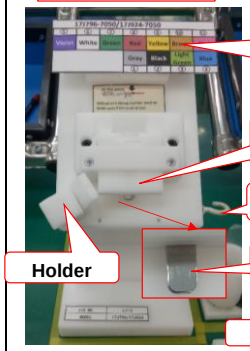
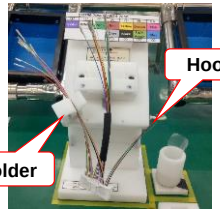
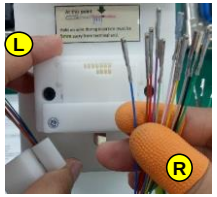
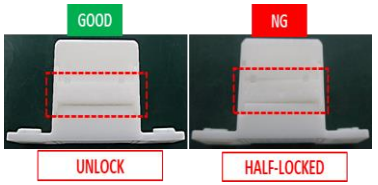
| | WORK INSTRUCTION | | | Effectivity Date: | March 14, 2025 | |
|---|---|---|---|---|---|---|
| | Process Name/Title: | TAPING ASSEMBLY PROCESS | | Validity Date: | n/a | |
| | Model code/Part number: 241B / 17J924-7051 | Customer: TRP | Car Model: LEXUS-ES | Document No.: | WI-ENG-PDE-092C | |
| | Purpose: ☐ PROTOTYPE ☐ PRE-LAUNCH ■ MASSPRO | | | Revision No.: | 17 | Page No.: 1 of 5 |

| PARTS: | 1. Connector 4F1640-000□ (W)<br>2. Assy parts | JIG: | 1. Insertion jig |
|---|---|---|---|

| NO. | PROCESS NAME | WORK PROCEDURE/ ILLUSTRATION | TOOLS/PPE | QUALITY POINTERS |
|---|---|---|---|---|
| 1 | P3 (17)<br>**HIGH**<br>Connector setting to insertion jig (Assy parts) 4F1640-000□ (W) | INSERTION JIG<br>  <br>Visual reference<br>Lower guide<br>Hook<br>Lever<br>Holder<br> <br>Lower guide<br>BEFORE PRESSING<br> <br>Slot<br>Lower guide<br>AFTER PRESSING<br>2. Press the lower guide using right thumb finger.<br> <br>Note: Check the connector before insertion.<br>CONNECTOR ORIENTATION<br> <br> <br>1. Get the connector **4F1640-000 (W)** using right hand then set to insertion jig.<br>  <br>Hook<br>Holder<br>3. Separate **Group 1 (12pcs) and Group 3 wires (3pcs).** Set the **Group 1 wires (12pcs)** to holder using both hands and set the **Group 3 wires (3pcs)** to hook using right hand.<br>  <br>4. Hold the **Group 2 wires (11pcs)** using right hand for insertion. | **Safety Instruction**<br>Be sure to wear required personal protective equipment during operation (gloves, finger cots, etc.)<br><br>**Housekeeping**<br>1. Maintain and always practice 5's.<br>2. Personal things on the workplace is prohibited. Keep it in your locker.<br><br>**Alert level**<br>For any trouble, inform the Assembly Assistant Supervisor or Line Leader for immediate corrective action. | 1. Use the provided jig per model<br>2. No wrong usage of parts<br>3. No wrong orientation of connector<br>4. No damaged connector<br>5. No half-locked connector<br><br>***Important reminders/Note/s:***<br>***1. Automatically dispose and replace the unit if once encountered Bend terminal, Difficulty of insertion, Half-locked connector.***<br>***2. 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.***<br>***3. Follow the connector orientation.***<br><br>**Connector must be no damaged/half-locked/locked**<br>  <br>GOOD<br>NG<br>UNLOCK<br>HALF-LOCKED |

