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|---|---|--|----------------------|--|-------------------|-------------------------|-----------|--------|
|  | WORK INSTRUCTION | | | | Effectivity Date: | January 26, 2024 | | |
| | Process Name/Title: CLAMP ASSEMBLY PROCESS | | | | Validity Date: | n/a | | |
| | Model code/Part number: 700B / 7N0037-7020B | | Customer: TRJ | Car Model: TOYOTA- LAND CRUISER | Document No.: | WI-ENG-PD-814 | | |
| | Purpose: <input type="checkbox"/> PROTOTYPE <input type="checkbox"/> PRE-LAUNCH <input checked="" type="checkbox"/> MASSPRO | | | | Revision No.: | 0 | Page No.: | 1 of 8 |

| | | | | | | | |
|--------|--------------|--|---|---|--|--|---|
| PARTS: | | 1. Assy Parts 2.Clamp 82711-52090 (W) 3.Clamp 82711-48070 (GR) 4. Clamp 82711-33380 (B) | | 5. Clamp 82711-3A540 (W) 6. Black tape [6pcs] 7. Brown tape | | JIG: | 1. Clamp Assembly jig |
| NO. | PROCESS NAME | | WORK PROCEDURE/ ILLUSTRATION | | | TOOLS/PPE | QUALITY POINTERS |
| 1 | n/a | Table Lay-out | <div>TABLE LAY-OUT</div> <div><div>Clamp 82711-52090 (W)/ Clamp Tray</div><div>Clamp 82711-48070 (GR)/ Clamp Tray</div><div>Clamp 82711-3A540 (W)/ Clamp Tray</div><div>Clamp 82711-33380 (B)/ Clamp Tray</div><div>Assy Parts</div><div>Brown tape/Tape holder</div><div>Black tape/Tape holder</div><div>Clamp assembly jig</div></div> | | | <div><div>Safety Instruction Be sure to wear prescribed personal protective equipment during operation (gloves, finger cots, etc.)</div><div>Housekeeping 1. Maintain and always practice 5's. 2. Personal things on the workplace is prohibited. Keep it in your locker.</div><div>Alert level For any trouble, inform the Assembly Assistant Supervisor or Line Leader for immediate corrective action.</div></div> | 1. No missing parts/tools 2. No excess parts/tools |

| Revision History | | | | | | Prepared by | Reviewed by | Approved by | Noted by |
|------------------|---------|---|--|--|--|-------------|---------------|-------------|-----------|
| | | | | | | | | | |
| 01/26/24 | 0 | Initial Issue. The excluded process from WI-ENG-PDE-758 due to new process distribution. Change Process name from TAPING ASSEMBLY PROCESS to CLAMP ASSEMBLY PROCESS ; Changed purpose from Pre-launch to Masspro. Additional table layout and Quality checkpoint. | | | | M. Ariola | C. Villanueva | A. Arañes | A. Arañes |
| Eff. Date | Rev. No | Details of Change | | | | Revised | Reviewed | Approved | Noted |

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CLAMP ASSEMBLY PROCESS

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7N0037-7020BCustomer: **TRJ**Car Model: **TOYOTA- LAND CRUISER**

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PARTS:

1. Clamp 82711-52090 (W) [2pcs]
2. Clamp 82711-48070 (GR) [2pcs]
3. Clamp 82711-33380 (B)

4. Clamp 82711-3A540 (W)
5. Black tape [6pcs]
6. Brown tape

JIG:

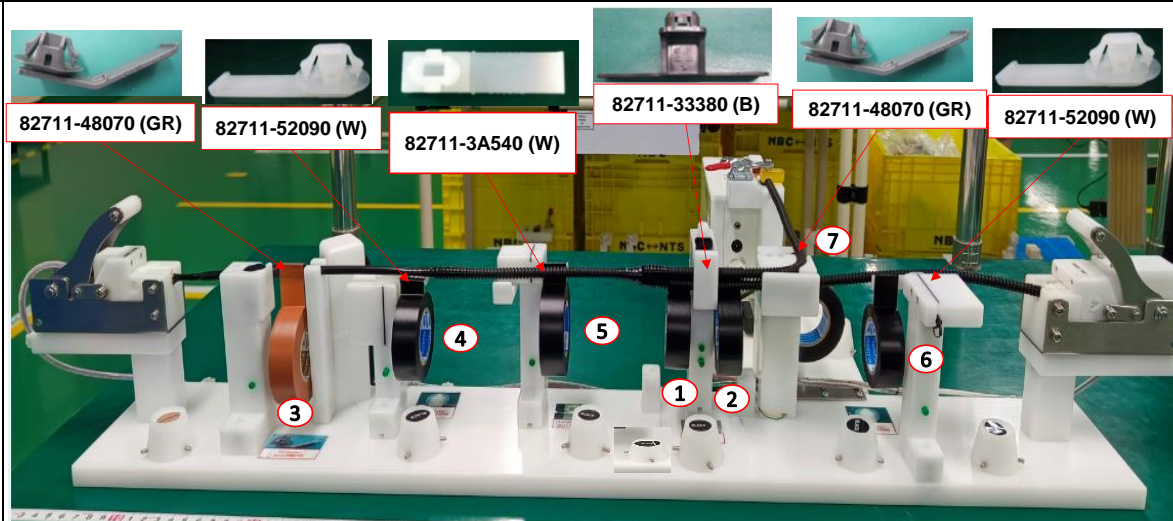
1. Clamp Assy Jig

NO.**PROCESS NAME****WORK PROCEDURE/ ILLUSTRATION****TOOLS/PPE****QUALITY POINTERS**

2

n/a

Clamp Setting



1. Get 1pc. of clamp **82711-33380 (W)** using right hand and set to clamp location **1** and **2** using both hands.

2. Get 2pcs. of clamp **82711-52090 (W)** using right hand and set to clamp location **4** and **6** using both hands.

3. Get 2pcs. of clamp **82711-48070 (GR)** using right hand and set to clamp location **3** and **7** using both hands.

4. Get 1pcs. of clamp **82711-3A540 (W)** using right hand and set to clamp location **5** using both hands.

5. Initially attach **Brown tape** to clamp location **3** using both hands.

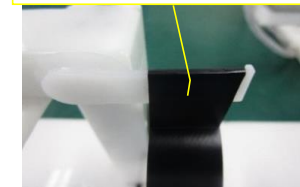
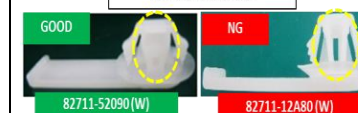
6. Initially attach **Black tape** to clamp location **4, 5, 1, 2, 6, and 7** using both hands.

1. No wrong use of parts
2. No wrong use of tape
3. No damaged clamp
4. No wrong clamp position

Important reminders/Note/s:

1. Please check the Clamp first before start of assembly to avoid wrong use of clamp.

One side tape under clamp

**CLAMP ILLUSTRATION**

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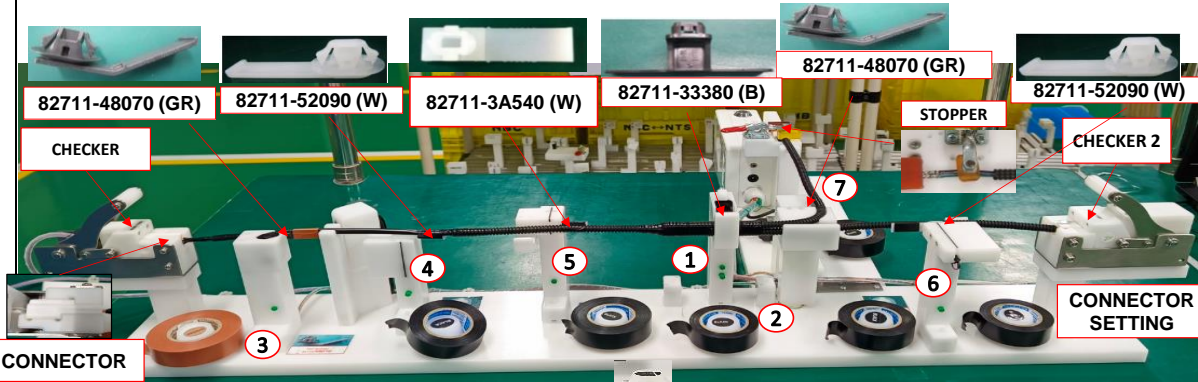
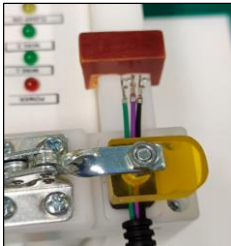
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|--------|--------------|---|---|------|-----------------------|--|
| PARTS: | | 1. Assy parts 2. Black tape 3. Brown tape | | JIG: | 1. Clamp assembly jig | |
| NO. | PROCESS NAME | WORK PROCEDURE/ ILLUSTRATION | | | TOOLS/PPE | QUALITY POINTERS |
| 3 | n/a | Clamp assembly | <div></div> <div>1. Put the assy into jig. <i>(See above picture for the correct setting)</i>. First, set the connector 6098-3802 (W) to Checker 1. Second, set the next connector 6098-2220 (W) to Checker 2. Continue to set the harness in jig. Last, set the B-V-G wires together within stopper then press by toggle clamp.</div> <div>2. Check if all LED light for POWER ON, WIRE1, WIRE2 and CLAMP ON was ON. If encountered abnormality, STOP and immediately CALL the attention of the leader. WAIT for further instruction and continue the process.</div> <div>3. Hold the tape on clamp location 1, make 3 windings of tape on combined COT 1 and COT 2 then cut the tape using both hands. Press the SW button after taping. Continue the process if sequence light in clamp location 2 was ON.</div> <div>4. Hold the tape on clamp location 2. Make 3 windings of tape then cut the tape using both hands. Press the SW button after taping. Continue the process if sequence light in clamp location 3 was ON.</div> <div>5. Hold the tape on clamp location 3. Make 3 windings of tape then cut the tape using both hands. Press the SW button after taping. <i>(Note: Beep/Buzz will be heard if the sensor detects the Brown tape after taping)</i>. Continue the process if sequence light in clamp location 4 was ON.</div> <div>6. Hold the tape on clamp location 4. Make 3 windings of tape then cut the tape using both hands. Press the SW button after taping. Continue the process if sequence light in clamp location 5 was ON.</div> | | | <div></div> <div>Important reminders/Note/s: 1. Make sure no gap between stopper and terminals</div> <div>1. No wrong use of parts 2. No wrong use of tape 3. No damaged clamp 4. No wrong clamp position</div> |

