

**WORK INSTRUCTION**Process Name/Title: **TAPING ASSEMBLY PROCESS**

Effectivity Date:

June 1, 2023

Product Name/Code: **500B / 7L0086-7024**

Customer:

TRQSS

Document No.:

WI-ENG-PDE-029C

Purpose:

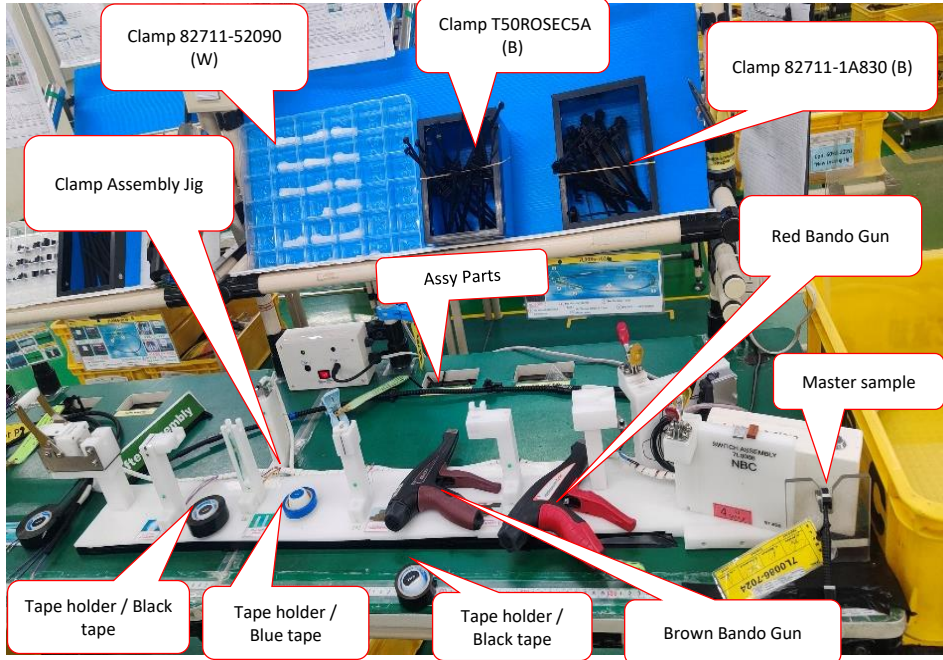
☐ PROTOTYPE☐ PRE-LAUNCH☒ MASSPRO

Revision No.:

6

Page No.:

1 of 10

PARTS:	1. Assy part 2. Clamp T50ROSEC5A (B) 3. Clamp 82711-52090 (W) 4. Clamp 82711-1A830 (B) 5. Black tape				JIG	1. Clamp Assembly
NO.	PROCESS NAME	WORK PROCEDURE/ ILLUSTRATION	TOOLS/PPE		QUALITY POINTERS	
1	P3 Table Lay-out	<div>TABLE LAY-OUT </div>	<div>Safety Instruction Be sure to wear prescribed personal protective equipment during operation (gloves, finger cots, etc.)</div> <div>Housekeeping 1. Maintain and always practice 5's. 2. Personal things on the work place is prohibited. Keep it in your locker.</div> <div>Alert level For any trouble, inform the Assembly Assistant Supervisor or Line Leader for immediate corrective action.</div>		1. No missing parts/tools 2. No excess parts/tools	
Revision History						
06/01/23	6	Inclusion of table lay-out and quality check points; improve by two's inspection, important reminders/Note/s and quality pointers	J. Loterte	C.Villanueva	A.Arañes	n/a
04/17/21	5	Remove validity date. Change connector color in accordance with color standardization for plastic parts (Please refer to GL-COM-003 for Color Standardization for Plastic Parts). Add quality pointers. Change wind to windings. Update Connector setting.	D. Castillo	C.Villanueva	A.Shimamura	A.Arañes
10/12/20	4	Improved the clamp assembly jig for spot taping (9 winds) and remove cycle time.	D.Castillo	R. Peñaloza	A.Shimamura	A.Arañes
Eff. Date	Rev. No	Details of Change	Revise	Check	Approve	Noted
			Prepared by:		Checked by:	Approved by:
			J. Loterte		C. Villanueva	A.Arañes
			Est. Date:		November 26, 2019	

CONFIDENTIAL: Any misuse or misappropriation, including unauthorized copying, reproduction in any form, disclosure or publishing of this document or any information herein is strictly prohibited.

