



WORK INSTRUCTION
TAPING ASSEMBLY PROCESS

Process Name/Title:

Model code/Part number **550B / 7L0061-7023**

Customer: **TRQSS**

Car Model: **TOYOTA-HIGHLANDER**

Purpose:

☐ PROTOTYPE

☐ PRE-LAUNCH

☒ MASSPRO

Effectivity Date:

July 26, 2023

Validity Date:

n/a

Document No.:

WI-ENG-PDE-017B

Revision No.:

7

Page No.:

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PARTS:

1. All parts; Assy parts; Clamp 82711-48210 (B); Clamp 82711-52090 (W);

JIG:

1. Clamp Assembly jig

NO.

PROCESS NAME

WORK PROCEDURE/ ILLUSTRATION

TOOLS/PPE

QUALITY POINTERS

1

P2

Table lay-out

TABLE LAY-OUT

Clamp 82711-48210 (B)/
Clamp tray

Clamp 82711-52090
(W)/Clamp tray

Assy parts

Clamp Assembly Jig

Tape holder/
Black tape

Safety Instruction

Be sure to wear prescribed personal protective equipment during operation (gloves, finger cots, etc.)

Housekeeping

1. Maintain and always practice 5's.
2. Personal things on the workplace is prohibited. Keep it in your locker.

Alert level

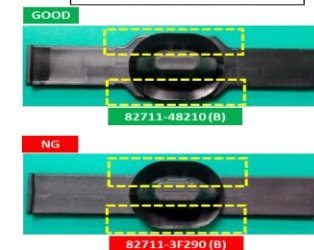
For any trouble, inform the Assembly Assistant Supervisor or Line Leader for immediate corrective action.

1. No missing parts/ tools
2. No excess parts/ tools

CLAMP ILLUSTRATION



CLAMP ILLUSTRATION



Revision History

Eff. Date	Rev. No	Details of Change	Revised	Reviewed	Approved	Noted	Prepared by	Reviewed by	Approved by	Noted by
07/26/23	7	Update template; Inclusion of CAR MODEL "TOYOTA-HIGHLANDER" .	M. Ariola	J. Loterte	C. Villanueva	A.Arañes				
03/02/23	6	Work instruction improvement. Change MP from 3MP to 2MP. Improved By two's inspection and quality pointers. Transfer all process of P3 to P2. Change term Black sunprene tube to Black VM tube (Sunprene). Inclusion of Quality checkpoints (Page 10).	D. Castillo	J. Loterte	C. Villanueva	A.Arañes				
01/21/22	5	Change part number from 7L0061-7022 to 7L0061-7023 due to additional quantity of clamp (82711-52090 (W) (Refer to WI-ENG-PDE-017C). Improve work procedure in all process. Additional table lay-out, checkpoint in checking of wire tolerance (Refer to WI-PRO-CNC-017 for Wire and Strip Length Tolerance). Additional quality pointers in Pull-push-pull-push process (Refer to GL-PRO-ASY-029 for Pull-Push procedure).	K. Doria	J. Loterte	C. Villanueva	A.Arañes				
							M. Ariola	J. Loterte	C. Villanueva	A. Arañes
							Est. Date:	October 4, 2019		

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☐ PROTOTYPE

☐ PRE-LAUNCH

☒ MASSPRO

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PARTS:

1. Clamp 82711-48210 (B)
2. Clamp 82711-52090 (W)

3. Black tape [4pcs.]

JIG

1. Clamp assembly jig

NO.