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|--------|---|--|--|--|-----------------------|
| PARTS: | | 1. Assy parts 2. Black tape 3. Brown tape | | JIG: | 1. Clamp assembly jig |
| NO. | PROCESS NAME | WORK PROCEDURE/ ILLUSTRATION | | TOOLS/PPE | QUALITY POINTERS |
| 3 | n/a Clamp Assembly (Continuation) | <div><p>82711-48070 (GR)</p><p>82711-52090 (W)</p><p>82711-3A540 (W)</p><p>82711-33380 (B)</p><p>82711-48070 (GR)</p><p>82711-52090 (W)</p><p>CHECKER 1</p><p>STOPPER</p><p>CHECKER 2</p><p>CONNECTOR SETTING</p><p>CONNECTOR SETTING</p></div> <div><p>7. Hold the tape on clamp location 5. Make 3 windings of tape then cut the tape using both hands. Press the SW button after taping. Continue the process if sequence light in clamp location 6 was ON.</p><p>8. Hold the tape on clamp location 6. Make 3 windings of tape then cut the tape using both hands. Press the SW button after taping. Continue the process if sequence light in clamp location 7 was ON.</p><p>9. Hold the tape on clamp location 7. Make 3 windings of tape then cut the tape using both hands. Press the SW button after taping. Go sound will be heard.</p><p>10. After taping, CONDUCT POINT CHECKING before removing the harness from jig.</p></div> | | <div></div> <p>Important reminders/Note/s: 1. Make sure no gap between stopper and terminals</p> <div><p>1. No wrong use of parts</p><p>2. No wrong use of tape</p><p>3. No damaged clamp</p><p>4. No wrong clamp position</p></div> | |

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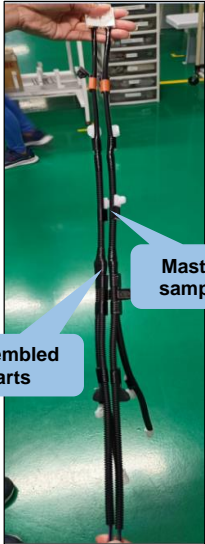