NBC (Philippines)
MASTER COPY

DCC Stamp

**WORK INSTRUCTION**Process Name/Title: **TAPING ASSEMBLY PROCESS**

Effectivity Date:

June 1, 2023

Product Name/Code: **500B / 7L0086-7024**Customer: **TRQSS**

Validity Date:

n/a

Purpose:

☐ PROTOTYPE☐ PRE-LAUNCH☒ MASSPRO

Document No.:

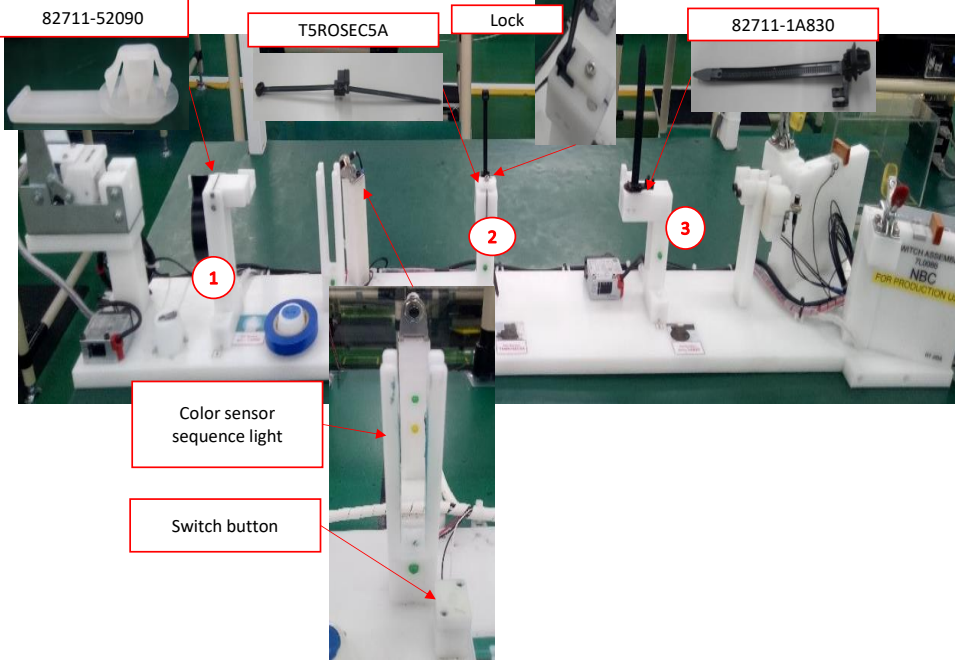

WI-ENG-PDE-029C

Revision No.:

6

Page No.:

2 of 10

PARTS:		1. Assy part 2. Clamp T50ROSEC5A (B) 3. Clamp 82711-52090 (W) 4. Clamp 82711-1A830 (B) 5. Black tape			JIG	1. Clamp Assembly
NO.	PROCESS NAME	WORK PROCEDURE/ ILLUSTRATION			TOOLS/PPE	6 QUALITY POINTERS
2	P3 Clamp Setting	 <div><div>1. Get the clamp 82711-52090 using right hand and set to clamp location ① using both hands then lock.</div><div>2. Get the clamp T50ROSEC5A using right hand and set to clamp location ② using both hands then lock.</div><div>3. Get the clamp 82711-1A830 using right hand and set to clamp location ③ using both hands.</div><div>4. Initially attach tape to location ① using both hands.</div></div>			n/a	 <p>Important reminders and Note/s: 1. Please check the Clamp first before start of assembly to avoid wrong use of clamp.</p> <p>1. No wrong use of clamp 2. No wrong clamp position 3. No wrong use of tape</p> <div><div>CLAMP ILLUSTRATION</div><div><div>GOOD</div><div>82711-52090 (W)</div><div>Front view</div></div><div><div>NG</div><div>82711-12A80 (W)</div><div>Front view</div></div><div><div>T50ROSEC5A</div><div>Front view</div></div><div><div>T50ROSHS8EC22</div><div>Front view</div></div></div>

CONFIDENTIAL: Any misuse or misappropriation, including unauthorized copying, reproduction in any form, disclosure or publishing of this document or any information herein is strictly prohibited.