Revision History

| Eff. Date | Rev. No | Details of Change | Revised | Checked | Reviewed | Approved |
|---|---|---|---|---|---|---|
| 03/14/25 | 17 | Inclusion of Quality improvement measures (based on Mizen Boshi activity). | D.Castillo | J. Loterte | C. Villanueva | A. Arañes |
| 08/02/23 | 16 | Update termplate; Inclusion of **CAR MODEL "LEXUS-ES".** Transfer process on Connector lock from P3 to P5 due ti TPS improvements. (Refer to **ENGDRR-146** for Document Revision Request). | M. Ariola | J. Loterte | C. Villanueva | A. Arañes |
| 03/02/23 | 15 | Standardized tube description: VM tube (Sunprene).Change WIP flow quantity from [1pc] flow to [3pcs] due to process improvement. | M. Ariola | J. Loterte | C. Villanueva | A. Arañes |

| Prepared by | Checked by | Reviewed by | Approved by |
|---|---|---|---|
| D. Castillo | J. Loterte | C. Villanueva | A. Arañes |
| Est. Date: | June 02, 2017 | | |

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: | March 14, 2025 | |
|---|---|---|---|---|---|---|
| | Process Name/Title: | TAPING ASSEMBLY PROCESS | | Validity Date: | n/a | |
| | Model code/Part number: 241B / 17J924-7051 | Customer: TRP | Car Model: LEXUS-ES | Document No.: | WI-ENG-PDE-092C | |
| | Purpose: ☐ PROTOTYPE ☐ PRE-LAUNCH ■ MASSPRO | | | Revision No.: | 17 | Page No.: 2 of 5 |

| PARTS: | 1. Assy parts | JIG: | 1. Insertion jig |
|---|---|---|---|

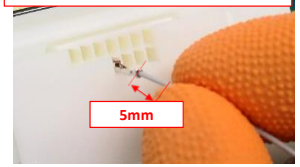
| NO. | PROCESS NAME | | WORK PROCEDURE/ ILLUSTRATION | TOOLS/PPE | QUALITY POINTERS |
|---|---|---|---|---|---|
| 2 | P3 (17) | MEDIUM<br>Wire insertion to connector (Group 2 wires) 4F1640-000 (W) | | Finger COTS | |

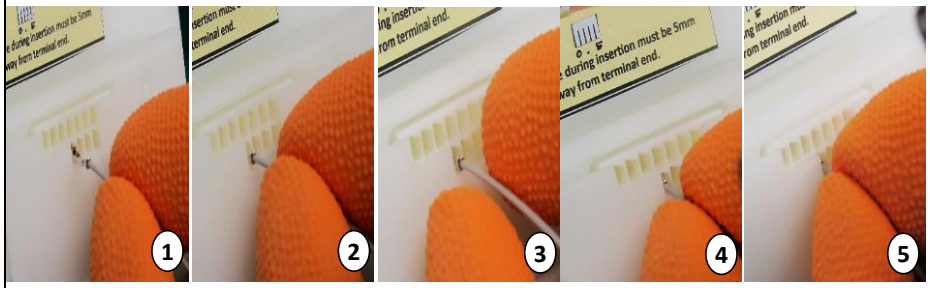
**WIRE INSERTION ILLUSTRATION**

| | 5 | 6 | 7 | 8 | 9 | 10 | 11 |
|---|---|---|---|---|---|---|---|
| SECOND ROW TO INSERT | V | W | G | R | Y | BR | P |
| | 185 | 183 | 181 | 178 | 178 | 176 | 175 |
| FIRST ROW TO INSERT | | | | GR | B | LG | L |
| | | | | 179 | 179 | 176 | 175 |
| | | | | 1 | 2 | 3 | 4 |

**TERMINAL FACING**

**Standard hold in wire**




1. Get the wire and hold it **5mm** away from terminal.
2. Half insert the wire.
3. Release wire to check the color.
4. Conduct point checking in visual
5. Hold again **5mm** away from terminal
6. Fully inserted wires (avoid bending during insertion)

**QUALITY POINTERS**

1. No wrong wire insertion
2. No terminal backing out
3. No deformed terminal
4. Make sure wires are properly inserted.
5. Must have slight MOVEMENT after insertion
6. No bend terminal/wires

***Important reminders/Note/s:***

***1. Automatically dispose and replace the unit if once encountered Bend terminal, Difficulty of insertion, Half-locked connector.***

***2. If encountered abnormality, STOP and immediately CALL the attention of the leader. WAIT for further instruction and continue the process.***

