

|  |   |  |  |  |                      |  |                   |  |                        |           |
|--|---|--|--|--|----------------------|--|-------------------|--|------------------------|-----------|
|  | <b>WORK INSTRUCTION</b>   |  |  |  |                      |  | Effectivity Date: |  | May 04, 2022           |           |
|  | Process Name/Title: <b>TAPING ASSEMBLY PROCESS</b>  |  |  |  |                      |  | Validity Date:    |  | n/a                    |           |
|  | Model Code/Part Number: <b>014B / 17J796-7051Y</b>  |  |  |  | Customer: <b>NBS</b> |  | Document No.:     |  | <b>WI-ENG-PDE-492C</b> |           |
|  | Purpose: <input type="checkbox"/> PROTOTYPE <input type="checkbox"/> PRE-LAUNCH <input checked="" type="checkbox"/> MASSPRO |  |  |  |                      |  | Revision No.:     |  | 1                      | Page No.: |

|               |   |  |  |  |  |             |   |  |   |  |  |
|---------------|---|--|--|--|--|-------------|---|--|---|--|--|
| <b>PARTS:</b> | 1. Connector 4F1640-000□ (W)<br>2. Assy parts |  |  |  |  | <b>JIG:</b> | 1. Insertion jig  |  |   |  |  |
| <b>NO.</b>    | <b>PROCESS NAME</b>                           | <b>WORK PROCEDURE/ ILLUSTRATION</b>  |  |  |  |             | <b>TOOLS/PPE</b>  |  | <b>QUALITY POINTERS</b>   |  |  |
| 1             | P3  | <div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p style="text-align: center;"><b>INSERTION JIG</b></p> </div> <div style="width: 45%;"> <p style="text-align: center;"><b>CONNECTOR ORIENTATION</b></p> </div> </div> <p>1. Get the connector <b>4F1640-000□ (W)</b> using right hand then set to insertion jig.<br/><i>Note: Follow the connector orientation.</i></p> <div style="display: flex; justify-content: space-around; margin-top: 10px;"> <div style="text-align: center;"> <p><b>BEFORE PRESSING</b></p> </div> <div style="text-align: center;"> <p><b>AFTER PRESSING</b></p> </div> </div> <p>2. Press the guide lock using right thumb.</p> <div style="margin-top: 10px;"> <p>3. Hold the <b>Group 2 wires [11pcs.]</b> using right hand then put the <b>Group 1 wires [12pcs.]</b> in holder using left hand.</p> </div> |  |  |  |             | <p><b>Safety Instruction</b><br/>Be sure to wear prescribed personal protective equipment during operation (gloves, finger cots, etc.)</p> <p><b>Housekeeping</b><br/>1. Maintain and always practice 5's.<br/>2. Personal things on the workplace is prohibited. Keep it in your locker.</p> <p><b>Alert level</b><br/>For any trouble, inform the Assembly Assistant Supervisor or Line Leader for immediate corrective action.</p> <p><b>Finger COTS</b></p> |  | <p>1. No wrong wire inserted<br/>2. No terminal backing out<br/>3. No deformed terminal<br/>4. Make sure wires are properly inserted.<br/>5. Must have slight MOVEMENT after insertion<br/>6. No bend terminal/wires</p> <div style="border: 1px solid red; padding: 5px; margin-top: 10px;"> <p><b>Note:</b> If encountered abnormality, <b>STOP</b> and immediately <b>CALL</b> the attention of the leader. <b>WAIT</b> for further instruction and continue the process. Do not attempt to repair.</p> </div> <div style="display: flex; justify-content: space-around; margin-top: 10px;"> <div style="text-align: center;"> <p><b>GOOD</b></p> <p><b>UNLOCK</b></p> </div> <div style="text-align: center;"> <p><b>NG</b></p> <p><b>HALF-LOCKED</b></p> </div> </div> |  |  |

|                  |         |  |             |            |               |           |                 |                |                |             |                   |             |               |          |  |
|------------------|---------|--|-------------|------------|---------------|-----------|-----------------|----------------|----------------|-------------|-------------------|-------------|---------------|----------|--|
| Revision History |         |  |             |            |               |           |                 | Prepared by    |                | Reviewed by |                   | Approved by |               | Noted by |  |
| 05/04/22         | 1       | Change document purpose from pre-launch to masspro | M. Catapang | J. Loterte | C. Villanueva | A. Arañes | <br>M. Catapang |                | <br>J. Loterte |             | <br>C. Villanueva |             | <br>A. Arañes |          |  |
| 04/29/22         | 0       | Initial issue                                      | M. Catapang | J. Loterte | C. Villanueva | A. Arañes |                 |                |                |             |                   |             |               |          |  |
| Eff. Date        | Rev. No | Details of Change                                  | Revised     | Checked    | Approved      | Noted     | Est. Date:      | April 29, 2022 |                |             |                   |             |               |          |  |