NBC (Philippines)
MASTER COPY

DCC Stamp



WORK INSTRUCTION

Effectivity Date:

June 1, 2023

Process Name/Title:

TAPING ASSEMBLY PROCESS

Validity Date:

n/a

Product Name/Code: 500B / 7L0086-7024

Customer:

TRQSS

Document No.:

WI-ENG-PDE-029C

Purpose:


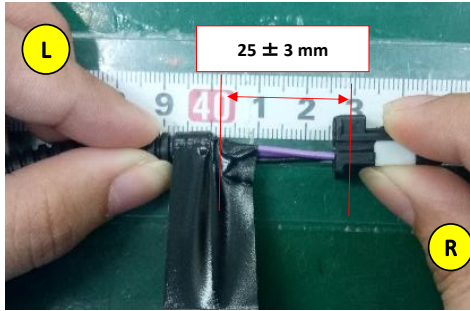
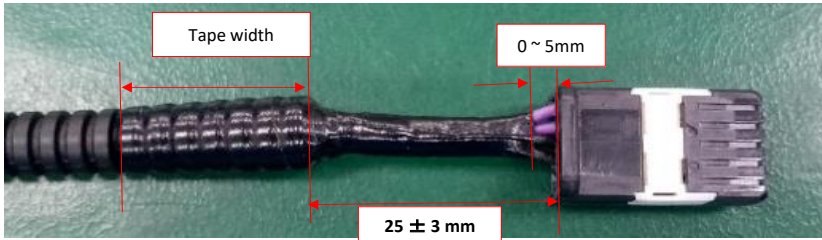


☐ PROTOTYPE☐ PRE-LAUNCH☒ MASSPRO

Revision No.:

6

Page No.:

3 of 10

PARTS:		1. Assy part 2. Black tape			JIG	N/A
NO.	PROCESS NAME	WORK PROCEDURE/ ILLUSTRATION			TOOLS/PPE	QUALITY POINTERS
3	P3 Taping 5 Corrugated tube to wire near connector	<div></div> <div></div> <div></div> <div>1. Get Black tape, hold corrugated tube using left hand then start pre-taping.</div> <div>2. Measure the end of the corrugated tube up to the edge of connector 25mm. Then continue taping using right hand.</div> <div>3. After taping, check the measurement and taping condition.</div>			MEASURING TAPE 	<div></div> <div>Important reminders and Note/s: 1. Please use calibrated/verified measuring tape when getting the measurement.</div> <div>Document reference/s: 2. Refer to WI-PRO-ASY-001 for taping procedure</div> <div>1. No flip out tape 2. No peel-off tape 3. No loose tape 4. No wrong use of tape 5. No wrong dimension 6. No missing tape</div>

CONFIDENTIAL: Any misuse or misappropriation, including unauthorized copying, reproduction in any form, disclosure or publishing of this document or any information herein is strictly prohibited.

NBC (Philippines)
MASTER COPY

DCC Stamp



WORK INSTRUCTION

Process Name/Title: TAPING ASSEMBLY PROCESS

Product Name/Code: 500B / 7L0086-7024

Customer: TRQSS

Purpose: ☐ PROTOTYPE☐ PRE-LAUNCH☒ MASSPRO

Effectivity Date:

June 1, 2023

Validity Date:

n/a

Document No.:

WI-ENG-PDE-029C

Revision No.:

6

Page No.:

4 of 10

PARTS:

Assy part

JIG

1. Clamp Assembly jig

NO.

