

**WORK INSTRUCTION**

Process Name/Title:

TAPING ASSEMBLY PROCESS

Effectivity Date:

April 27, 2021

Product Name/Code:

241B / 7L0049-7021A

Customer:

TRQSS

Validity Date:

n/a

Purpose:

☐ PROTOTYPE☐ PRE-LAUNCH☒ MASSPRO

Document No.:

WI-ENG-PDE-176A

Revision No.:

3

Page No.:

1 of 12

PARTS:

3

1. Connector 6188-0066 (GR)

JIG:

1. Insertion jig with switch cover

NO.	PROCESS NAME	WORK PROCEDURE/ ILLUSTRATION	TOOLS/PPE	QUALITY POINTERS
1	P1 Connector setting to Insertion jig 6188-0066 (GR)	<p>Insertion jig with switch cover</p> <p>Orange wire Yellow wire I-mark Lock</p> <p>Visual reference</p> <p>Insertion jig Orientation</p> <p>Connector orientation</p> <p>1. Press the lock using left hand.</p> <p>2. Get the connector 6188-0066 (GR) using right hand and insert to insertion jig. Release the lock after insertion.</p> <p>3. Push the lower wire guide upward using right hand. Slot for yellow wire will be open.</p>	<p>Safety Instruction</p> <p>Be sure to wear prescribed personal protective equipment during operation (gloves, finger cots, etc.)</p> <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> <p>Alert level</p> <p>For any trouble, inform the Assembly Assistant Supervisor or Line Leader for immediate corrective action.</p>	<p>CONNECTOR ORIENTATION ILLUSTRATION</p> <p>I-mark is align 1 hole is open GOOD</p> <p>I-mark is not align 2 holes are open NG</p> <p>1. Use the provided jig per model 2. No wrong orientation of connector</p>

Revision History

Eff. Date	Rev. No	Details of Change	Revise	Check	Approve	Noted	Prepared by	Reviewed by	Approved by	Noted by
04/27/21	3	Change connector color in accordance with color standardization for plastic parts refer to GL-COM-003 Put assy parts on pg.3 and 10 parts section	J. Loterte	C. Villanueva	A. Shimamura	A. Arañes				
09/30/20	2	Changed process owner from Production (WI-PRO-ASY-114A) to Engineering (WI-ENG-PDE-176A); Apply some improvements; Update some pictures	J. Loterte	R. Peñaloza	A. Shimamura	A. Arañes				
03/16/18	0	Previously established Engineering Instruction (EI-ENG-PDE-026). Initial issue.	S. Manalo	R. Alcantara	A. Arañes	n/a	J. Loterte	C. Villanueva	A. Shimamura	A. Arañes
Est. Date:							November 8, 2018			

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:

Product Name/Code: **241B / 7L0049-7021A**

Customer: **TRQSS**

Purpose: ☐ PROTOTYPE

☐ PRE-LAUNCH

☒ MASSPRO

Effectivity Date:

April 27, 2021

Validity Date:

n/a

Document No.:

WI-ENG-PDE-176A

Revision No.:

3

Page No.:


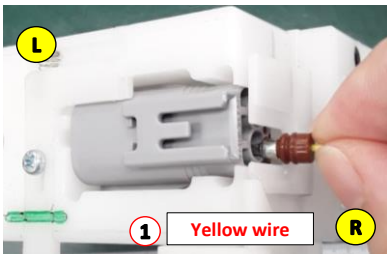
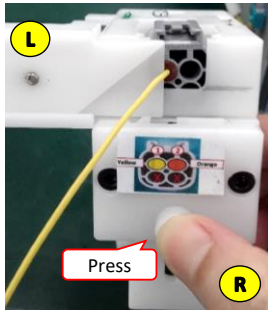
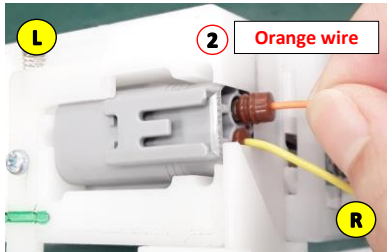
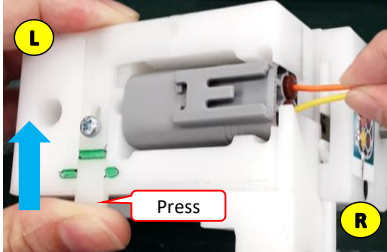
2 of 12