***Do not attempt to repair.***

***3. Make sure wires are properly inserted.***

***Conduct Pull-Push-Pull-Push after insertion.***

***Do not exert extra force.***

***4. Follow the insertion sequence based on the visual reference***

***5. Hold on wire during insertion must be 5mm away from terminal end.***

***Document references:***

***1. Refer to GL-PRO-ASY-029 for Pull-Push procedure.***

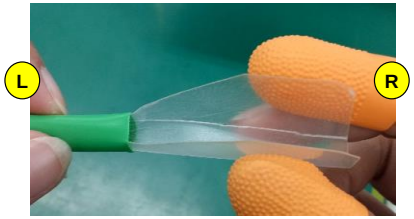
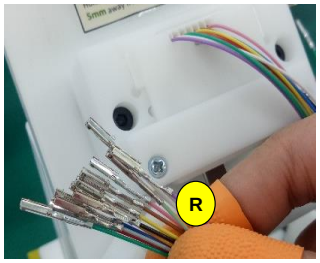
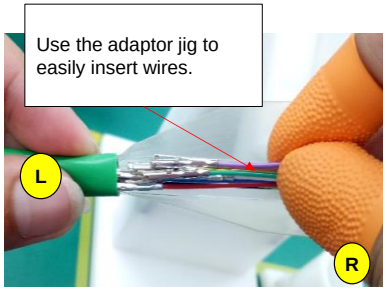
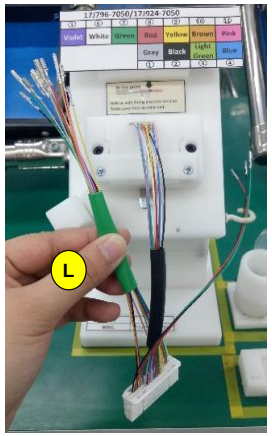
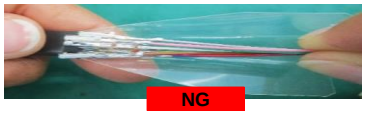
CONFIDENTIAL: Any misuse or misappropriation, including unauthorized copying, reproduction in any form, disclosure or publishing of this document or any information herein is strictly prohibited.

NBC (Philippines)
MASTER COPY

DCC Stamp

| | WORK INSTRUCTION | | | Effectivity Date: | March 14, 2025 | |
|---|---|---|---|---|---|---|
| | Process Name/Title: | TAPING ASSEMBLY PROCESS | | Validity Date: | n/a | |
| | Model code/Part number: 241B / 17J924-7051 | Customer: TRP | Car Model: LEXUS-ES | Document No.: | WI-ENG-PDE-092C | |
| | Purpose: ☐ PROTOTYPE ☐ PRE-LAUNCH ■ MASSPRO | | | Revision No.: | 17 | Page No.: 3 of 5 |

| PARTS: | 1. Assy parts<br>2. Green VM tube (Sunprene) ø7 L=55±5mm | JIG: | 1. Insertion jig<br>2. Adaptor jig |
|---|---|---|---|

| NO. | PROCESS NAME | | WORK PROCEDURE/ ILLUSTRATION | TOOLS/PPE | QUALITY POINTERS |
|---|---|---|---|---|---|
| 3 | P3 | 17<br>**MEDIUM**<br>Wire insertion to Green VM tube (Sunprene) ø7 L=55±5mm |  <br><br>1. Get the **Green VM tube (Sunprene) ø7 L=55±5mm** using left hand then insert the adaptor jig using right hand.<br>  <br><br>2. Release the **Group 1 wires (12pcs)** using right hand.<br>  <br><br>  <br><br>3. Insert the wires to **Green VM tube (Sunprene)** using right hand. | **Adaptor jig**<br> <br>**Finger COTS**<br> | <br><br>  <br><br>**Wires must not be inserted at the same time**<br>1. No wrong use of parts.<br>2. No mixed wires between Group 1 and Group 3<br>3. No remaining wires outside Green VM tube (Sunprene)<br>**STANDARD TUBE APPEARANCE**<br> <br><br>**MUST BE NO CUT/DAMAGED TUBE** |