PROCESS NAME

WORK PROCEDURE/ ILLUSTRATION

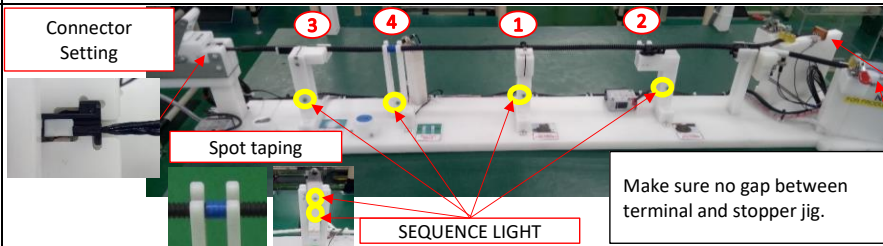
TOOLS/PPE

QUALITY POINTERS

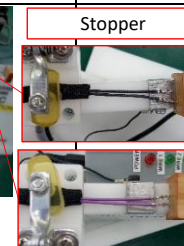
4

P3

Clamp Assembly

Connector
Setting

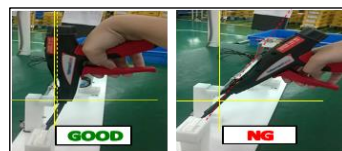
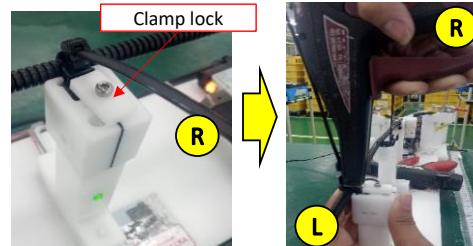
Stopper



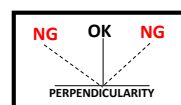
1. Put the assy. First, set the connector to **Checker** then pull the checker fixture for continuity checking. Second, set the **B-B wires** with terminal end together within the stopper then press by **Toggle clamp**. Last, set the **V-V wires** with terminal end together within the stopper. Make sure that the sensor detects the **White tape** then press by **Toggle clamp**.
Note: terminal should touch the aluminum to check the continuity.

2. Check if all LED light for **POWER ON**, **WIRE1** and **WIRE2** and **CLAMP ON** was **ON**. Check also if clamp location ① sequence light is **ON**. If encountered abnormality, **STOP** and immediately **CALL** the attention of the leader. **WAIT** for further instruction then continue the process.
Continue if the sequence light of location ① was **ON**.

Clamp lock



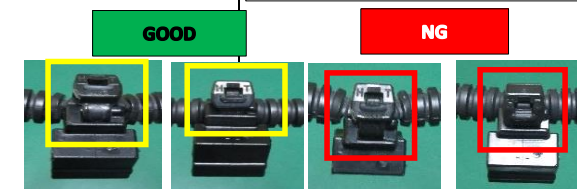
BANDO GUN ALIGNMENT

Fixed setting of
band clamp outer:
1.75-2

3. Initially tighten the band clamp on location ① using right hand.

4. Get the bando gun, position the bando gun upward and cut the band clamp (**T5ROSEC5A**) using right hand. Press the sequence light button after cutting. Continue to location ② if light was **ON**.
Note: Please use the Brown bando gun only.

Brown Bando Gun

Clamp Orientation
(T5ROSEC5A)

CONFIDENTIAL: Any misuse or misappropriation, including unauthorized copying, reproduction in any form, disclosure or publishing of this document or any information herein is strictly prohibited.

NBC (Philippines)
MASTER COPY

DCC Stamp



WORK INSTRUCTION

Process Name/Title: **TAPING ASSEMBLY PROCESS**

Product Name/Code: **500B / 7L0086-7024**

Customer: **TRQSS**

Purpose: ☐ PROTOTYPE

☐ PRE-LAUNCH

☒ MASSPRO

Effectivity Date:

June 1, 2023

Validity Date:

n/a

Document No.:

WI-ENG-PDE-029C

Revision No.:

6

Page No.:

5 of 10

PARTS:

n/a

JIG

1. Clamp Assembly jig

NO.

PROCESS NAME

WORK PROCEDURE/ ILLUSTRATION

TOOLS/PPE

QUALITY POINTERS

4

P3

Clamp Assembly
(continuation)

Connector Setting

Spot taping

SEQUENCE LIGHT

Make sure no gap between terminal and stopper jig.

5. Initially tighten the band clamp on location ② using right hand.

6. Get the bando gun and cut the band clamp (82711-1A830) using right hand. Press the sequence light button after cutting. Continue to location ③ if light was **ON**.
Note: Please use the Red bando gun only.

7. Hold the tape on clamp location ③ and start taping (3 winds) using both hand. Press the sequence light button after taping. Continue to location ④ if light was **ON**.

