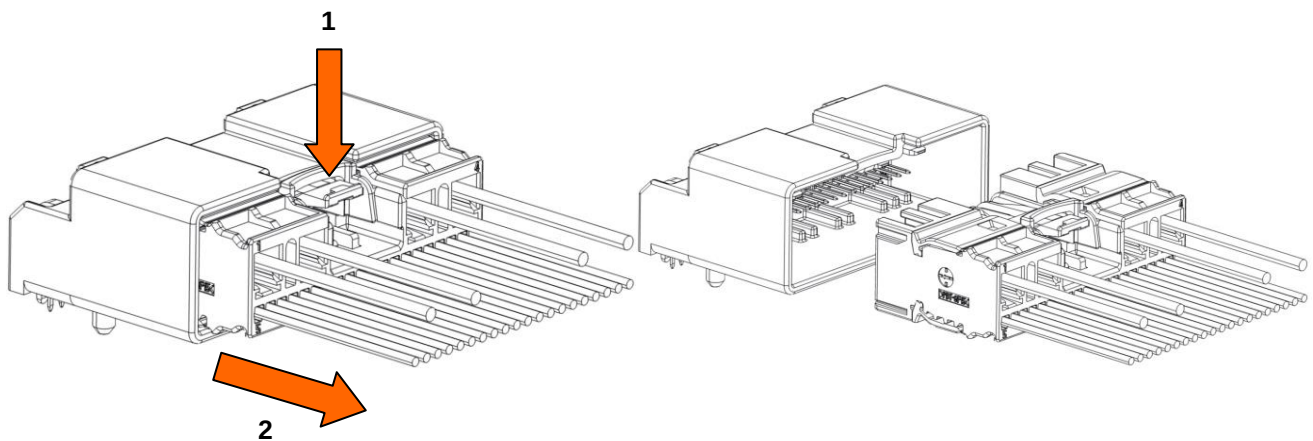
8.2 Connector Unmating

Press the Housing Locking Arm with your finger into arrow 1 direction, as shown on Picture 18.

Pull Female Connector into opposite of mating direction (arrow 2) out of the Male Housing, while pressing the Female Housing Locking Arm into arrow direction 1, as shown on Picture 18.

Precaution:

Do not pull the wires during unmating!



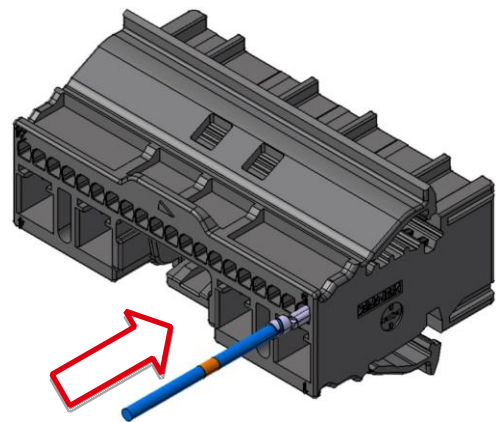
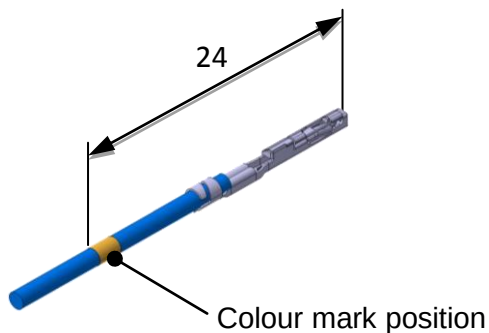
Picture 18

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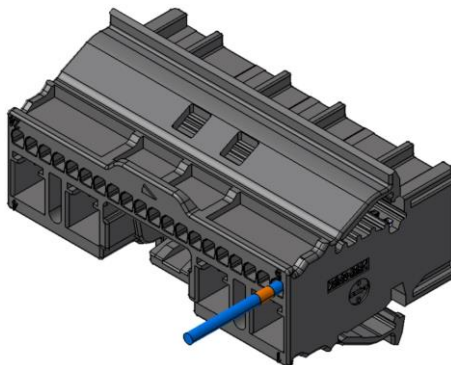
9 Connector Checker Feature / Terminal Insertion recommendation

The W/H maker has to assure that all terminals, especially the 0.5mm terminal, are fully and properly inserted into the housing. If a manual terminal population process is not reliable Yazaki recommends using two procedures to detect a half-inserted terminal and to assure the quality.

9.1 Wire marking

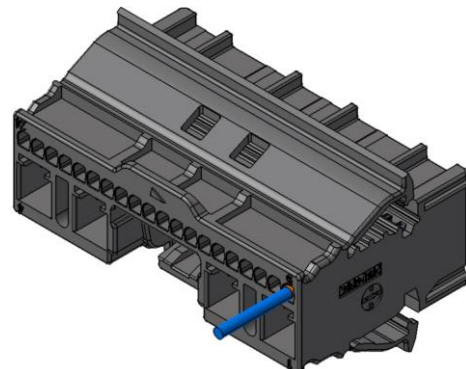


Incomplete insertion



Colour mark visible on the back connector side.

Complete insertion

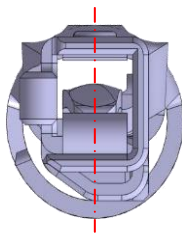
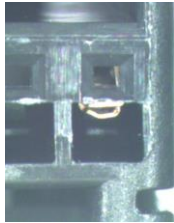


Colour mark not visible on the back connector side.

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9.2 Video check on front side

If terminal is not visible, or terminal is not in position shown on the picture, insertion is not performed correctly.



Correct insertion of Terminal

If wrongly inserted terminals are detected, they have to be extracted from cavity. Housing and extracted terminal (or terminals) must be checked up for any sign of damage. Damaged parts have to be replaced with new ones.

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