



## WORK INSTRUCTION

## TAPING ASSEMBLY PROCESS

Effectivity Date:

March 12, 2025

Process Name/Title:

Model code/Part number:

559D / 7N0238-7020B

Customer: TRJ

Car Model: TOYOTA HI-ACE

Document No.:

WI-ENG-PDE-974B

Purpose:

☐ PROTOTYPE☐ PRE-LAUNCH☒ MASSPRO

Revision No.:

0

Page No.:

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## PARTS:

1. Assy Parts; Clamp 82712-1E360 (W).

JIG:

1. Insertion jig
2. Tesa tape cutter
3. Locking jig
4. Tape holder

NO.

PROCESS NAME

WORK PROCEDURE/ ILLUSTRATION

TOOLS/PPE

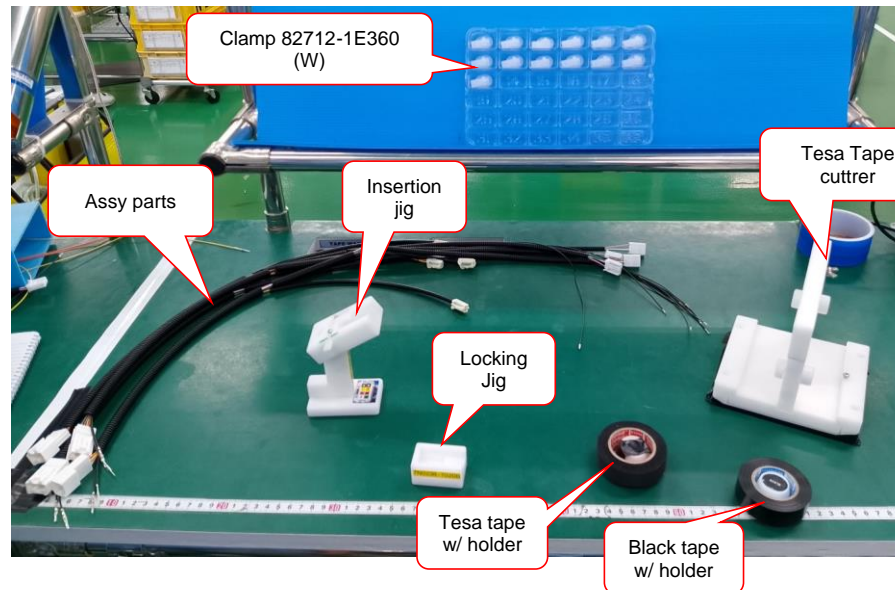
QUALITY POINTERS

1

P2

Table Lay-out

## TABLE LAY-OUT

**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

## Revision History

Prepared by

Checked by

Reviewed by

Approved by

03/12/25 0 Initial issue.

A.Hernandez

J.Loterte

C.Villanueva

A.Arañes

A.Hernandez

J.Loterte

C.Villanueva

A.Arañes

Eff. Date

Rev. No

Details of Change

Revised

Checked

Reviewed

Approved

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March 12, 2025

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PARTS:		1. Assy Parts		JIG:	1. Insertion Jig
NO.	PROCESS NAME	WORK PROCEDURE/ ILLUSTRATION		TOOLS/PPE	QUALITY POINTERS
2	P2	<div><div><p>Insertion Jig</p></div><div><p>Insertion Jig Orientation</p></div><div><p>Connector Orientation</p></div><div><p>1. Press the lock of insertion jig using left thumb.</p></div><div><p>2. Insert the connector 7286-4097 (W) into jig using right hand and release the lock.</p></div><div><p>3. Check the holes/terminal slot for B-B wire.</p></div></div>		n/a	<div><p>Connector Orientation Illustration</p><div><p>I-mark is align</p></div><div><p>2 Holes are widely open</p></div><p>GOOD</p><div><p>I-mark is align</p></div><div><p>2 holes are partially open.</p></div><p>NG</p></div> <p>1. Use provided jig per model 2. No wrong usage of parts 3. No wrong orientation of connector 4. No damaged connector</p>

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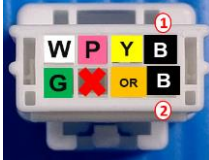


