



WORK INSTRUCTION

Process Name/Title: TAPING ASSEMBLY PROCESS

Effectivity Date:

February 8, 2022

Model Code/Product Number: 990B / 7N0142-7020

Customer: TRJ

Validity Date:

n/a

Purpose:

☐ PROTOTYPE☒ PRE-LAUNCH☐ MASSPRO

Document No.:

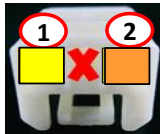


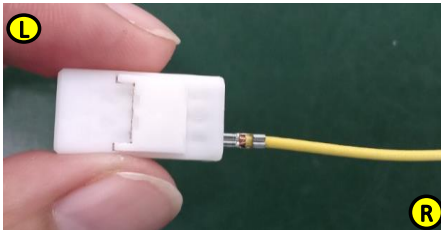

WI-ENG-PDE-389

Revision No.:

0

Page No.:

1 of 13

NO.	PROCESS NAME	WORK PROCEDURE/ ILLUSTRATION	TOOLS/PPE	QUALITY POINTERS		
1	n/a	<div><div><p>VISUAL REFERENCE</p></div><div><p>Wire facing</p></div><div><p>Connector Orientation</p></div><div><p>1. Hold the connector using left hand. Get the Yellow wire and insert to connector using right hand.</p></div><div><p>2. Get the Orange wire and insert to connector using right hand.</p></div></div>	<div><p>Safety Instruction</p><p>Be sure to wear prescribed personal protective equipment during operation (gloves, finger cots, etc.)</p></div> <div><p>Housekeeping</p><p>1. Maintain and always practice 5's. 2. Personal things on the workplace is prohibited. Keep it in your locker.</p></div> <div><p>Alert level</p><p>For any trouble, inform the Assembly Assistant Supervisor or Line Leader for immediate corrective action.</p></div>	<p><i>Note: Refer to WI-PRO-CNC-017 for Wire and Strip Tolerance</i></p> <ol style="list-style-type: none">1. No wrong orientation of connector2. No wrong use of connector3. No damaged connector4. No wrong insertion of wires5. No loose insertion6. No wrong insertion7. One by one insertion8. No deformed terminal9. No wrong wire facing <p>Note: Make sure wires are properly inserted. Conduct Pull-Push-Pull-Push after insertion. Do not exert extra force.</p> <p><i>Note: Refer to GL-PRO-ASY-029 for Pull-Push procedure.</i></p>		
Revision History			Prepared by:	Reviewed by:	Approved by:	Noted by:
02/08/22	0	Initial issue	M. Ariola	J. Loterte	C. Villanueva	A. Arañas
Eff. Date	Rev. No	Details of Change	Revised	Checked	Approved	Noted
			Est. Date:	February 8, 2022		

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

Process Name/Title:

Model code/Product number: **990B / 7N0142-7020**

Customer: **TRJ**

Purpose: ☐ PROTOTYPE

☒ PRE-LAUNCH

☐ MASSPRO

Effectivity Date:

February 8, 2022

Validity Date:

n/a

Document No.:


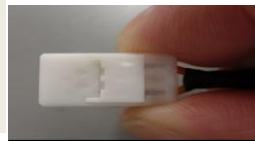
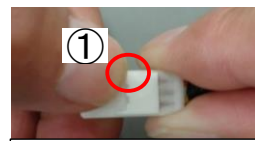
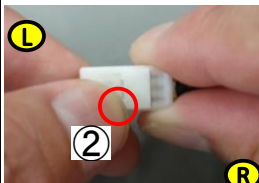
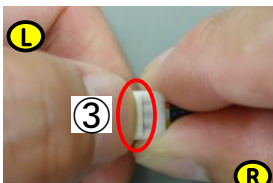
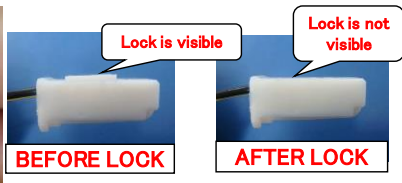
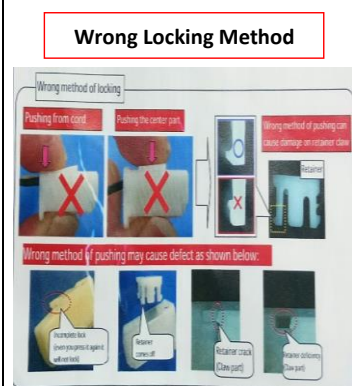