PARTS:

1. AVSSf 0.3 wires Y L=380mm, OR L=380mm

JIG

1. Insertion jig with switch cover

NO.	PROCESS NAME	WORK PROCEDURE/ ILLUSTRATION	TOOLS/PPE	QUALITY POINTERS
2	P1 Wire Insertion to connector 6188-0066 (GR)	 <p>Wire facing</p>  <p>1. Hold the insertion jig using left hand. Get the Yellow wire and insert to connector using right hand.</p>  <p>2. Press the button using right thumb. slot for Orange wire will be open.</p>  <p>3. Get the Orange wire and insert to connector using right hand.</p>  <p>4. After insertion, push the lock using left thumb and then hold the wires and gently pull out the connector from jig using right hand.</p>	n/a	<ul style="list-style-type: none">1. No loose insertion2. No wrong insertion3. One by one insertion4. No deformed terminal5. No wrong wire facing <p>Make sure wires are properly inserted. Conduct Pull-Push-Pull-Push after insertion. Do not exert extra force.</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**Product Name/Code: **241B / 7L0049-7021A**Customer: **TRQSS**Purpose: ☐ PROTOTYPE☐ PRE-LAUNCH☒ MASSPRO

Effectivity Date:

April 27, 2021

Validity Date:

n/a

Document No.:

WI-ENG-PDE-176A

Revision No.:

3

Page No.:

3 of 12

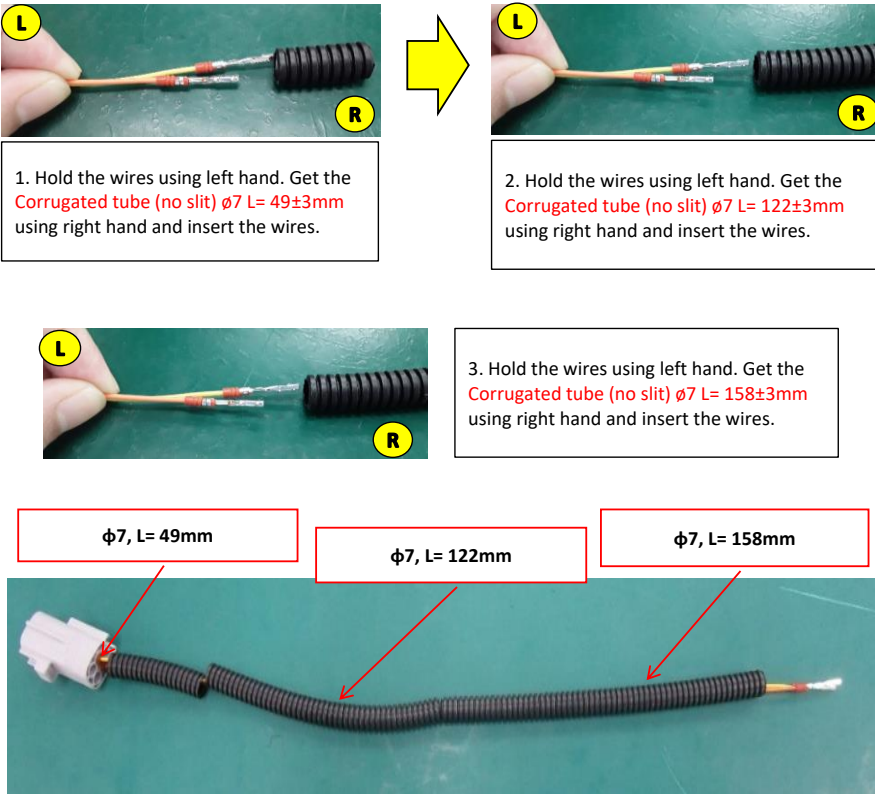
PARTS:

1. Black Corrugated tube (no slit) $\phi 7$ L= 49 \pm 3mm
2. Black Corrugated tube (no slit) $\phi 7$ L= 122 \pm 3mm

3. Black Corrugated tube (no slit) $\phi 7$ L= 158 \pm 3mm
4. Assy parts

JIG

n/a

NO.	PROCESS NAME	WORK PROCEDURE/ ILLUSTRATION	TOOLS/PPE	QUALITY POINTERS
3	P1 Wire insertion to COT (no slit) $\phi 7$ L= 49 \pm 3mm $\phi 7$ L= 122 \pm 3mm $\phi 7$ L= 158 \pm 3mm	 <p>1. Hold the wires using left hand. Get the Corrugated tube (no slit) $\phi 7$ L= 49\pm3mm using right hand and insert the wires.</p> <p>2. Hold the wires using left hand. Get the Corrugated tube (no slit) $\phi 7$ L= 122\pm3mm using right hand and insert the wires.</p> <p>3. Hold the wires using left hand. Get the Corrugated tube (no slit) $\phi 7$ L= 158\pm3mm using right hand and insert the wires.</p> <p>$\phi 7$, L= 49mm $\phi 7$, L= 122mm $\phi 7$, L= 158mm</p>	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:

Product Name/Code:

241B / 7L0049-7021A

Customer:

TRQSS

Purpose:

☐ PROTOTYPE

☐ PRE-LAUNCH

☒ MASSPRO

Effectivity Date:

April 27, 2021

Validity Date:

n/a

Document No.:

WI-ENG-PDE-176A

Revision No.:

3

Page No.:

4 of 12

PARTS:

1. Connector 6189-1161 (B)

JIG

1. Insertion jig

NO.

PROCESS NAME

WORK PROCEDURE/ ILLUSTRATION

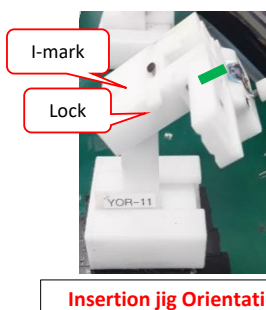
TOOLS/PPE

QUALITY POINTERS

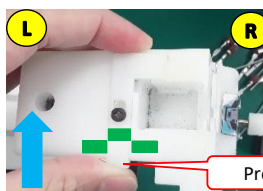
4

P1

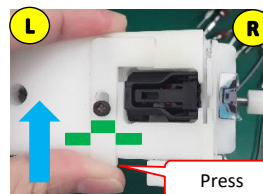
Connector setting to insertion jig 6189-1161 (B)



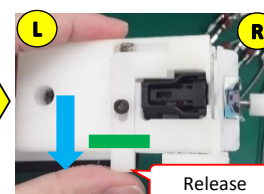
Connector Orientation



1. Press the lock using left hand.



2. Get the connector 6189-1161 (B) using right hand and insert to insertion jig. Release the lock after insertion.

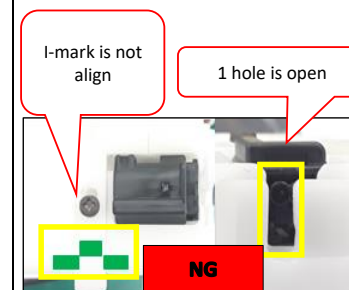


3. Push the lower wire guide upward using right hand. Slot for yellow wire will be open.



n/a

CONNECTOR ORIENTATION ILLUSTRATION



1. Use the provided jig per model
2. No wrong orientation of connector

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:

Product Name/Code:

241B / 7L0049-7021A

Customer:

TRQSS

Purpose:



PROTOTYPE



PRE-LAUNCH



MASSPRO

Effectivity Date:

April 27, 2021

Validity Date:

n/a

Document No.:

WI-ENG-PDE-176A

Revision No.:

3

Page No.:

5 of 12

PARTS:

1. Assy parts

JIG

1. Insertion jig

NO.