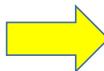

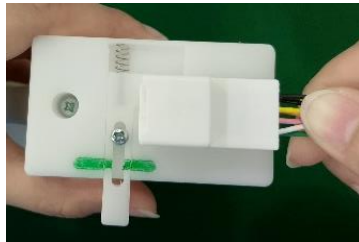
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PARTS:	1. Assy Parts			JIG:	n/a
NO.	PROCESS NAME	WORK PROCEDURE/ ILLUSTRATION		TOOLS/PPE	QUALITY POINTERS
3	P2	<div><div><p>Visual reference</p></div><div><p>Terminal facing</p></div><div><p>2. Get the second <b>Black wire</b> and insert to slot 2. Conduct <b>2x push-pull</b> after wire insertion.</p></div><div><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></div> <div>n/a</div> <td><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><b>Important reminders/Note/s:</b> <b>1. Please hold the wire near terminal.</b> <b>2. Make sure wires are properly inserted.</b> <b>Conduct Pull-Push-Pull-Push after insertion.</b> <b>Do not exert extra force.</b></p><p><b>Document references:</b> <b>1. Refer to GL-PRO-ASY-029 for Pull-Push procedure.</b> <b>2. Refer to WI-PRO-CNC-017 for Wire and Strip Length Tolerance</b></p></td>		<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><b>Important reminders/Note/s:</b> <b>1. Please hold the wire near terminal.</b> <b>2. Make sure wires are properly inserted.</b> <b>Conduct Pull-Push-Pull-Push after insertion.</b> <b>Do not exert extra force.</b></p> <p><b>Document references:</b> <b>1. Refer to GL-PRO-ASY-029 for Pull-Push procedure.</b> <b>2. Refer to WI-PRO-CNC-017 for Wire and Strip Length Tolerance</b></p>	

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PROTOTYPE



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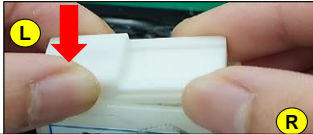
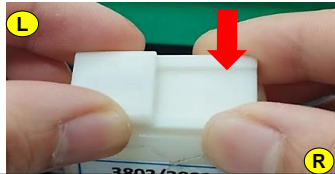
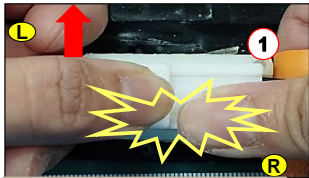
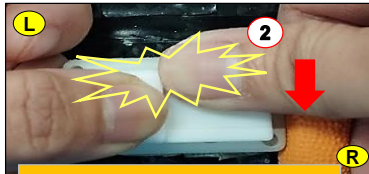

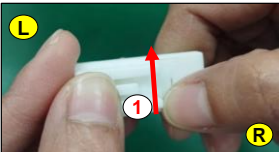

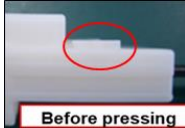


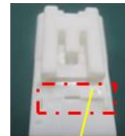
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PARTS:	1. Assy parts		JIG:	1. Locking Jig
NO.	PROCESS NAME	WORK PROCEDURE/ ILLUSTRATION	TOOLS/PPE	QUALITY POINTERS
4	P2 Connector lock	<div><div><p>1. Load the connector into the jig holding both side of the connector, tip first.</p></div><div><p>2. Press the lower part of connector to fully insert into the locking jig.</p></div><div><p>Right thumb-Lower Left thumb-middle</p><p>3. Press the lower parts of connector using right hand while left hand holding the middle.</p></div><div><p>Right thumb-upper thumb-middle      Left</p><p>4. Press the upper part of connector using right hand while left hand holding the middle.</p></div><div><p>Right thumb-middle Left thumb-middle</p><p>5. Lift then press the connector in the middle using left and right hand.</p></div><div><p>6. Ensure that connector is in locked condition by slide touching the connector lock based on the sequence illustrated.</p></div></div> <div><div>LOCKING JIG</div></div> <div><div><p>Before pressing</p><p>After pressing</p></div><div><div><b>GOOD</b> <p>Full Lock</p></div><div><b>NG</b> <p>Half Lock</p></div></div></div> <div><p>1. Use the provided jig per model 2. No unlocked/half-locked connector</p><p><b>Important reminders/Note/s:</b></p><p><b>1. MANUAL LOCKING MAY CAUSE DAMAGED CONNECTOR LOCK</b> <b>2. Use provided jig tool per model to avoid damaged lock.</b></p><p><b>Document references:</b></p><p><b>1. Refer to GL-PRO-ASY-017 for the verification of connector lock.</b></p></div>		