Red Bando Gun

GOOD

NG

Must be perpendicular

BANDO GUN ALIGNMENT

NG

OK

NG

PERPENDICULARITY

6 **Important reminders and Note/s;**
Setting of band clamp cutter depends on the size of the COT/Vinyl tube.
For: $\phi 5 - 1 \sim 2$, $\phi 7 - 3 \sim 4$

1. No damaged clamp
2. No missed tape
3. No missing clamp
4. Use the designated bando gun



CONFIDENTIAL: Any misuse or misappropriation, including unauthorized copying, reproduction in any form, disclosure or publishing of this document or any information herein is strictly prohibited.

NBC (Philippines)
MASTER COPY

DCC Stamp



WORK INSTRUCTION

TAPING ASSEMBLY PROCESS

Effectivity Date:

June 1, 2023

Process Name/Title:

Product Name/Code: **500B / 7L0086-7024**

Customer:

TRQSS

Validity Date:

n/a

Document No.:

WI-ENG-PDE-029C

Purpose:

☐ PROTOTYPE

☐ PRE-LAUNCH

☒ MASSPRO

Revision No.:

6

Page No.:

6 of 10

PARTS:

1. Blue tape (10mm)

JIG

1. Clamp Assembly jig

NO.	PROCESS NAME	WORK PROCEDURE/ ILLUSTRATION	TOOLS/PPE	QUALITY POINTERS
4	P3 Clamp Assembly (continuation)	<p>Color Sensor</p> <p>Blue tape</p> <p>Green Sequence light (ON)</p> <p>Yellow Sequence light (ON)</p> <p>Switch button</p> <p>Color Sensor</p> <p>Blue tape (10mm)</p> <p>Yellow Sequence light (ON)</p> <p>Green Sequence light (ON)</p> <p>Legend: Green light - Spot taping Yellow light - Color sensor</p> <p>8. Get the Blue tape (10mm). First, hang the blue tape in the corrugated tube then press the switch button to move the Green sequence light to Yellow sequence light.</p> <p>9. Wind the tape to reach the color sensor, beep sound will heard and Yellow sequence light will move to Green sequence light again. <i>Note: Make sure that BOTH of Green sequence light is ON before continue.</i></p> <p>10. Press the switch button and wind the tape for 8 times.</p> <p>11. After 9 windings, double (2) beep sound will be heard. Both of Green sequence light will ON. Cut the tape and press the switch button. Go buzzer will be heard. <i>Note: The GO buzzer will be heard if the sensor detect the Blue tape.</i></p> <p>12. CONDUCT POINT CHECKING before removing from jig.</p>	N/A	1. No wrong use of tape 2. No missed tape 3. No excess winding of tape

CONFIDENTIAL: Any misuse or misappropriation, including unauthorized copying, reproduction in any form, disclosure or publishing of this document or any information herein is strictly prohibited.

NBC (Philippines)
MASTER COPY

DCC Stamp



WORK INSTRUCTION

Process Name/Title: **TAPING ASSEMBLY PROCESS**Product Name/Code: **500B / 7L0086-7024**Customer: **TRQSS**Purpose: ☐ PROTOTYPE☐ PRE-LAUNCH☒ MASSPRO

Effectivity Date:

June 1, 2023

Validity Date:

n/a

Document No.:

WI-ENG-PDE-029C

Revision No.:

6

Page No.:

7 of 10

PARTS:

N/A

JIG

N/A

NO.

PROCESS NAME

6

WORK PROCEDURE/ ILLUSTRATION

TOOLS/PPE

QUALITY POINTERS

5

P3

Visual Inspection/By
Two's inspection

ACTUAL PRODUCT

Assembled
partsEngineering
sample1. Compare to **MASTER SAMPLE**.

2. Check the connector lock.

3. Check the terminal appearance.

4. Check the clamp attachment

MASTER SAMPLE

6 **Document references;**
Please refer to GL-PRO-ASY-007 for By
Two's Inspection of Sub-assy.

CONFIDENTIAL: Any misuse or misappropriation, including unauthorized copying, reproduction in any form, disclosure or publishing of this document or any information herein is strictly prohibited.