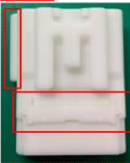



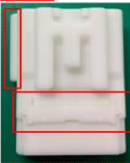



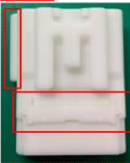


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| PARTS: | | 1. Assy parts 2. Master sample | | JIG: | n/a | | | | | | | | | | |
| NO. | PROCESS NAME | WORK PROCEDURE/ ILLUSTRATION | | TOOLS/PPE | QUALITY POINTERS | | | | | | | | | | |
| 4 | n/a | <div>Visual/By Two's Inspection</div> <div><div><div><p>ACTUAL PRODUCT</p></div><div><div><p>Assembled parts</p></div><div><p>Master sample</p></div></div><div><div><p>1. Conduct alignment of harness (Master sample vs. Assembled parts) using both hands.</p></div><div><p>2. Check the connector lock condition, insertion, terminal and taping condition.</p></div><div><p>3. Check the presence of clamp attachment, taping condition and color of tape. (Must be BROWN TAPE)</p></div><div><p>4. Check the presence of clamp attachment, taping condition and color of tape. Conduct bending of parts with wing type clamp.</p></div></div></div><div><div><p>MASTER SAMPLE</p></div><div><div><p>CONNECTOR ILLUSTRATION</p><table><tr><td>GOOD</td><td>NG</td></tr><tr><td></td><td></td></tr><tr><td>6098-3802 (W)</td><td>6098-5668 (W)</td></tr></table></div><div><p>CLAMP ILLUSTRATION</p><table><tr><td>GOOD</td><td>NG</td></tr><tr><td></td><td></td></tr><tr><td>82711-52090 (W)</td><td>82711-12A80 (W)</td></tr></table></div></div></div><div><p>1. No skip checking during inspection.</p></div></div> | | GOOD | NG |  |  | 6098-3802 (W) | 6098-5668 (W) | GOOD | NG |  |  | 82711-52090 (W) | 82711-12A80 (W) |
| GOOD | NG | | | | | | | | | | | | | | |
|  |  | | | | | | | | | | | | | | |
| 6098-3802 (W) | 6098-5668 (W) | | | | | | | | | | | | | | |
| GOOD | NG | | | | | | | | | | | | | | |
|  |  | | | | | | | | | | | | | | |
| 82711-52090 (W) | 82711-12A80 (W) | | | | | | | | | | | | | | |

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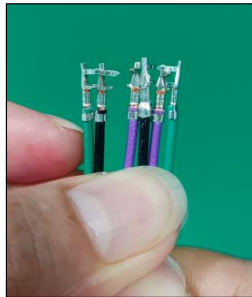

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|---------------|---------------------|---|--|------------------|--|
| PARTS: | | 1. Assy parts 2. Master sample | | JIG: | n/a |
| NO. | PROCESS NAME | WORK PROCEDURE/ ILLUSTRATION | | TOOLS/PPE | QUALITY POINTERS |
| 4 | n/a | <div>Visual/By Two's Inspection (Continuation)</div> <div><p>ACTUAL PRODUCT</p></div> <div><p>5. Check the Taping condition. Conduct slightly bending to avoid overlook of missing tape.</p></div> <div><p>6. Check the Y-taping condition.</p></div> <div><p>7. Check the terminal. Must no deformed terminal.</p></div> | | | <p>1. No skip checking during inspection.</p> <div>MASTER SAMPLE</div>  |

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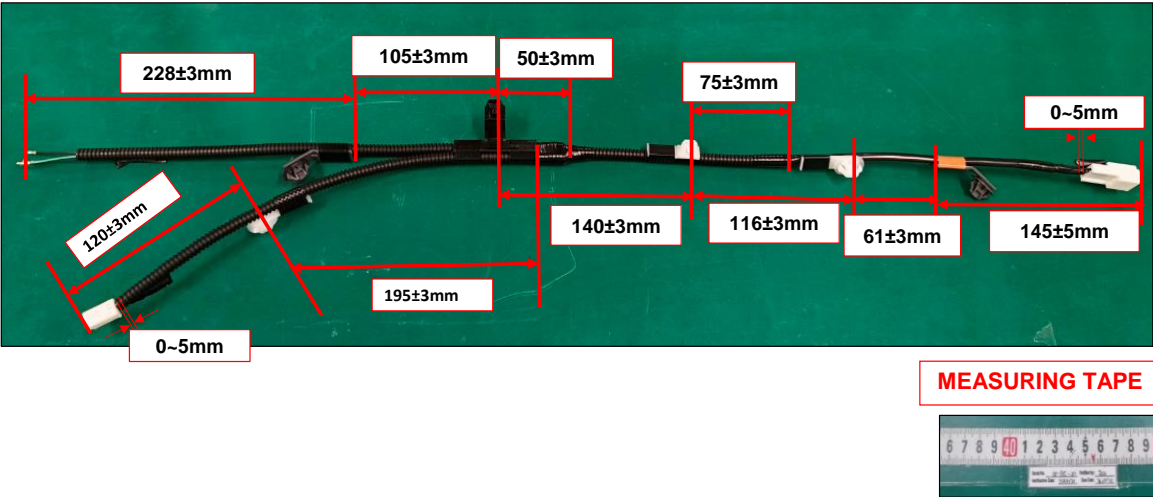
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|--------|------------------------|---|-----------|--|
| PARTS: | n/a | | JIG: | n/a |
| NO. | PROCESS NAME | WORK PROCEDURE/ ILLUSTRATION | TOOLS/PPE | QUALITY POINTERS |
| 5 | n/a Measurement | <div></div> | | <div>1. No wrong dimension</div> <div>Important reminders/Note/s:</div> <div>1. Please use calibrated/verified measuring tape when getting the measurement.</div> <div>2. For Hatsumono and Owarimono.</div> <div>Document reference/s:</div> <div>1. Refer to WI-PRO-ASY-056 for Sub-assembly Hatsumono Nakamono Owarimono Inspection</div> |