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PARTS:	1. Assy parts			JIG:	n/a
NO.	PROCESS NAME	WORK PROCEDURE/ ILLUSTRATION		TOOLS/PPE	QUALITY POINTERS
5	P2  Clip attachment (Clip type clamp)	<div data-bbox="857 416 1126 587"></div> <div data-bbox="808 592 1135 655"><b>CLAMP ORIENTATION</b></div> <div data-bbox="557 665 987 935"></div> <div data-bbox="1043 665 1469 935"></div> <div data-bbox="557 963 1435 1038"><p>1. Hold the Connector using left hand, get the clip type clamp <b>82711-1E360 (W)</b> then insert the clamp using right hand. <b>Note: Sound will be heard if properly inserted.</b></p></div>		n/a	<div data-bbox="1776 459 2112 496"><b>CLIP CLAMP ILLUSTRATION</b></div> <div data-bbox="1742 531 1850 568"><b>GOOD</b></div> <div data-bbox="1854 499 2112 608"></div> <div data-bbox="1899 608 2063 632"><b>82711-1E360 (W)</b></div> <div data-bbox="1742 675 1850 711"><b>NG</b></div> <div data-bbox="1854 639 2112 748"></div> <div data-bbox="1899 748 2063 772"><b>82711-12B10 (W)</b></div> <div data-bbox="1727 820 1951 887"><p>1. No wrong used of clamp 2. No damaged clamp 3. No missing clamp</p></div>

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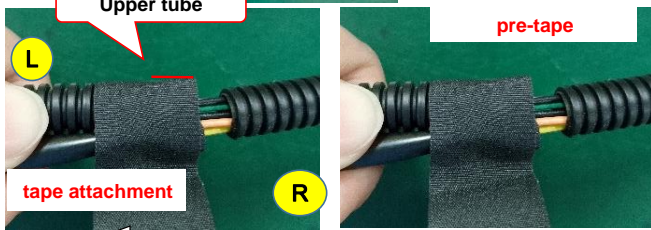
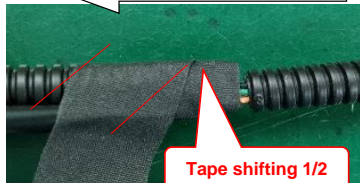
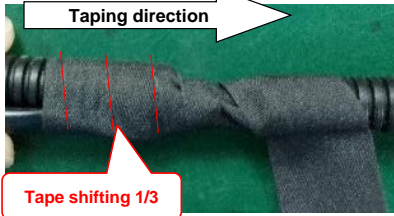
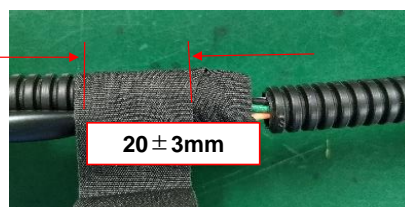
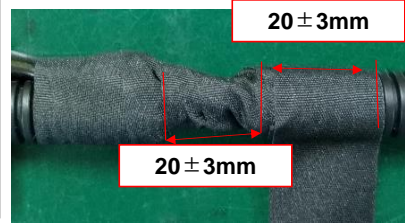
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PARTS:		1. Assy Parts 2. Black Tesa Tape		JIG:	1. Tesa Tape Cutter
NO.	PROCESS NAME	WORK PROCEDURE/ ILLUSTRATION		TOOLS/PPE	QUALITY POINTERS
6	P2	<div><div></div><div><div>1. Fix the 3 corrugated tube. <b>Note: Follow the correct facing. (If need to standard)</b></div></div><div><div></div><div><div>2. Start taping at the middle of combined tubes, attach the tape on the upper tube. Then make pre-tape <b>2 windings</b>. <b>Note: Do not exert excessive force during pulling &amp; winding of tape.</b></div></div><div><div></div><div><div>3. Winding the tape <b>1/2 shifting</b> going to the left side.</div></div><div><div></div><div><div>5. Winding the tape <b>1/3 shifting</b> going to the right side until reach the other side of tube.</div></div><div><div></div><div><div>4. Make <b>2 windings</b>, width must be - <b>20±2mm</b>.</div></div><div><div></div><div><div>6. Make <b>2 windings</b>, width must be <b>20±3mm</b>.</div></div></div></div></div></div></div></div>			<div><b>Document reference/s:</b> <b>1. Refer to WI-PRO-ASY-001C for taping procedure (special).</b></div> <div><b>Important reminders/Note/s:</b> <b>1. Use yellow tape for easy visualization of tape shifting, but actual should be BLACK TAPE.</b> <b>2. Please use calibrated/verified measuring tape when getting the measurement.</b></div> <div>1. No loose tape 2. No flip-out tape 3. No peel-off tape 4. No wrong use of tape 5. No wrong dimension-out tape 6. No exposed wire 7. No gap between tubes</div>