PROCESS NAME

WORK PROCEDURE/ ILLUSTRATION


TOOLS/PPE

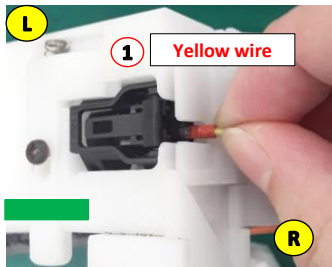
QUALITY POINTERS

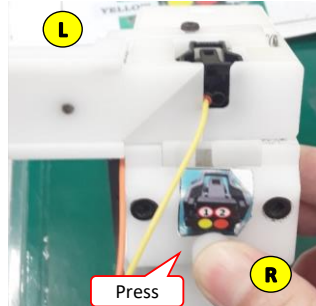
5

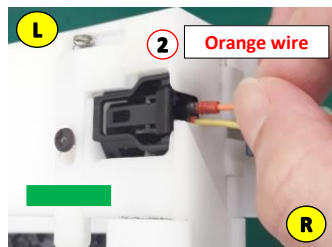
P1

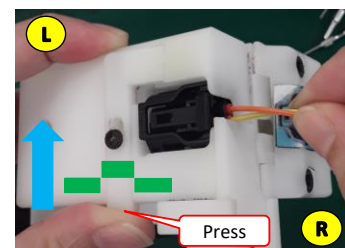
Wire Insertion to
Connector
6189-1161
(B)

 Wire facing

 **1** Yellow wire

 **2** Press

 **3** Orange wire

 **4** Press

n/a

1. No loose insertion
2. No wrong insertion
3. One by one insertion
4. No deformed terminal
5. No wrong wire facing

Make sure wires are properly inserted.
Conduct **Pull-Push-Pull-Push** after
insertion.
Do not exert extra force.

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:

April 27, 2021

Process Name/Title:

Product Name/Code:

241B / 7L0049-7021A

Customer:

TRQSS

Validity Date:

n/a

Document No.:

WI-ENG-PDE-176A

Purpose:

☐ PROTOTYPE

☐ PRE-LAUNCH

☒ MASSPRO

Revision No.:

3

Page No.:

6 of 12

PARTS:

1. Black tape
2. Assy parts

JIG

1. Locking jig

NO.

PROCESS NAME

WORK PROCEDURE/ ILLUSTRATION

TOOLS/PPE

QUALITY POINTERS

6

Connector lock



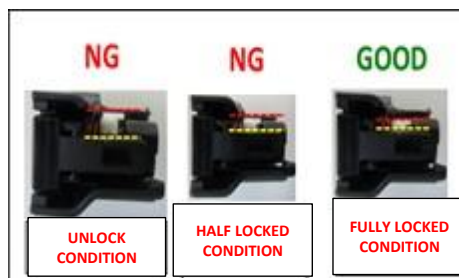
1. Put the connector into locking jig and push down to lock using right thumb.



Before pressing



After Pressing



LOCKING JIG

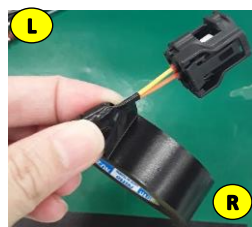


1. No unlock/half-locked connector
2. No damaged lock

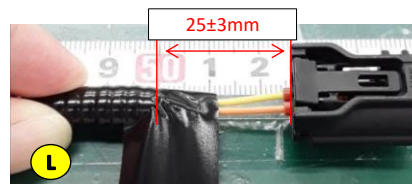
7

P1

Taping 1
COT to wire near
connector

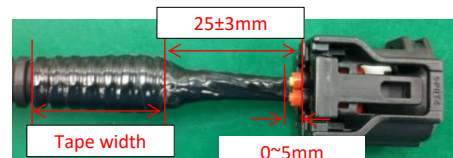


1. Hold the assy parts using left hand, get Black tape and conduct pre-taping using right hand.



2. Hold the assy parts using left hand and measure from COT to connector 25 ± 3 mm. Continue taping process.

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



3. Check the measurement and taping condition after taping.

MEASURING TAPE



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

- 1.No flip out tape.
- 2.No tape peeling.
- 3.No loose 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: **241B / 7L0049-7021A**

Customer: **TRQSS**

Purpose: ☐ PROTOTYPE

☐ PRE-LAUNCH

☒ MASSPRO

Effectivity Date:

April 27, 2021

Validity Date:

n/a

Document No.:

WI-ENG-PDE-176A

Revision No.:

3

Page No.:

7 of 12

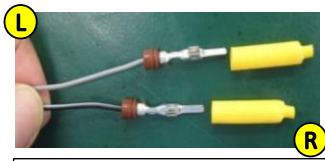
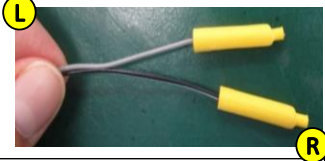
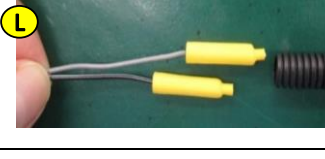
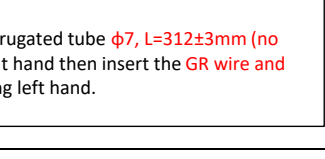

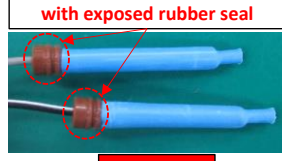
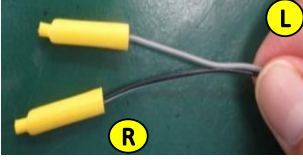
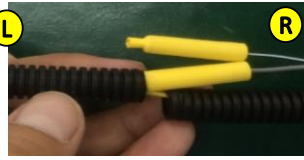
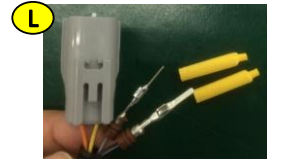
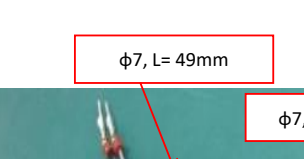

PARTS:

1. Black Corrugated tube $\phi 7$ L= 312 \pm 3mm (no slit)
2. MRSW CP A7475-7L00491-7050

3. Assy parts

JIG

1. Terminal cover jig

NO.	PROCESS NAME	WORK PROCEDURE/ ILLUSTRATION	TOOLS/PPE	QUALITY POINTERS
8	Wire insertion to COT $\phi 7$ L= 312 \pm 3mm (no slit)	    <p>1. Get the terminal cover jig using right hand then insert to both terminals (GR-B/W wires) using right hand.</p> <p>2. Get the corrugated tube $\phi 7$, L=312\pm3mm (no slit) using right hand then insert the GR wire and B/W wire using left hand.</p>		 GOOD  NG
9	Wire insertion to Assy	    <p>1. Hold the assy parts COT $\phi 7$ L= 122\pm3mm (no slit) using left hand then insert the GR-B/W wires, next hold the COT $\phi 7$ L= 49\pm3mm (no slit) then insert the GR-B/W wires, using right hand.</p> <p>2. After insertion, remove the terminal cover jig using right hand.</p> <p>$\phi 7$, L= 49mm</p> <p>$\phi 7$, L= 122mm</p>		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:

Product Name/Code: **241B / 7L0049-7021A**

Customer: **TRQSS**

Purpose: ☐ PROTOTYPE

☐ PRE-LAUNCH

☒ MASSPRO

Effectivity Date:

April 27, 2021

Validity Date:

n/a

Document No.:

WI-ENG-PDE-176A

Revision No.:

3

Page No.:

8 of 12

PARTS:

1. Assy parts

JIG

1. Insertion jig

NO.

PROCESS NAME

WORK PROCEDURE/ ILLUSTRATION

TOOLS/PPE

QUALITY POINTERS

10

P1

3

Connector setting to
insertion jig
6188-0066 (GR)

Lock **I-mark** **Holes** **Visual Reference** **Push Button**

Connector Orientation

L **R** **Press**

1. Press the lock of insertion jig using left thumb.

2. Insert the connector **6188-0066 (GR)** with inserted Yellow/Orange wire using right hand.

3. Press the lower wire guide of insertion jig using left thumb. The slot for **GR wire** will be open.

n/a

Connector Orientation Illustration

I-mark is align **1 Hole is open**

GOOD

I-mark is not align **2 Holes are open**

NG

1. Use the provided jig per model
2. No wrong facing of connector

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:

Product Name/Code:

241B / 7L0049-7021A

Customer:

TRQSS

Purpose:



PROTOTYPE



PRE-LAUNCH



MASSPRO

Effectivity Date:

April 27, 2021

Validity Date:

n/a

Document No.:

WI-ENG-PDE-176A

Revision No.:

3

Page No.:

9 of 12

PARTS:

1. Assy parts

JIG

1. Insertion jig

NO.