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## WORK INSTRUCTION

Process Name/Title:

### TAPING ASSEMBLY PROCESS

Effectivity Date:

May 04, 2022

Model Code/Part Number:

014B

/

17J796-7051Y

Customer:

NBS

Document No.:

WI-ENG-PDE-492C

Purpose:



PROTOTYPE



PRE-LAUNCH



MASSPRO

Revision No.:

1

Page No.:

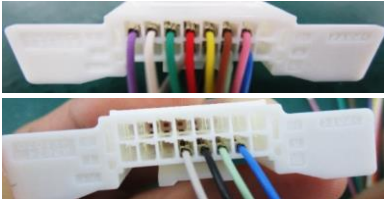

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**PARTS:**

1. Assy parts

**JIG**

1. Insertion jig

| NO.   | PROCESS NAME |  | WORK PROCEDURE/ ILLUSTRATION   |   | TOOLS/PPE | QUALITY POINTERS |   |    |    |    |    |   |   |   |   |   |    |   |     |     |     |     |     |     |     |  |  |  |    |   |    |   |  |  |  |     |     |     |     |  |  |  |   |   |   |   |  |   |
|---|--------------|--|--|---|-----------|------------------|---|----|----|----|----|---|---|---|---|---|----|---|-----|-----|-----|-----|-----|-----|-----|--|--|--|----|---|----|---|--|--|--|-----|-----|-----|-----|--|--|--|---|---|---|---|--|---|
| 2   | P3           | Wire insertion to connector<br>(Group 2 wires)<br>4F1640-000 (W) | <div>WIRE INSERTION ILLUSTRATION</div>  | <div>WIRE FACING</div> <table><tr><td>5</td><td>6</td><td>7</td><td>8</td><td>9</td><td>10</td><td>11</td></tr><tr><td>V</td><td>W</td><td>G</td><td>R</td><td>Y</td><td>BR</td><td>P</td></tr><tr><td>185</td><td>183</td><td>181</td><td>178</td><td>178</td><td>176</td><td>175</td></tr></table> <div>SECOND ROW TO INSERT</div> <div>FIRST ROW TO INSERT</div> <table><tr><td colspan="3"></td><td>GR</td><td>B</td><td>LG</td><td>L</td></tr><tr><td colspan="3"></td><td>179</td><td>179</td><td>176</td><td>175</td></tr><tr><td colspan="3"></td><td>1</td><td>2</td><td>3</td><td>4</td></tr></table> | 5         | 6                | 7 | 8  | 9  | 10 | 11 | V | W | G | R | Y | BR | P | 185 | 183 | 181 | 178 | 178 | 176 | 175 |  |  |  | GR | B | LG | L |  |  |  | 179 | 179 | 176 | 175 |  |  |  | 1 | 2 | 3 | 4 | <div>Finger COTS</div>  | <div>1. No wrong wire insertion<br/>2. No terminal backing out<br/>3. No deformed terminal<br/>4. Make sure wires are properly inserted.<br/>5. Must have slight MOVEMENT after insertion<br/>6. No bend terminal/wires</div> <div>Note: Make sure wires are properly inserted.<br/>Conduct <u>Pull-Push-Pull-Push</u> after insertion.<br/>Do not exert extra force.</div> <div>Note: Refer to GL-PRO-ASY-029 for Pull-Push procedure.</div> <div>Note: Automatically dispose and replace the unit if once encountered Bend terminal, Difficulty of insertion, Half-locked connector.</div> <div>Note: If encountered abnormality, STOP and immediately CALL the attention of the leader. WAIT for further instruction and continue the process.<br/>Do not attempt to repair.</div> |
|   |              |  | 5  | 6   | 7         | 8                | 9 | 10 | 11 |    |    |   |   |   |   |   |    |   |     |     |     |     |     |     |     |  |  |  |    |   |    |   |  |  |  |     |     |     |     |  |  |  |   |   |   |   |  |   |
| V   | W            | G  | R  | Y   | BR        | P                |   |    |    |    |    |   |   |   |   |   |    |   |     |     |     |     |     |     |     |  |  |  |    |   |    |   |  |  |  |     |     |     |     |  |  |  |   |   |   |   |  |   |
| 185   | 183          | 181  | 178  | 178   | 176       | 175              |   |    |    |    |    |   |   |   |   |   |    |   |     |     |     |     |     |     |     |  |  |  |    |   |    |   |  |  |  |     |     |     |     |  |  |  |   |   |   |   |  |   |
|   |              |  | GR   | B   | LG        | L                |   |    |    |    |    |   |   |   |   |   |    |   |     |     |     |     |     |     |     |  |  |  |    |   |    |   |  |  |  |     |     |     |     |  |  |  |   |   |   |   |  |   |
|   |              |  | 179  | 179   | 176       | 175              |   |    |    |    |    |   |   |   |   |   |    |   |     |     |     |     |     |     |     |  |  |  |    |   |    |   |  |  |  |     |     |     |     |  |  |  |   |   |   |   |  |   |
|   |              |  | 1  | 2   | 3         | 4                |   |    |    |    |    |   |   |   |   |   |    |   |     |     |     |     |     |     |     |  |  |  |    |   |    |   |  |  |  |     |     |     |     |  |  |  |   |   |   |   |  |   |
| <div><div>5mm</div><div>Note: Hold on wire during insertion must be <u>5mm</u> away from terminal end.</div></div> <div><div>1</div><div>2</div><div>3</div><div>4</div><div>5</div></div> <div><div>1. Get the wire and hold it 5mm away from terminal.<br/>2. Half insert the wire.<br/>3. Release wire to check the color.<br/>4. Hold again 5mm away from terminal<br/>5. Fully inserted wires (avoid bending during insertion)<br/>Note: Follow the insertion sequence based on the visual reference</div></div> |              |  |  |   |           |                  |   |    |    |    |    |   |   |   |   |   |    |   |     |     |     |     |     |     |     |  |  |  |    |   |    |   |  |  |  |     |     |     |     |  |  |  |   |   |   |   |  |   |