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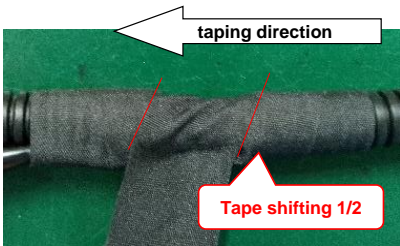

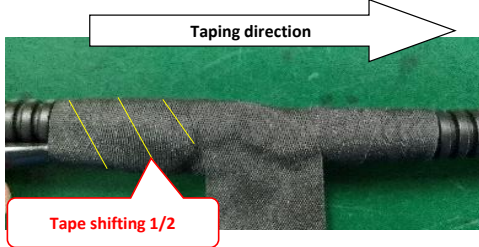
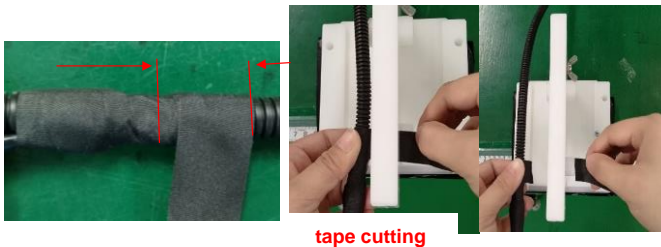
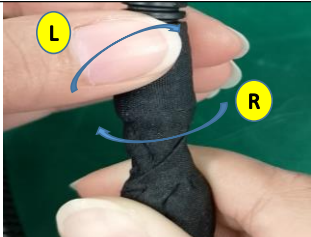

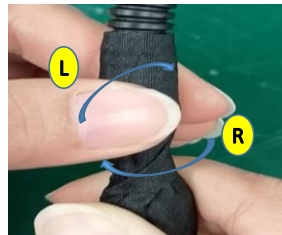
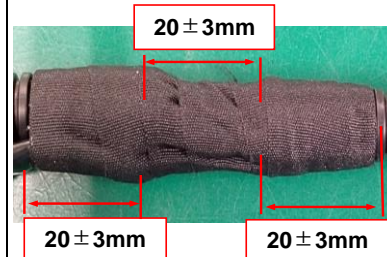
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PARTS:		1. Assy Parts 2. Black Tesa Tape		JIG:	1. Tesa Tape Cutter
NO.	PROCESS NAME	WORK PROCEDURE/ ILLUSTRATION		TOOLS/PPE	QUALITY POINTERS
6	P2 Taping 1 Y-Taping (continuation)	<div><p>7. Winding the tape <b>1/2 shifting</b> going to the left side.</p></div> <div><p>8. Make <b>2 windings</b>, width must be - <b>20±3mm</b>.</p></div> <div><p>9. Winding the tape <b>1/2 shifting</b> going to the right side until it reach the other side of tube</p></div> <div><p>10. Make <b>3 winds</b>, width must be <b>20±3mm</b>. Then cut the tape.</p></div> <div><p>11. conduct proper pressing of end tape using left hand (<b>top part</b>). <b>Note: Reference only.</b></p></div> <div><p>12. conduct proper pressing of end tape using left hand (<b>Middle part</b>). <b>Note: Reference only.</b></p></div> <div><p>13. conduct proper pressing of end tape using left hand (<b>bottom part</b>).</p></div> <div><p>14. Check the Measurement and condition of tape.</p></div>			<p><b>Document reference/s:</b> <b>1. Refer to WI-PRO-ASY-001C for taping procedure (special).</b></p> <p><b>Important reminders/Note/s:</b> <b>1. Use yellow tape for easy visualization of tape shifting, but actual should be BLACK TAPE.</b> <b>2. Please use calibrated/verified measuring tape when getting the measurement.</b></p> <ul style="list-style-type: none"><li>1. No loose tape</li><li>2. No flip-out tape</li><li>3. No peel-off tape</li><li>4. No wrong use of tape</li><li>5. No wrong dimension-out tape</li><li>6. No exposed wire</li><li>7. No gap between tubes</li></ul>