PROCESS NAME

WORK PROCEDURE/ ILLUSTRATION

TOOLS/PPE

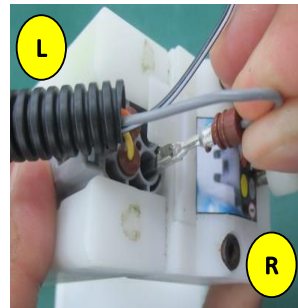
QUALITY POINTERS

11

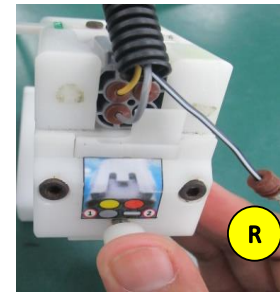
P1



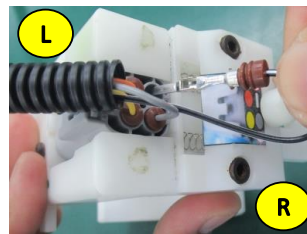
Wire Insertion to
connector
6188-0066
(GR)



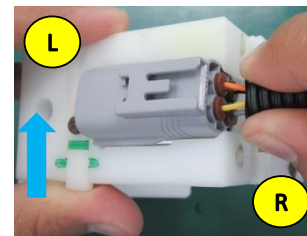
1. Hold the **GR wire** then insert to terminal slot ① using right hand.



2. Press the button using right thumb. The slot for **B/W wire** will be open.



3. Hold the **B/W wire** then insert to terminal slot ② using right hand.



4. After insertion, push the lock using left thumb and then hold the wires and gently pull out the connector from jig using right hand.

n/a

1. No loose insertion
2. No wrong insertion
3. One by one insertion
4. No deformed terminal
5. No wrong wire facing

Make sure wires are properly inserted.
Conduct **Pull-Push-Pull-Push** after insertion.
Do not exert extra force.

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: **241B / 7L0049-7021A**

Customer: **TRQSS**

Purpose: ☐ PROTOTYPE

☐ PRE-LAUNCH

☒ MASSPRO

Effectivity Date:

April 27, 2021

Validity Date:

n/a

Document No.:

WI-ENG-PDE-176A

Revision No.:

3

Page No.:

10 of 12

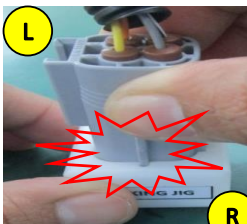





PARTS:

- Corrugated tube $\varnothing 5$ L= 49 \pm 3mm (no slit)
- AVSSf 0.3 wires B L=692mm [2pcs]

3. Assy parts

JIG

- Locking jig

NO.	PROCESS NAME	WORK PROCEDURE/ ILLUSTRATION	TOOLS/PPE	QUALITY POINTERS
12	Connector lock	 <p>1. Put the connector into locking jig using both hands and then press. Check the connector if properly locked.</p>  <p>Before pressing</p>  <p>After pressing</p> <p>Coupler Cross Sectional View</p>  <p>NG NG GOOD</p> <p>Unlock Half Lock Condition Full Lock Condition</p>	<p>LOCKING JIG</p> 	<p>NOTE: MANUAL LOCKING MAY CAUSED DAMAGED LOCK</p> <ol style="list-style-type: none">No unlock/half-locked connector
13	Wire insertion to Corrugated tube $\varnothing 5$ L= 49 \pm 3mm (no slit)	 <p>1. Get the corrugated tube $\varnothing 5$ L=49\pm3mm using left hand then insert the Black wires (n=2) wires using right hand.</p>	n/a	<ol style="list-style-type: none">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:

Product Name/Code: **241B / 7L0049-7021A**

Customer: **TRQSS**

Purpose: ☐ PROTOTYPE

☐ PRE-LAUNCH

☒ MASSPRO

Effectivity Date:

April 27, 2021

Validity Date:

n/a

Document No.:

WI-ENG-PDE-176A

Revision No.:

3

Page No.:

11 of 12

PARTS:

1. Connector 6098-3810 (W)

JIG

1. Insertion jig

NO.