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## WORK INSTRUCTION

Process Name/Title:

### TAPING ASSEMBLY PROCESS

Effectivity Date:

May 04, 2022

Model Code/Part Number:

014B

/

17J796-7051Y

Customer:

NBS

Document No.:

WI-ENG-PDE-492C

Purpose:

☐ PROTOTYPE

☐ PRE-LAUNCH

☒ MASSPRO

Revision No.:

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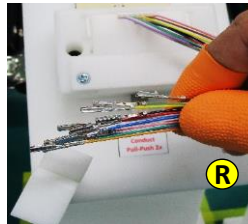
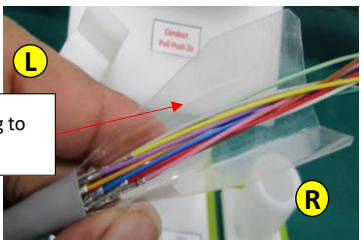




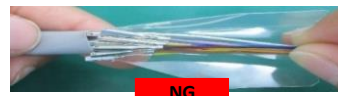
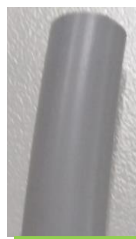

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#### PARTS:

1. Assy parts
2. Light Gray Sunprene tube  $\phi 7$  L=55 $\pm$ 5mm

#### JIG

1. Insertion jig
2. Adaptor jig

| NO. | PROCESS NAME   | WORK PROCEDURE/ ILLUSTRATION  | TOOLS/PPE  | QUALITY POINTERS  |
|-----|--|---|--|---|
| 3   | P3<br>Wire insertion to<br>Light Gray Sunprene tube<br>$\phi 7$ L=55 $\pm$ 5mm | <div><p>1. Get the <b>Light Gray sunprene tube <math>\phi 7</math> L=55<math>\pm</math>5mm</b> using left hand then insert the adaptor jig using right hand.</p></div> <div><p>2. Release the <b>Group 1 wires [12pcs.]</b> using right hand.</p></div> <div><p>Use the adaptor jig to easily insert wires.</p></div> <div><p>3. Insert the wires to <b>Light gray sunprene tube</b> using right hand.</p></div> | <div><p><b>Adaptor jig</b></p></div> <div><p><b>Finger COTS</b></p></div> | <div><p><b>GOOD</b></p></div> <div><p><b>NG</b></p></div> <div><p>1. No wrong use of parts.<br/>2. No remaining wires outside Light Gray sunprene tube<br/>3. No cut tube</p></div> <div><p><b>STANDARD TUBE APPEARANCE</b></p><div><p><b>GOOD</b></p></div><div><p><b>NG</b></p></div></div> |

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## WORK INSTRUCTION

Effectivity Date:

May 04, 2022

Process Name/Title:

### TAPING ASSEMBLY PROCESS

Validity Date:

n/a

Model Code/Part Number: **014B / 17J796-7051Y**

Customer:

**NBS**

Document No.:

**WI-ENG-PDE-492C**

Purpose:

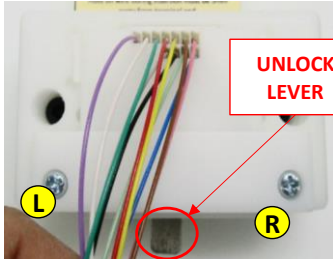
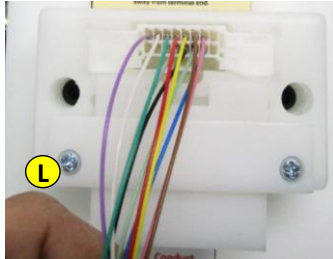


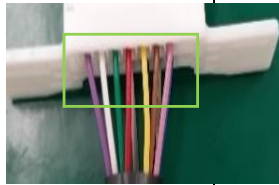
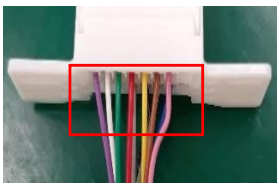


☐ PROTOTYPE☐ PRE-LAUNCH☒ MASSPRO

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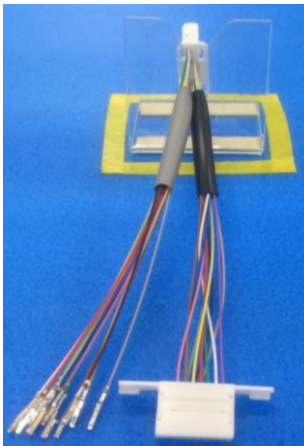
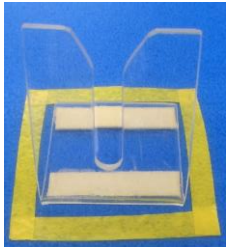
| PARTS: |              | 1. Assy parts   |  |  | JIG  | 1. Insertion jig   |  |
|--------|--------------|---|--|--|--|--|--|
| NO.    | PROCESS NAME | WORK PROCEDURE/ ILLUSTRATION  |  |  | TOOLS/PPE  | QUALITY POINTERS   |  |
| 3      | P3           | <p>Wire insertion to Light Gray Sunprene tube<br/><math>\phi 7</math> L=55<math>\pm</math>5mm</p> <div><p>UNLOCK LEVER</p><p>BEFORE PRESSING</p></div> <div><p>AFTER PRESSING</p><p>4. Press the unlock lever using right thumb.</p></div> <div><p>5. Hold the wires using right hand then gently pull the connector from jig. Check the insertion condition.</p></div> |  |  | <p>Finger COTS</p>  <p>GOOD</p>  <p>NG</p>  | <p>1. No wrong use of parts.<br/>2. No remaining wires outside Light Gray sunprene tube<br/>3. No cut tube</p> <p>STANDARD TUBE APPEARANCE</p> <div><p>GOOD</p><p>NG</p></div> |  |

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|  | <b>WORK INSTRUCTION</b>   |  |                      | Effectivity Date: | <b>May 04, 2022</b>    |           |        |
|  | Process Name/Title: <b>TAPING ASSEMBLY PROCESS</b>  |  |                      | Validity Date:    | <b>n/a</b>             |           |        |
|  | Model Code/Part Number: <b>014B / 17J796-7051Y</b>  |  | Customer: <b>NBS</b> | Document No.:     | <b>WI-ENG-PDE-492C</b> |           |        |
|  | Purpose: <input type="checkbox"/> PROTOTYPE <input type="checkbox"/> PRE-LAUNCH <input checked="" type="checkbox"/> MASSPRO |  |                      | Revision No.:     | 1                      | Page No.: | 5 of 5 |

| <b>PARTS:</b> | 1. Assy parts            |   |  |  | <b>JIG</b>   | 1. Locking jig<br>2. WIP Holder  |
|---------------|--------------------------|---|--|--|--|--|
| NO.           | PROCESS NAME             | WORK PROCEDURE/ ILLUSTRATION  |  | TOOLS/PPE  | QUALITY POINTERS   |  |
| 4             | Connector Lock           |  <div> 1. Put the connector to locking jig using left hand and press down the connector to locking jig <b>2x</b> using right thumb.<br/> 2. Touch the connector lock after locking.<br/> <i>Note: Please refer to GL-PRO-ASY-017 for the verification of connector lock.</i> </div> |  | <div>Before lock</div>  <div>After lock</div>  | <div>Locking jig</div>  | <div>NOTE: MANUAL LOCKING MAY CAUSED DAMAGED LOCK.</div> <div>1. No damaged double lock.<br/>2. No halfed lock connector</div> |
| 5             | P3<br><br>Pass WIP to P4 |  <div>1. Pass WIP to WIP Holder.<br/><i>Note: One piece flow.</i></div>  |  | <div>WIP HOLDER</div>    | 1. No WIP overflow   |  |

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