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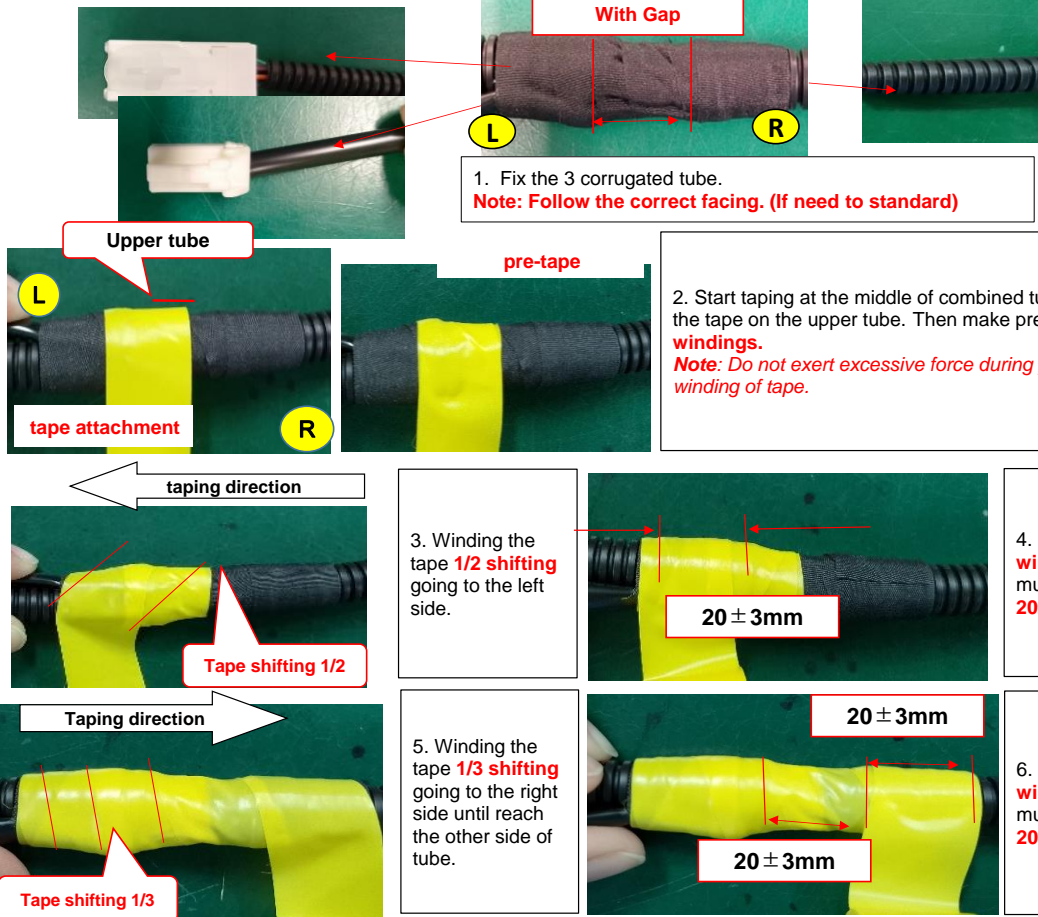
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PARTS:		1. Assy Parts 2. Black Tape		JIG:	n/a
NO.	PROCESS NAME	WORK PROCEDURE/ ILLUSTRATION		TOOLS/PPE	QUALITY POINTERS
7	P2 Taping 2 Y-Taping	 <p>With Gap</p> <p>L R</p> <p>1. Fix the 3 corrugated tube. <b>Note: Follow the correct facing. (If need to standard)</b></p> <p>Upper tube</p> <p>pre-tape</p> <p>tape attachment</p> <p>L R</p> <p>taping direction</p> <p>Tape shifting 1/2</p> <p>Taping direction</p> <p>Tape shifting 1/3</p> <p>2. Start taping at the middle of combined tubes, attach the tape on the upper tube. Then make pre-tape <b>2 windings</b>. <b>Note: Do not exert excessive force during pulling &amp; winding of tape.</b></p> <p>3. Winding the tape <b>1/2 shifting</b> going to the left side.</p> <p>4. Make <b>2 windings</b>, width must be - <b>20±2mm</b>.</p> <p>5. Winding the tape <b>1/3 shifting</b> going to the right side until reach the other side of tube.</p> <p>6. Make <b>2 windings</b>, width must be <b>20±3mm</b>.</p>			<p><b>Document reference/s:</b> <b>1. Refer to WI-PRO-ASY-001C for taping procedure (special).</b></p> <p><b>Important reminders/Note/s:</b> <b>1. Use yellow tape for easy visualization of tape shifting, but actual should be BLACK TAPE.</b> <b>2. Please use calibrated/verified measuring tape when getting the measurement.</b></p> <p>1. No loose tape 2. No flip-out tape 3. No peel-off tape 4. No wrong use of tape 5. No wrong dimension-out tape 6. No exposed wire 7. No gap between tubes</p>