WI-ENG-PDE-389

Revision No.:

0

Page no.:

2 of 13

PARTS:		1.Assy part 2.Black Vinyl tube Ø5 L=255±3mm		3.Black Vinyl tube Ø5 L=51±3mm		JIG	n/a
NO.	PROCESS NAME	WORK PROCEDURE/ ILLUSTRATION				TOOLS/PPE	QUALITY POINTERS
2	Connector Lock	<div><div><p>Sequence of Pressing the Double Lock: ① - ② - ③ Method: Press one by one using one thumb</p></div><div><p>1. Hold the 6098-2220 connector using right hand</p></div><div><p>2. Press location 1 of the connector lock using your left thumb</p></div><div><p>3. Press location 2 of the connector lock using your left thumb</p></div><div><p>4. Press location 3 of connector near terminal insertion side with your left thumb</p></div><div><p>5. Check the locking condition</p></div></div> <div><p>n/a</p></div> <div><p>1. No unlocked/half-locked connector 2. No one time pressing of double lock 3. Make sure not to hit the portion ③ (bottom side) when pressing ① & ②</p></div>				n/a	
3	Wire Insertion to black Vinyl tube Ø5 L=255±3mm	<div><p>1. Get the Black Vinyl tube $\phi 5$ L=255±3mm using right hand then insert the Y/OR wires.</p></div>				n/a	
4	Wire Insertion to black Vinyl tube Ø5 L=51±3mm	<div><p>1. Get the Black Vinyl tube $\phi 5$ L=51±3mm using right hand then insert the Y/OR wires using left hands.</p></div>				n/a	1.No wrong use of parts.

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:

February 8, 2022

Process Name/Title:

TAPING ASSEMBLY PROCESS

Validity Date:

n/a

Model Code/Product Number:

990B / 7N0142-7020

Customer:

TRJ

Document No.:

WI-ENG-PDE-389

Purpose:



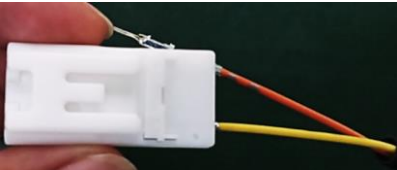
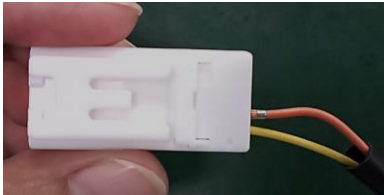
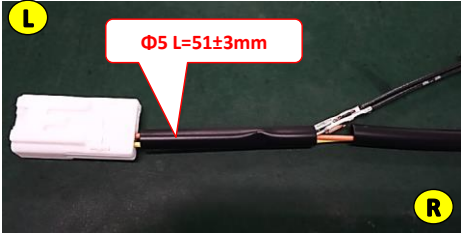
☐ PROTOTYPE☒ PRE-LAUNCH☐ MASSPRO

Revision No.:

0

Page no.:

3 of 13

PARTS:	1. Assy parts 2. AVSS 0.3 B L= 539±3mm [2pcs] 3. Connector 6098-3802(W)			JIG	n/a
NO.	PROCESS NAME	WORK PROCEDURE/ ILLUSTRATION		TOOLS/PPE	QUALITY POINTERS
5	Wire Insertion to Connector 6098-3802 (W) n/a	<div> CONNECTOR ORIENTATION</div> <div> Wire facing</div> <div> 1. Hold the connector using left hand. Get the Yellow wire and insert to connector using right hand.</div> <div> 2. Get the Orange wire and insert to connector using right hand.</div>		n/a	<div>Note: Refer to WI-PRO-CNC-017 for Wire and Strip Tolerance</div> <div>1. No loose insertion 2. No wrong insertion 3. One by one insertion 4. No deformed terminal 5. No wrong wire facing</div> <div>Note: Make sure wires are properly inserted. Conduct Pull-Push-Pull-Push after insertion. Do not exert extra force.</div> <div>Note: Refer to GL-PRO-ASY-029 for Pull-Push procedure.</div>
6	Wire Insertion to Assy Parts	<div> 1. Hold the vinyl tube Φ5 L=51±3mm using left hand then insert the assy parts using right hand.</div>		n/a	1. No wrong use of parts.