NBC (Philippines)
MASTER COPY

DCC Stamp



WORK INSTRUCTION

Process Name/Title: **TAPING ASSEMBLY PROCESS**

Product Name/Code: **500B / 7L0086-7024**

Customer: **TRQSS**

Purpose: ☐ PROTOTYPE

☐ PRE-LAUNCH

☒ MASSPRO

Effectivity Date:

June 1, 2023

Validity Date:

n/a

Document No.:

WI-ENG-PDE-029C

Revision No.:

6

Page No.:

8 of 10

PARTS:

N/A

JIG

N/A

NO.

PROCESS NAME

6

WORK PROCEDURE/ ILLUSTRATION

TOOLS/PPE

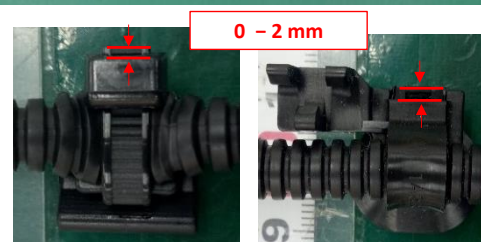
QUALITY POINTERS

5

P3

Visual Inspection/By
Two's inspection
(continuation)

ACTUAL PRODUCT



0 - 2 mm

6. Using steel rule, check if the band cut measurement is within the required dimension (0~2mm) and should not exceed the maximum value..

5. Check the clamp attachment and taping condition.

MASTER SAMPLE



CONFIDENTIAL: Any misuse or misappropriation, including unauthorized copying, reproduction in any form, disclosure or publishing of this document or any information herein is strictly prohibited.

NBC (Philippines)
MASTER COPY

DCC Stamp

**WORK INSTRUCTION**Process Name/Title: **TAPING ASSEMBLY PROCESS**

Effectivity Date:

June 1, 2023

Product Name/Code: **500B / 7L0086-7024**Customer: **TRQSS**

Validity Date:

n/a

Purpose: ☐ PROTOTYPE☐ PRE-LAUNCH☒ MASSPRO

Document No.:

WI-ENG-PDE-029C

Revision No.:

6

Page No.:

9 of 10

PARTS:

N/A

JIG

N/A

NO.

PROCESS NAME

WORK PROCEDURE/ ILLUSTRATION

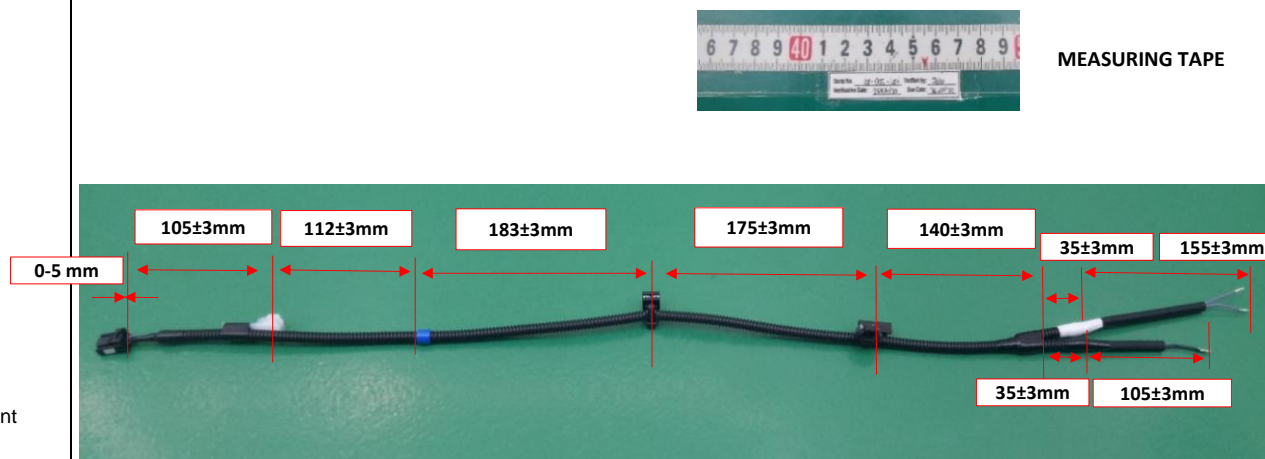
TOOLS/PPE

QUALITY POINTERS

6

P3

Measurement



6

Important reminders and Note/s:**1. Please use calibrated/verified measuring tape when getting the measurement.****2. For Hatsumono and Owarimono**

CONFIDENTIAL: Any misuse or misappropriation, including unauthorized copying, reproduction in any form, disclosure or publishing of this document or any information herein is strictly prohibited.