PROCESS NAME

WORK PROCEDURE/ ILLUSTRATION

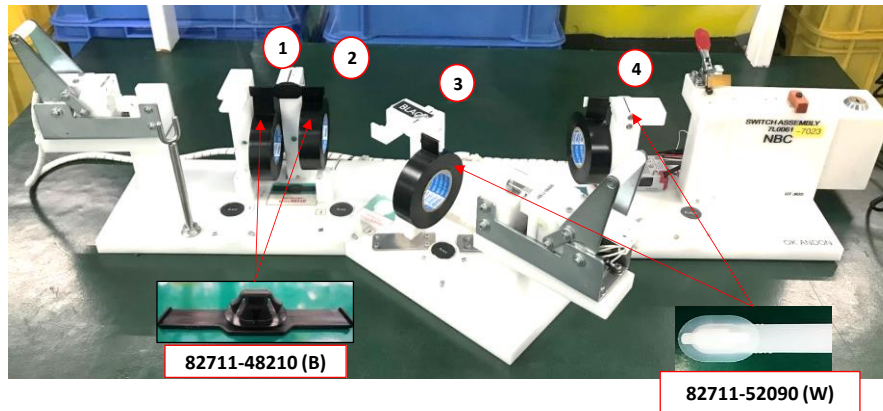
TOOLS/PPE

QUALITY POINTERS

2

P2

Clamp setting



1. Get 1pc of Clamp **82711-48210 (B)** using right hand and set to location **1 and 2** using both hands.

2. Get 2pcs. of Clamp **82711-52090 (W)** using right hand and set to location **3 and 4** using both hands.

3. Get the **Black tape** using right hand and conduct pre-taping in location **1, 2, 3 and 4** using both hands.

n/a

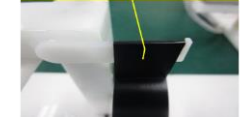
1. No flip-out tape
2. No peel-of tape
3. No loose tape
4. No wrong use of tape
5. No missing tape
6. No wrong dimension

Important reminders/Note/s:

1. Please check the clamp before start of assembly to avoid wrong use of clamp.

STANDARD TAPING FOR CLAMP

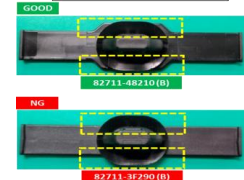
One side tape under clamp



CLAMP ILLUSTRATION



CLAMP ILLUSTRATION



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PARTS:

1. Assy parts
2. Black tape

JIG

n/a

NO.

PROCESS NAME

WORK PROCEDURE/ ILLUSTRATION

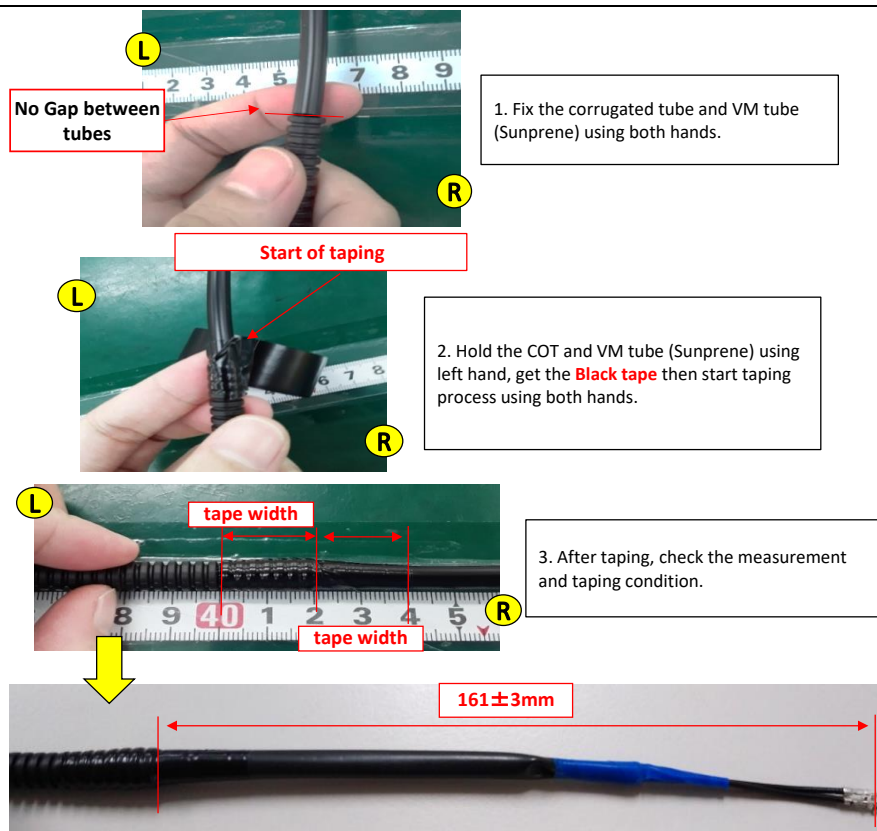
TOOLS/PPE

QUALITY POINTERS

3

P2

Taping 2
Black Corrugated tube
to
Black VM tube
(Sunprene)



MEASURING TAPE



Important reminders/Note/s:
1. Please use calibrated/verified measuring tape when getting the measurement.
2. Refer to WI-PRO-ASY-001 for taping procedure.