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

Process Name/Title:

Model Code/Product Number: **990B / 7N0142-7020**

Customer: **TRJ**

Purpose:

☐ PROTOTYPE

☒ PRE-LAUNCH

☐ MASSPRO

Effectivity Date:

February 8, 2022

Validity Date:

n/a

Document No.:



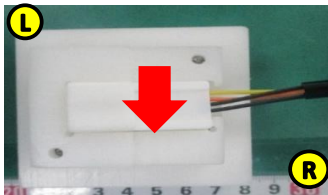



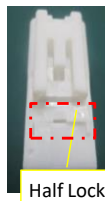
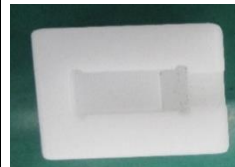
WI-ENG-PDE-389

Revision No.:

0

Page No.:

4 of 13

PARTS:		1.Assy parts		JIG	Locking jig
NO.	PROCESS NAME		WORK PROCEDURE/ ILLUSTRATION	TOOLS/PPE	QUALITY POINTERS
7	n/a	Wire Insertion to Connector 6098-3802(W)	<div><p>1.Get the assy part using left hand, hold the 1st Black wire and insert to terminal slot 1 using right hand.</p></div> <div><p>2. Hold the 2nd Black wire then insert to terminal slot 2 using right hand.</p></div>	n/a	<div>Note: Make sure wires are properly inserted. Conduct Pull-Push-Pull-Push after insertion. Do not exert extra force.</div> <div>1. No loose insertion 2. No wrong insertion 3. One by one insertion 4. No deformed terminal 5. No wrong wire facing</div> <div>Note: Refer to GL-PRO-ASY-029 for Pull-Push procedure.</div>
8		Connector Lock	<div><p>1. Put the connector into locking jig using right hand then press 2x to lock. Touch the connector lock to confirm if properly locked. Note: Please refer to GL-PRO-ASY-017 for the verification of connector lock.</p></div> <div><p>Before pressing</p><p>After pressing</p><div><div><p>GOOD</p><p>Full Lock</p></div><div><p>NG</p><p>Half Lock</p></div></div></div>	<div>LOCKING JIG</div> 	<div>NOTE: MANUAL LOCKING MAY CAUSE DAMAGED LOCK.</div> <div>1. Use the provided locking jig per model 2. No unlock/half-lock connector</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

TAPING ASSEMBLY PROCESS

Process Name/Title:

Model Code/Product Number: 990B / 7N0142-7020

Customer: TRJ

Purpose:

☐ PROTOTYPE☒ PRE-LAUNCH☐ MASSPRO

Effectivity Date:

February 8, 2022

Validity Date:

n/a

Document No.:

WI-ENG-PDE-389

Revision No.:

0

Page No.:

5 of 13

PARTS:

1. Assy parts
2. Black tape

JIG

n/a

NO.

PROCESS NAME

WORK PROCEDURE/ ILLUSTRATION

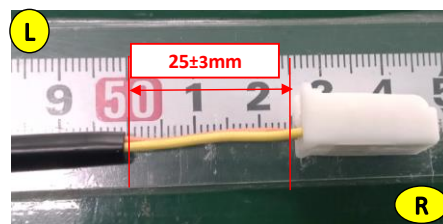
TOOLS/PPE

QUALITY POINTERS

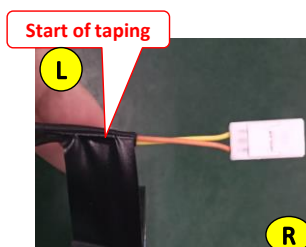
9

n/a

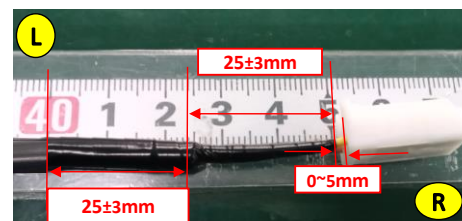
Taping 1
Black vinyl tube to wire
near connector



1. Measure from end of vinyl tube up to end of connector **25±3mm** using both hands.



2. Get the **Black tape** using right hand then start taping process using both hands.
Note: Please refer to WI-PRO-ASY-001 for taping procedure.