NBC (Philippines)
MASTER COPY

DCC Stamp



WORK INSTRUCTION

Process Name/Title: **TAPING ASSEMBLY PROCESS**

Product Name/Code: **500B / 7L0086-7024**

Customer: **TRQSS**

Purpose: ☐ PROTOTYPE

☐ PRE-LAUNCH

☒ MASSPRO

Effectivity Date:

June 1, 2023

Validity Date:

n/a

Document No.:

WI-ENG-PDE-029C

Revision No.:

6

Page No.:

10 of 10

PARTS:

1. Assy parts

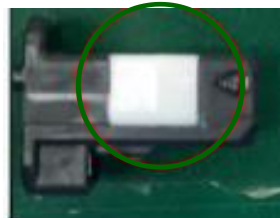
JIG

N/A

6 QUALITY CHECKPOINTS

P3

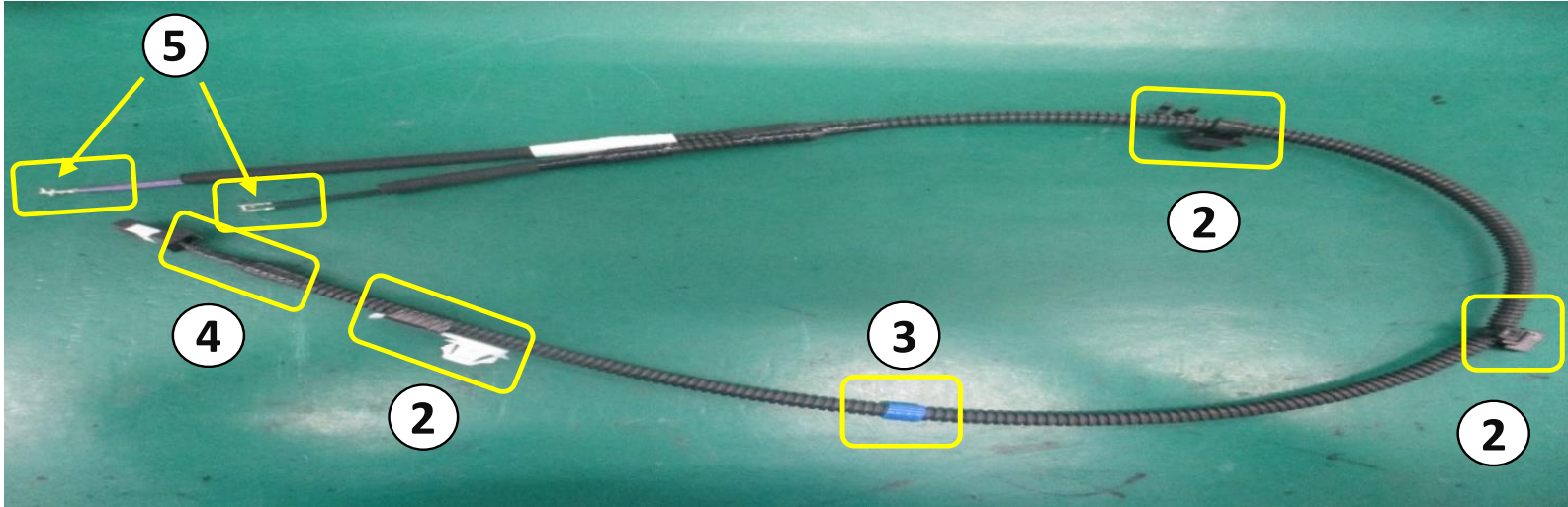
7L0086-7024



GOOD



NO GOOD



1 No Unlock/Halflock Connector

2 No Missing Clamp (3pcs.)

3 No Wrong Used of Tape (blue tape)

4 No Missing Tape

5 No Deformed Terminal

CONFIDENTIAL: Any misuse or misappropriation, including unauthorized copying, reproduction in any form, disclosure or publishing of this document or any information herein is strictly prohibited.

NBC (Philippines)
MASTER COPY

DCC Stamp