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PARTS:

1. Assy parts

JIG

1. Clamp assembly jig

NO.

PROCESS NAME

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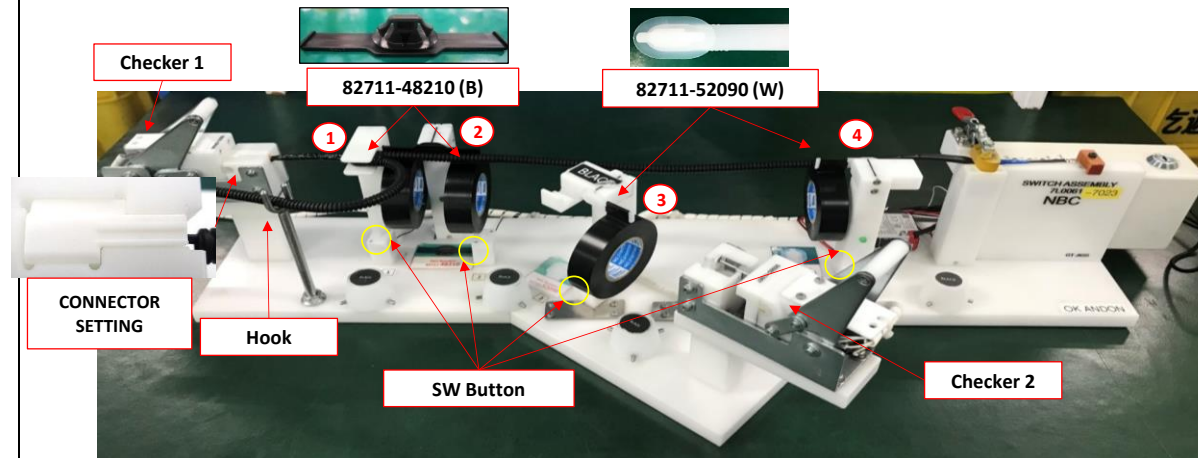
TOOLS/PPE

QUALITY POINTERS

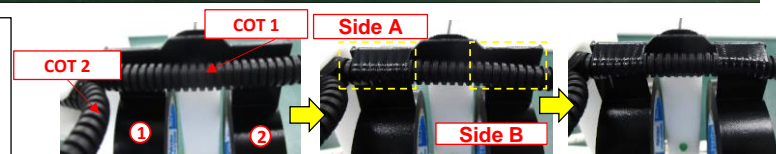
4

P2

Clamp Assembly



1. Get the assy parts and set into jig. (*See above picture for correct setting of harness*). First, set the white connector **6098-3802 (W)** to **Checker 1** then pull the checker fixture for continuity checking. Second, set the terminal end together (with direct contact terminal to terminal to avoid sensor malfunction of clamp) within the stopper then press down the **Toggle clamp**. **Color sensor** light will beep/buzz if sensor detects Blue tape. Last, set the **COT with 6098-2220 (W)** connector to Hook.
Note: Color sensor placed at the center part of toggle clamp.



2. Hold the tape on clamp location **1** then make **2 windings** of tape using both hands. (**Note: Do not cut the tape.**)

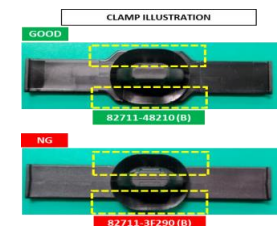
3. Hold the tape on clamp location **2** then make **2 windings** of tape using both hands. (**Note: Do not cut the tape.**)



Important reminders/Note/s:

1. Make sure no gap between stopper and terminals

1. No flip-out tape
2. No peel-off tape
3. No loose tape
4. No missing tape
5. No wrong dimension
6. No wrong use of tape



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PARTS:

1. Assy parts

JIG

1. Clamp assembly jig

NO.