3. After taping, check the measurement and taping condition.

MEASURING TAPE



1. Use the provided locking jig per model
2. No unlock/half-lock connector

Note:

Please use calibrated/verified measuring tape when getting the measurement.

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:

February 8, 2022

Process Name/Title:

Validity Date:

n/a

Model Code/Product Number: **990B / 7N0142-7020**

Customer: **TRJ**

Document No.:

WI-ENG-PDE-389

Purpose:

☐ PROTOTYPE

☒ PRE-LAUNCH






☐ MASSPRO

Revision No.:

0

Page No.:

6 of 13

PARTS:		1. Assy parts 2. Black Vinyl Tube $\phi 5$ L=243 \pm 3mm 3. Black Corrugated tube (No slit) $\phi 5$ L=178 \pm 3mm			JIG	1. Terminal cover jig
NO.	PROCESS NAME	WORK PROCEDURE/ ILLUSTRATION			TOOLS/PPE	QUALITY POINTERS
10	Wire Insertion to Black Vinyl Tube $\phi 5$ L=243 \pm 3mm	 <div>1. Get the Black Vinyl tube $\phi 5$ L=243\pm3mm using right hand then insert the B-B wires using left hand.</div>			n/a	1. No wrong use of parts
11	Wire insertion to Black Corrugated tube (No slit) $\phi 5$ L=178 \pm 3mm	 <div>1. Get the terminal cover jig using right hand then insert the B-B wires using left hand.</div>  <div>2. Get the Black COT $\phi 5$ L=178\pm3mm using right hand and insert B-B wires using left hand.</div>  <div>3. After insertion, remove the terminal cover jig using right hand.</div>			Terminal Cover Jig 	1. No wrong use of parts 2. 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



WORK INSTRUCTION

Process Name/Title: TAPING ASSEMBLY PROCESS

Model Code/Product Number: 990B / 7N0142-7020

Customer: TRJ

Purpose: ☐ PROTOTYPE☒ PRE-LAUNCH☐ MASSPRO

Effectivity Date:

February 8, 2022

Validity Date:

n/a

Document No.:

WI-ENG-PDE-389

Revision No.:

0

page No.:


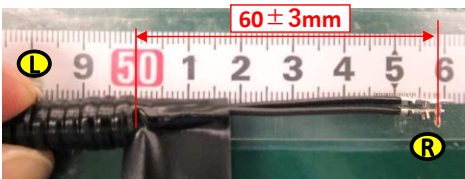
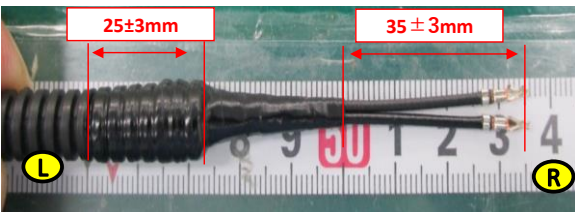

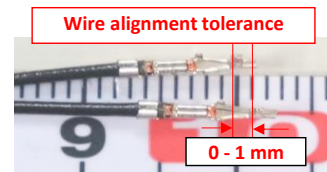
7 of 13

PARTS:

1. Assy parts
2. Black tape

JIG

n/a

NO.	PROCESS NAME	WORK PROCEDURE/ ILLUSTRATION	TOOLS/PPE	QUALITY POINTERS
12	n/a	<p>Taping 2 COT to Wire</p>  <p>1. Hold the COT using left hand, get the Black tape using right hand then start pre-taping using both hands.</p>  <p>2. Measure from end of COT up to terminal pointed tip 60±3mm then continue the taping process using both hands.</p>  <p>3. After taping, check the measurement, terminal appearance and taping condition.</p>	<p>MEASURING TAPE</p> 	<p>Note: Please use calibrated/verified measuring tape when getting the measurement.</p> <ol style="list-style-type: none">1. No flip-out tape2. No peel-off tape3. No loose tape4. No missing tape5. No wrong use of tape6. No wrong dimension <p>Wire alignment tolerance</p> 

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**

Model Code/Product Number: **990B / 7N0142-7020**

Customer: **TRJ**

Purpose: ☐ PROTOTYPE

☒ PRE-LAUNCH

☐ MASSPRO

Effectivity Date:

February 8, 2022

Validity Date:

n/a

Document No.:

WI-ENG-PDE-389

Revision No.:

0

page No.:

8 of 13

PARTS:

1. Assy parts
2. Green tape

JIG

n/a

NO.