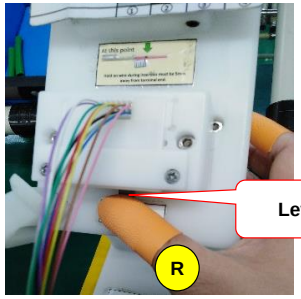
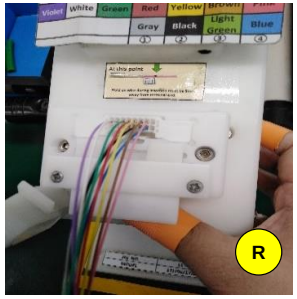
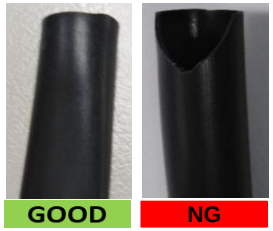
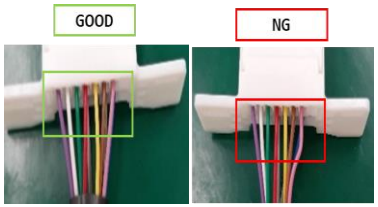
CONFIDENTIAL: Any misuse or misappropriation, including unauthorized copying, reproduction in any form, disclosure or publishing of this document or any information herein is strictly prohibited.

NBC (Philippines)
MASTER COPY

DCC Stamp

| | WORK INSTRUCTION | | | Effectivity Date: | March 14, 2025 | |
|---|---|---|---|---|---|---|
| | Process Name/Title: | TAPING ASSEMBLY PROCESS | | Validity Date: | n/a | |
| | Model code/Part number: 241B / 17J924-7051 | Customer: TRP | Car Model: LEXUS-ES | Document No.: | WI-ENG-PDE-092C | |
| | Purpose: ☐ PROTOTYPE ☐ PRE-LAUNCH ■ MASSPRO | | | Revision No.: 17 | Page No.: | 4 of 5 |

| PARTS: | 1. Assy parts<br>2. Green VM tube (Sunprene) ø7 L=55±5mm | JIG: | 1. Insertion jig |
|---|---|---|---|

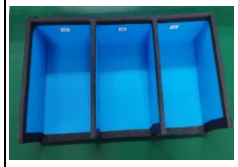
| NO. | PROCESS NAME | WORK PROCEDURE/ ILLUSTRATION | TOOLS/PPE | QUALITY POINTERS |
|---|---|---|---|---|
| 3 | P3 (17)<br>**MEDIUM**<br>Wire insertion to Green VM tube (Sunprene) ø7 L=55±5mm (Continuation) |  <br>BEFORE PRESSING<br>  <br>AFTER PRESSING<br>4. Press the unlock lever using right thumb.<br> <br>5. Hold the wires using left hand then gently pull the connector from jig. Check the insertion condition. | **Finger COTS**<br> | 1. No wrong use of parts.<br>2. No mixed wires between Group 1 and Group 3<br>3. No remaining wires outside Green VM tube (Sunprene)<br>**STANDARD TUBE APPEARANCE**<br>  <br>GOOD NG<br>**MUST BE NO CUT/DAMAGED TUBE**<br>  <br>**NO BEND TERMINAL/WIRES** |

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: | March 14, 2025 | |
|---|---|---|---|---|---|---|
| | Process Name/Title: | TAPING ASSEMBLY PROCESS | | Validity Date: | n/a | |
| | Model code/Part number: 241B / 17J924-7051 | Customer: TRP | Car Model: LEXUS-ES | Document No.: | WI-ENG-PDE-092C | |
| | Purpose: ☐ PROTOTYPE | ☐ PRE-LAUNCH | ■ MASSPRO | Revision No.: | 17 | Page No.: 5 of 5 |

| PARTS: | 1. Assy parts | | | JIG: | 1. WIP Holder |
|---|---|---|---|---|---|
| **NO.** | **PROCESS NAME** | | **WORK PROCEDURE/ ILLUSTRATION** | **TOOLS/PPE** | **QUALITY POINTERS** |
| 4 | P3 | Pass WIP to P4 | **3 PIECES FLOW**<br> <br>1. Pass WIP to WIP Holder.<br>**Note: Three pieces flow.** | **WIP HOLDER**<br>  | 1. No WIP overflow |
| | | | | | |

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