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WORK PROCEDURE/ ILLUSTRATION

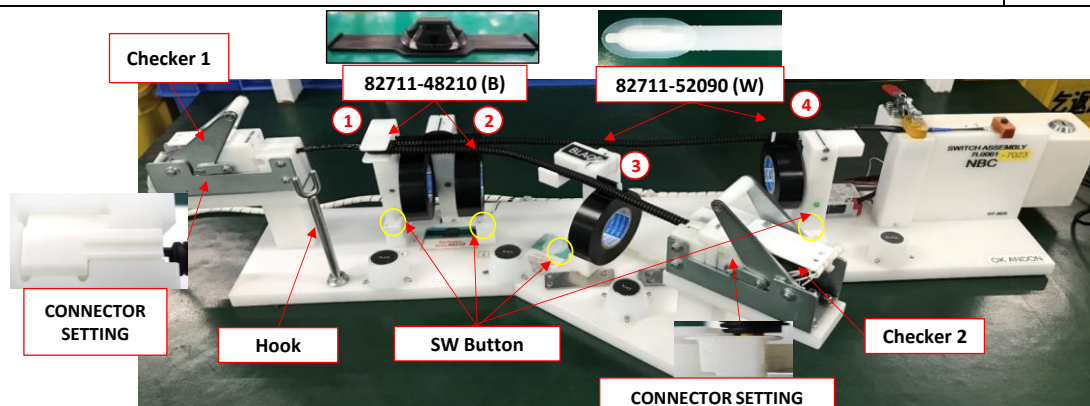
TOOLS/PPE

QUALITY POINTERS

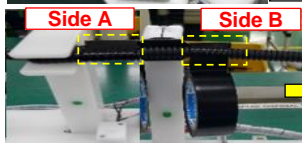
4

P2

Clamp Assembly
(Continuation)



4. Remove the **COT 2** in Hook then set the connector **6098-2220 (W)** to **Checker 2** then pull the checker fixture for continuity checking. *(See correct correct setting.*



6. Hold the tape on clamp location **1**. Make **3 windings** of tape then cut the tape. Press the **SW button** after taping. Continue if sequence light in clamp location **2** was **ON**.

5. Check if all **LED light** for **POWER ON, WIRE1, WIRE2, COLOR SENSOR and CLAMP ON** was **ON**. If encountered abnormality, **STOP** and immediately **CALL** the attention of the leader. **WAIT** for further instruction and continue the process.

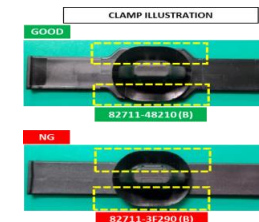
7. Hold the tape on clamp location **2**. Make **3 windings** of tape then cut the tape. Press the **SW button** after taping. Continue if sequence light in clamp location **3** was **ON**.



Important reminders/Note/s:

1. Make sure no gap between stopper and terminals

1. No flip-out tape
2. No peel-off tape
3. No loose tape
4. No missing tape
5. No wrong dimension
6. No wrong use of tape



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PARTS:

1. Assy parts

JIG

1. Clamp Assembly jig

NO.

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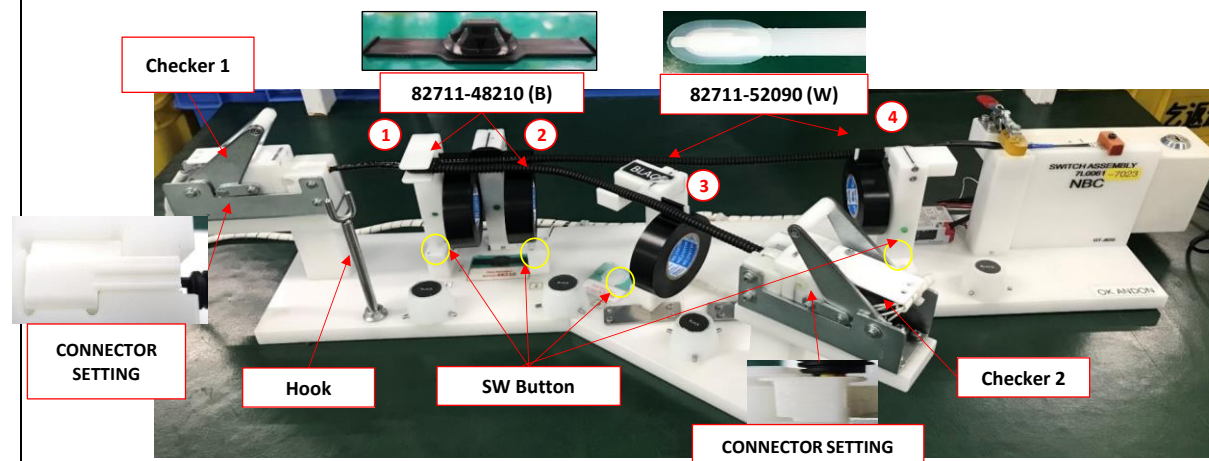
TOOLS/PPE