PROCESS NAME

WORK PROCEDURE/ ILLUSTRATION

TOOLS/PPE

QUALITY POINTERS

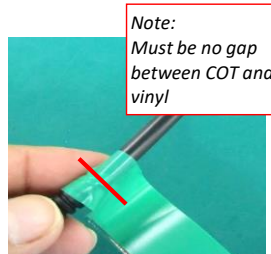
13

n/a

Taping 3 COT to Vinyl tube

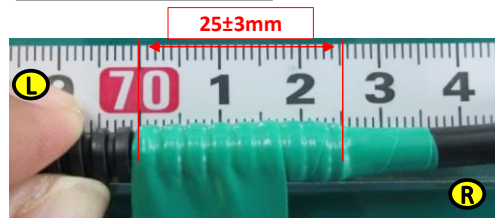


1. Fix the COT and vinyl tube using both hands.

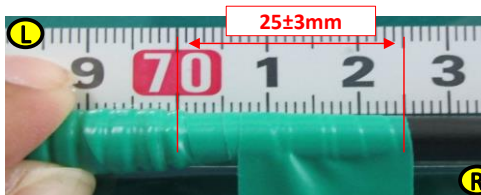


2. Fix the corrugated tube to vinyl tube using left hand then get **Green tape** and start taping using right hand.

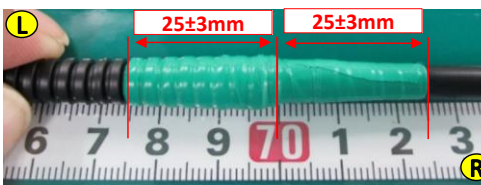
Note: Refer to WI-PRO-ASY-001 for taping procedure



3. Confirm measurement of **25±3mm** from end of tape up to end of COT then continue the taping process using both hands.



4. Confirm measurement of **25±3mm** from end of COT up to end of tape using both hands.



5. After taping, check the measurement and taping condition.

MEASURING TAPE



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

Note:
Please use calibrated/verified measuring tape when getting the measurement.

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

Process Name/Title:

Model Code/Product Number: **990B / 7N0142-7020**

Customer: **TRJ**

Purpose:

☐ PROTOTYPE

☒ PRE-LAUNCH

☐ MASSPRO

Effectivity Date:

February 8, 2022

Validity Date:

n/a

Document No.:

WI-ENG-PDE-389

Revision No.:

0

page No.:

9 of 13

PARTS:

1. Black tape
2. Assy parts

JIG

n/a

NO.

PROCESS NAME

WORK PROCEDURE/ ILLUSTRATION

TOOLS/PPE

QUALITY POINTERS

14

n/a

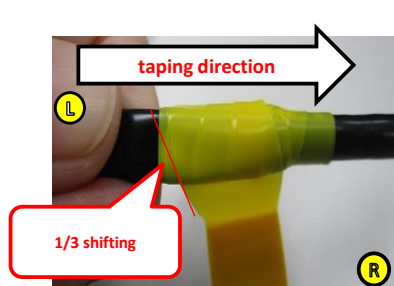
Y-Taping



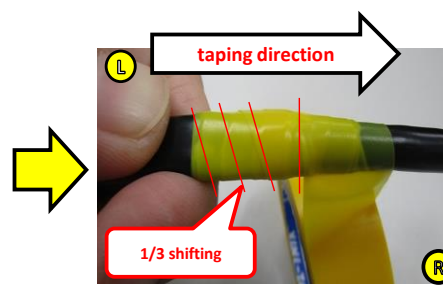
1. Fix the Vinyl tubes.