PROCESS NAME

WORK PROCEDURE/ ILLUSTRATION

TOOLS/PPE

QUALITY POINTERS

14

P1



Connector insertion to
insertion jig
6098-3810 (W)

INSERTION JIG

Holes

Lock

I-MARK

I-MARK

Holes

Connector orientation

Insertion jig orientation

L

Press

R

Press

L

Release

1. Press the lock of insertion jig using left thumb.

2. Insert the connector **6098-3810 (W)** into jig using right hand and release the lock.

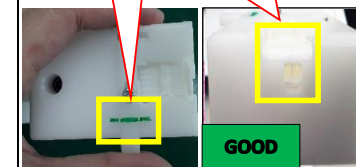
3. Check the holes/terminal slot for **B/B wires**.

n/a

Connector Orientation
Illustration

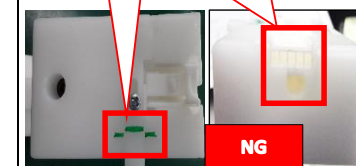
I-mark is
align

2 holes are
open



I-mark is
not align

All holes are
open



1. Use provided jig per model
2. No wrong orientation of connector

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: **241B / 7L0049-7021A**Customer: **TRQSS**Purpose: ☐ PROTOTYPE☐ PRE-LAUNCH☒ MASSPRO

Effectivity Date:

April 27, 2021

Validity Date:

n/a

Document No.:





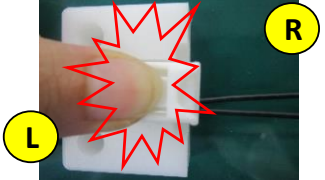



WI-ENG-PDE-176A

Revision No.:

3

Page No.:

12 of 12

PARTS:	1. Assy parts			JIG	1. Insertion jig 2. Locking jig
NO.	PROCESS NAME	WORK PROCEDURE/ ILLUSTRATION		TOOLS/PPE	QUALITY POINTERS
15	P1 3 Wire insertion to connector 6098-3810 (W)	<div data-bbox="840 416 1043 488"></div> <div data-bbox="629 491 954 655"></div> <div data-bbox="595 660 1010 788"><p>1. Get the first Black wire and insert to terminal slot ① using right hand. <i>Note: Insertion sequence starts from left to right.</i></p></div> <div data-bbox="1122 491 1447 655"></div> <div data-bbox="1077 660 1491 788"><p>2. Get the 2nd Black wire and insert to terminal slot ② using right hand.</p></div> <div data-bbox="685 799 1010 979"></div> <div data-bbox="1025 836 1406 979"><p>3. After insertion, push the lock using left thumb and then hold the wires and gently pull out the connector from jig using right hand.</p></div>		N/A	<p>1. No loose insertion 2. No wrong insertion 3. One by one insertion 4. No deform terminal 5. No wrong wire facing</p> <p>Make sure wires are properly inserted. Conduct Pull-Push-Pull-Push after insertion. Do not exert extra force.</p>
16	Connector Lock	<div data-bbox="607 1018 931 1198"></div> <div data-bbox="1043 1018 1256 1198"></div> <div data-bbox="1279 1018 1491 1198"></div> <div data-bbox="595 1235 1267 1315"><p>Put the connector into locking jig then press the 2x. Touch the connector lock to confirm if properly locked. <i>Note: Please refer to GL-PRO-ASY-017 for the verification of connector lock.</i></p></div>		<p>LOCKING JIG</p> 	<p>NOTE: MANUAL LOCKING MAY CAUSE DAMAGED LOCK.</p> <p>1. Use the provided jig per model 2. No half-lock/unlock connector</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