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### PARTS:

1. Assy Parts
2. Black Tape

JIG:

n/a

NO.

PROCESS NAME

WORK PROCEDURE/ ILLUSTRATION

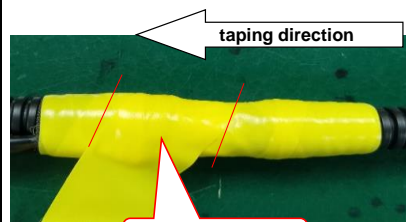
TOOLS/PPE

QUALITY POINTERS

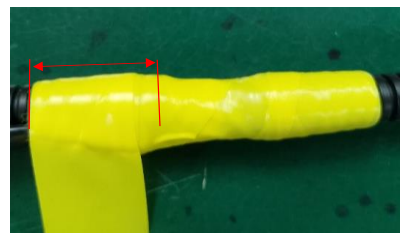
7

P2

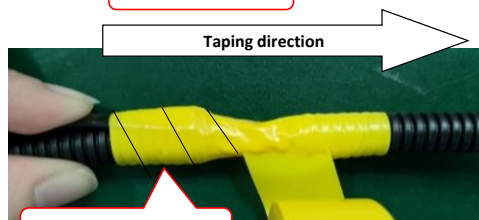
Taping 1  
Y-Taping  
(continuation)



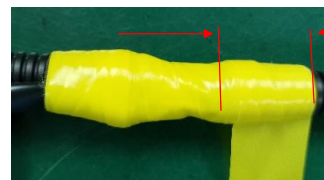
7. Winding the tape **1/2 shifting** going to the left side.



8. Make **2 windings**, width must be - **20±3mm**.

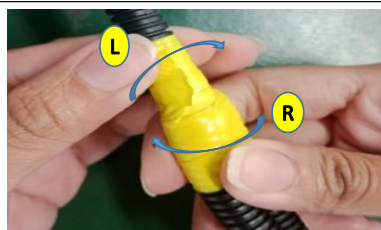


9. Winding the tape **1/2 shifting** going to the right side until it reach the other side of tube



tape cutting

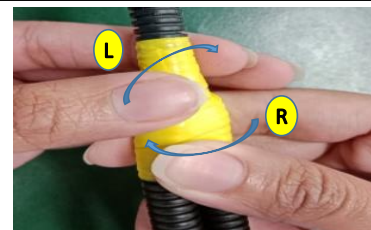
10. Make **3 winds**, width must be **20±3mm**. Then cut the tape.



11. conduct proper pressing of end tape using left hand (**top part**).  
**Note: Reference only.**



12. conduct proper pressing of end tape using left hand (**Middle part**).  
**Note: Reference only.**



13. conduct proper pressing of end tape using left hand (**bottom part**).

### Document reference/s:

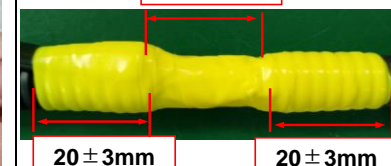
1. Refer to WI-PRO-ASY-001C for taping procedure (special).

### Important reminders/Note/s:

1. Use yellow tape for easy visualization of tape shifting, but actual should be **BLACK TAPE**.  
2. Please use calibrated/verified measuring tape when getting the measurement.