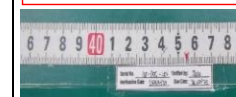
2. Start taping at the middle of combined vinyl tubes, then wind the tape to left side (**width must be 25mm**)



3. Wind the tape 1/3 shifting until it reaches the other vinyl tube (**must be 25mm**)



MEASURING TAPE



NOTE: USE YELLOW TAPE FOR EASY VISUALIZATION OF TAPE SHIFTING, BUT ACTUAL SHOULD BE BLACK TAPE.

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

Note:
Please use calibrated/verified measuring tape when getting the measurement.

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

Process Name/Title:

Model Code/Product Number: **990B / 7N0142-7020**

Customer: **TRJ**

Purpose:

☐ PROTOTYPE

☒ PRE-LAUNCH

☐ MASSPRO

Effectivity Date:

February 8, 2022

Validity Date:

n/a

Document No.:

WI-ENG-PDE-389

Revision No.:

0

page No.:

10 of 13

PARTS:

1. Assy parts
2. Black Tape

JIG

n/a

NO.

PROCESS NAME

WORK PROCEDURE/ ILLUSTRATION

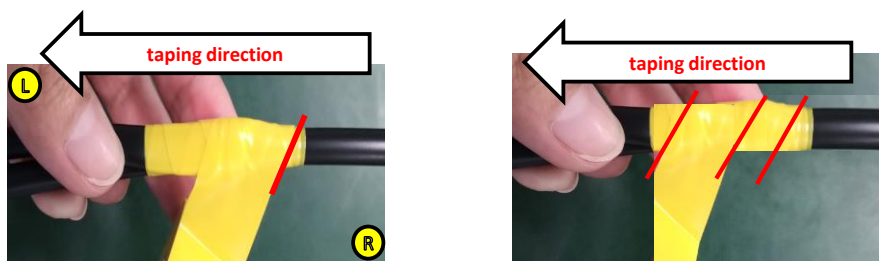
TOOLS/PPE

QUALITY POINTERS

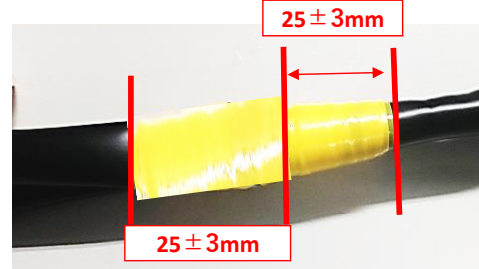
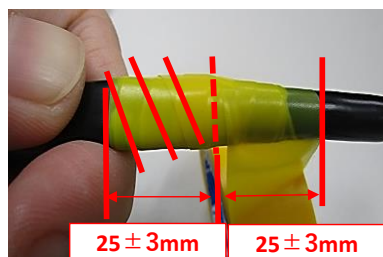
14

n/a

Y-taping
(Continuation)



4. Wind the tape backward **1/2 shifting**



5. Wind the tape **1/2 shifting** going up to other side of Vinyl tube **25±3mm** then make 3 winds on the wire before cutting of tape. After taping, check the condition of tape.

Measuring tape



Note:
Used yellow tape to easily visualize the tape shifting but actual should be **BLACK**.

1. No peel-off
2. No wrong location
3. No missing tape

Note:
Please use calibrated/verified measuring tape when getting the measurement.

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**

Process Name/Title:

Model Code/Product Number:

990B / 7N0142-7020

Customer:

TRJ

Purpose:

☐ PROTOTYPE☒ PRE-LAUNCH☐ MASSPRO

Effectivity Date:

February 8, 2022

Validity Date:

n/a

Document No.:

WI-ENG-PDE-389

Revision No.:

0

page No.:

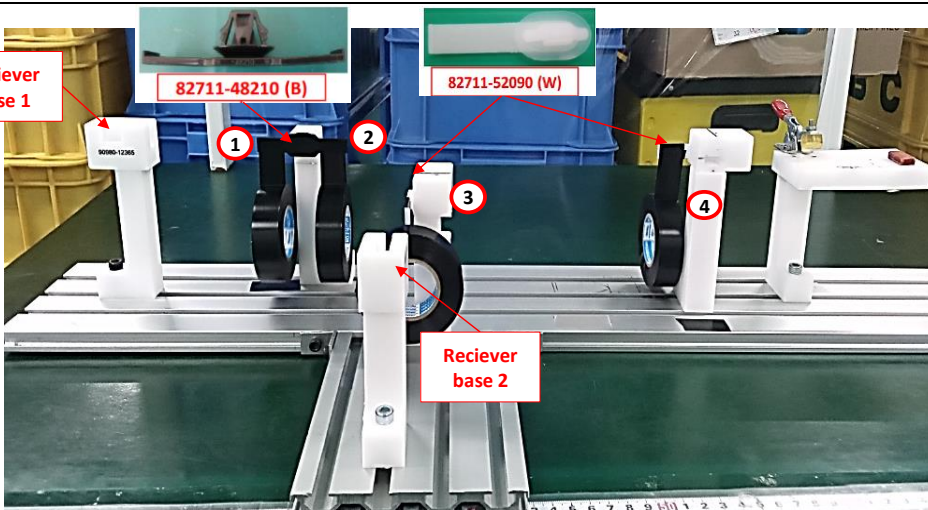
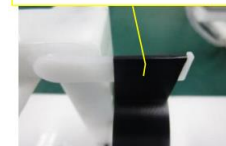
11 of 13**PARTS:**

1. Assy parts
2. Clamp 82711-52090(W) [2pcs]

3. Clamp 82711-48210(B)
4. Black tape [4pcs]

JIG

Temporary clamp assembly jig

NO.	PROCESS NAME	WORK PROCEDURE/ ILLUSTRATION	TOOLS/PPE	QUALITY POINTERS
15	n/a	<div>Clamp Setting</div> <div></div> <div>1. Get 1 pc. of clamp 82711-48210 (B) using right hand then set to clamp location 1 and 2 using both hands.</div> <div>2. Get 2 pcs. of clamp 82711-52090 (W) using right hand then set to clamp location 3 and 4 using both hands.</div> <div>3. Initially attach BLACK TAPE to location 1, 2, 3 and 4 using both hands</div>	n.a	<div>STANDARD TAPING FOR CLAMP</div> <div></div> <div>One side tape under clamp</div> <div><ol style="list-style-type: none">1. No flip-out tape2. No peel-off tape3. No loose tape4. No missing tape5. No wrong dimension6. No wrong use of 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

TAPING ASSEMBLY PROCESS

Effectivity Date:

February 8, 2022

Process Name/Title:

Validity Date:

n/a

Model Code/Product Number: 990B / 7N0142-7020

Customer: TRJ

Document No.:

WI-ENG-PDE-389

Purpose:

☐ PROTOTYPE☒ PRE-LAUNCH☐ MASSPRO

Revision No.:

0

page No.:

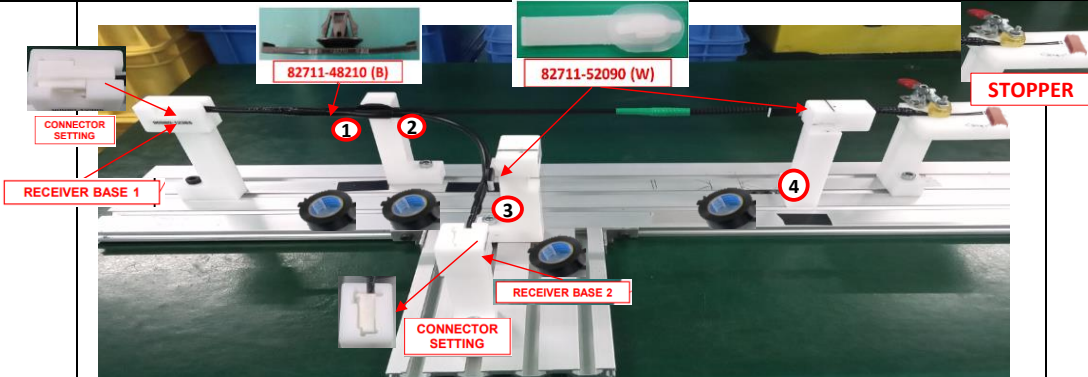
12 of 13

PARTS:

1. Assy parts
2. Black tape [4pcs]

JIG

Temporary clamp assembly jig

NO.	PROCESS NAME		WORK PROCEDURE/ ILLUSTRATION	TOOLS/PPE	QUALITY POINTERS
16	n/a	Clamp Assembly	<div></div> <div><p>1. Get the assy parts then put into jig. (See above picture for correct setting). First, set the connector 6098-3802 (W) to Receiver base 1. Then, set the connector 6098-2220 (W) to Receiver base 2 Continue to set the harness in jig. Last, set the end of B-B wire together within the stopper then press by Toggle clamp.</p><p>2. Combine the Vinyl 1 and Vinyl 2 using both hands. On clamp location 1 and 2, hold the tape then make 3 windings of tape then cut the tape. Press the SW button using both hands. Continue if the sequence light on clamp Location 3 was ON.</p><p>3. On clamp location 3, hold the tape then start taping using both hands. Make 3 windings of tape then cut the tape. Press the SW button after every taping. Proceed to location 4 after taping.</p><p>4. 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 every taping.</p><p>5. After taping, conduct POINT CHECKING before removing the harness from jig.</p></div>	n/a	<div><p>1. No flip-out tape</p><p>2. No peel-off tape</p><p>3. No loose tape</p><p>4. No missing tape</p><p>5. No wrong dimension</p><p>6. No wrong use of tape</p></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

TAPING ASSEMBLY PROCESS

Process Name/Title:

Model Code/Product Number: **990B / 7N0142-7020**

Customer: **TRJ**

Purpose: ☐ PROTOTYPE

☒ PRE-LAUNCH

☐ MASSPRO

Effectivity Date:

February 8, 2022

Validity Date:

n/a

Document No.:

WI-ENG-PDE-389

Revision No.:

0

Page No.:

13 of 13

PARTS:

n/a

JIG

n/a

NO.

PROCESS NAME

WORK PROCEDURE/ ILLUSTRATION

TOOLS/PPE

QUALITY POINTERS

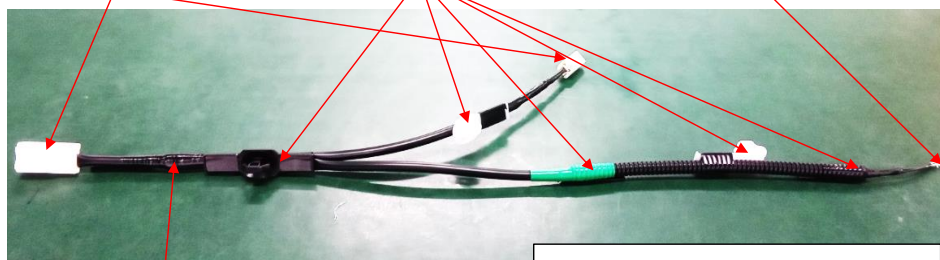
17

Visual/By two's
Inspection

1. Check the connector
lock.

2. Check the clamp attachment and taping
condition.

3. Check the terminal appearance.
Make sure no deformed terminal.



4. Check the Y-taping condition.

5. Compare to Master Sample
*Note: Please refer to GL-PRO-ASY-007 for By
Two's Inspection of Sub-Assy*

n/a

MASTER SAMPLE



n/a

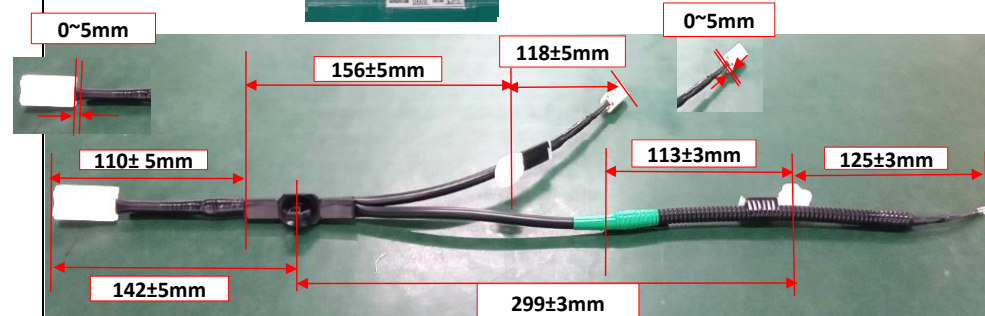
18

Measurement

MEASURING TAPE



Note:
Please use calibrated/verified measuring tape
when getting the measurement.



**NOTE: FOR HATSUMONO AND
OWARIMONO**

1.No wrong Dimension

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