QUALITY POINTERS

4

P2

Clamp Assembly
(Continuation)



8. Hold the tape on clamp location **3**. Make **3 windings** of tape then cut the tape. Press the **SW button** after taping. Continue if sequence light in clamp location **4** was **ON**.

9. Hold the tape on clamp location **4** then start taping using both hands. Make **3 windings** of tape then cut the tape. Press the **SW button** after taping. **GO** sound will be heard.

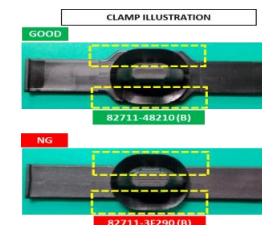
10. After taping, conduct **POINT CHECKING** before removing the harness in jig.



Important reminders/Note/s:

1. Make sure no gap between stopper and terminals

1. No flip-out tape
2. No peel-off tape
3. No loose tape
4. No missing tape
5. No wrong dimension
6. No wrong use of tape



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PARTS:

1. Assembled parts
2. Master sample

JIG

n/a

NO.

PROCESS NAME

WORK PROCEDURE/ ILLUSTRATION

TOOLS/PPE

QUALITY POINTERS

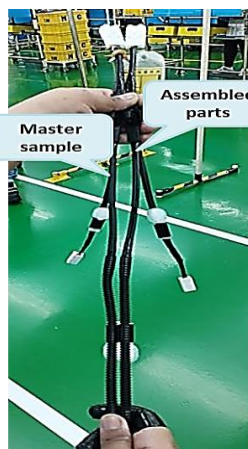
5

P2

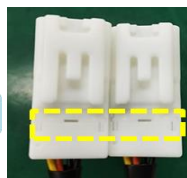
Visual/By two's Inspection



ACTUAL PRODUCT



1. Conduct **alignment of harness (Master sample vs. Assembled parts)** using both hands.



2. Check the **connector lock, wire insertion and Y-taping condition.**



4. Check the **presence of clamp attachment and the taping condition.**



3. Check the **presence of wing type clamp and taping condition.** Conduct **bending of clamp** with 2 sides taping.



5. Check the **taping condition, tape color (BLUE TAPE) and terminal appearance.** Must be **no deformed terminal.**

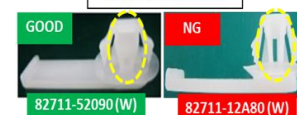


MASTER SAMPLE

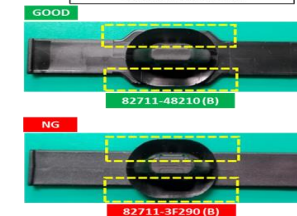


1. No skip checking during inspection

CLAMP ILLUSTRATION



CLAMP ILLUSTRATION



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PARTS:

1. Assy parts

JIG

n/a

NO.

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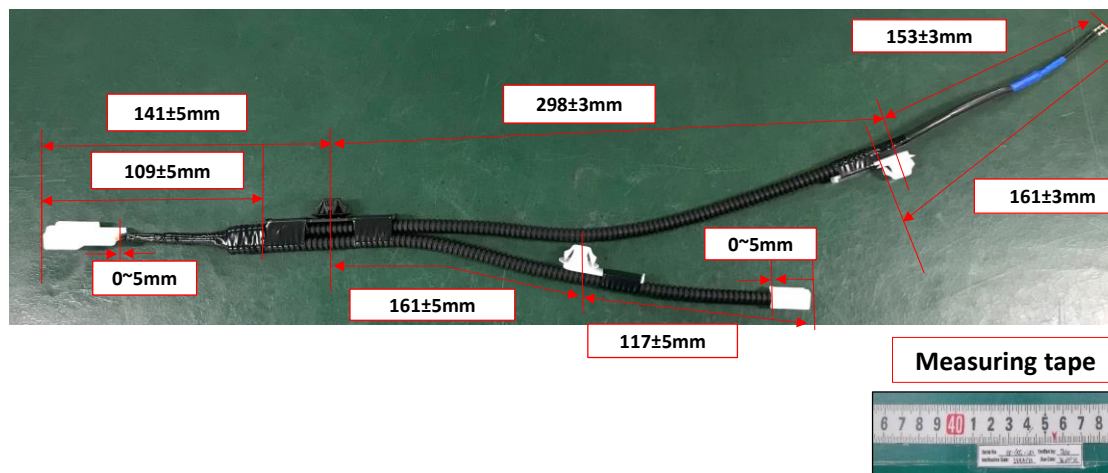
TOOLS/PPE