1. No loose tape
2. No flip-out tape
3. No peel-off tape
4. No wrong use of tape
5. No wrong dimension-out tape
6. No exposed wire
7. No gap between tubes

20 ± 3mm



20 ± 3mm

20 ± 3mm

14. Check the Measurement and condition of tape.

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# WORK INSTRUCTION

Process Name/Title:

## TAPING ASSEMBLY PROCESS

Effectivity Date:

March 12, 2025

Validity Date:

n/a

Model code/Part number:

559D / 7N0238-7020B

Customer: TRJ

Car Model: TOYOTA HI-ACE

Document No.:

WI-ENG-PDE-974B

Purpose:



PROTOTYPE



PRE-LAUNCH



MASSPRO

Revision No.:

0

Page No.:

10 of 10

PARTS:

n/a

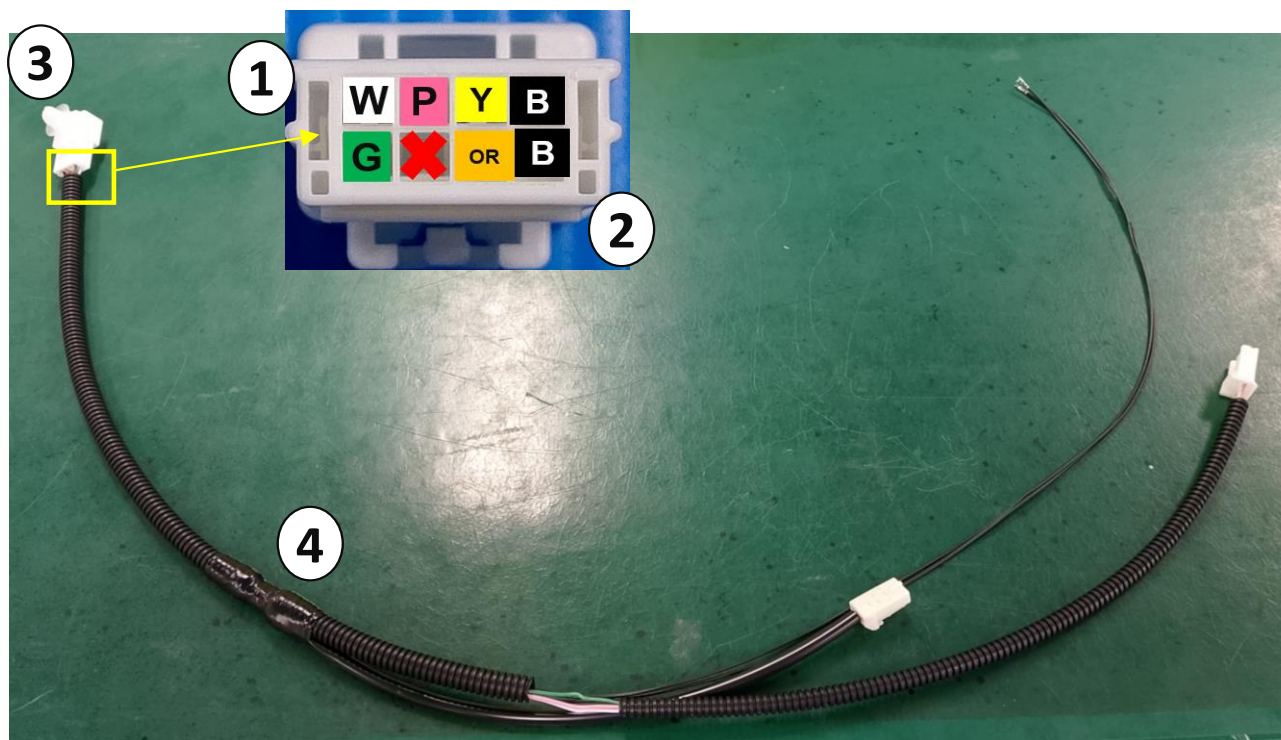
JIG:

n/a

### VISUAL INSPECTION/ QUALITY CHECKPOINTS

## TAPING - P2

## PART NUMBER



- 1 No Unlocked/  
Half-locked connector
- 2 No Wrong Insert
- 3 No Missing Clip Clamp
- 4 No Missing Tesa Taping
- 5 No Wrong Facing of Y-  
Taping
- 6 No Deformed terminal
- 7 No Terminal backing  
out

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