QUALITY POINTERS

6

P2

Measurement



Important reminders/Note/s:

1. Please use calibrated/verified measuring tape when getting the measurement.
2. For Hatsumono and Owarimono only.

1. No wrong dimension

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n/a

JIG

n/a

NO.

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TOOLS/PPE

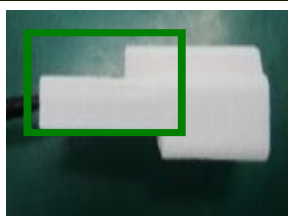
QUALITY POINTERS

P2

7L0061-7023



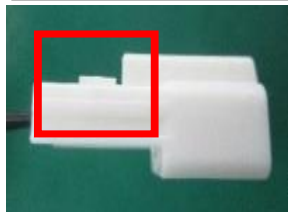
GOOD



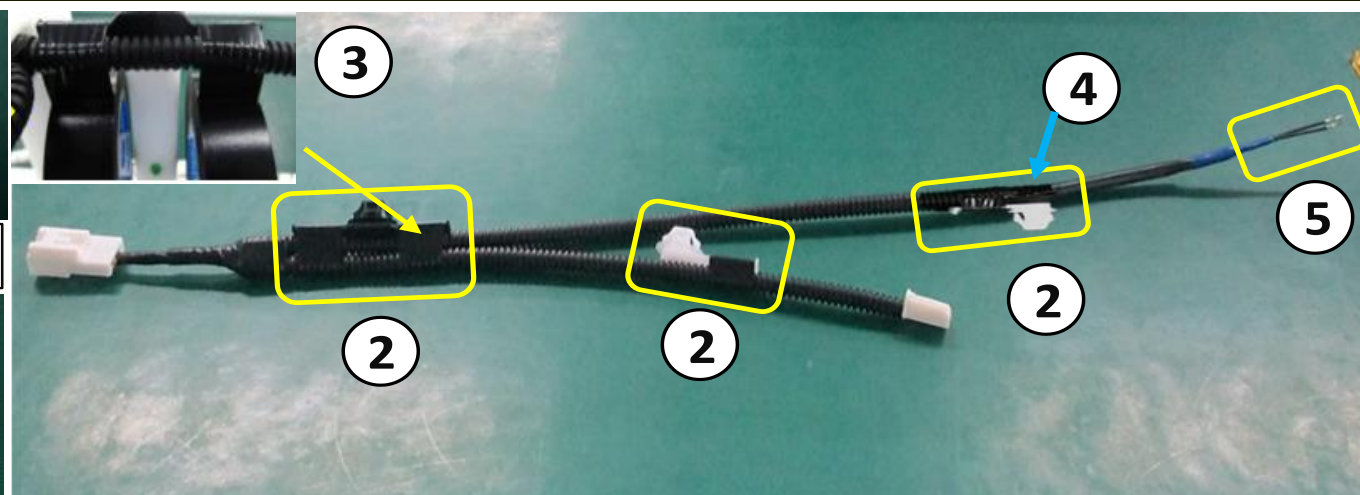
GOOD



NO GOOD



NO GOOD



1 No Unlock/Halflock Connector

2 No Missing Clamp (3pcs.) and Conduct BENDING of 2 sides of wing clamp

3 No Missing Inside Spot Tape

4 No Missing Tape and Conduct Bending on COT to VT

5 No Deformed Terminal

6 Checking of Clamp Alignment

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