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PARTS:

n/a

JIG:

n/a

NO.

PROCESS NAME

WORK PROCEDURE/ ILLUSTRATION

TOOLS/PPE

QUALITY POINTERS

CLAMP
ASSY

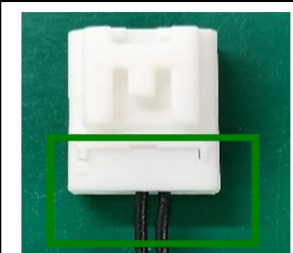
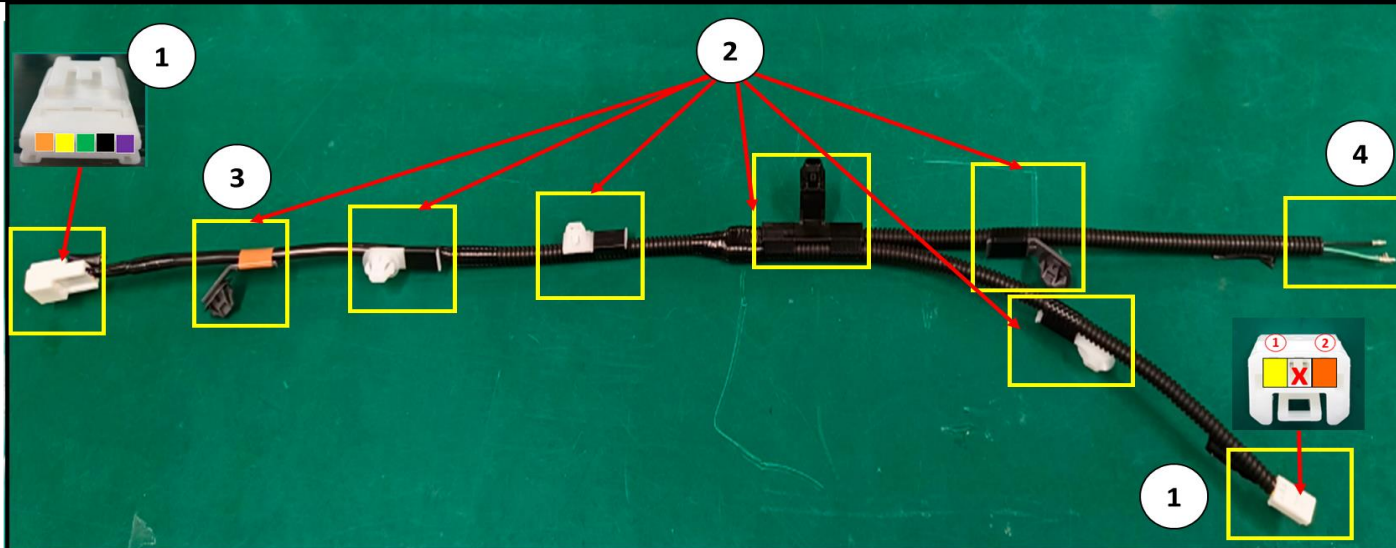
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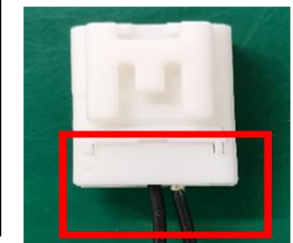
GOOD



NO GOOD



GOOD



NO GOOD

① No Unlock/
Halflocked Connector
(2 connector)

② No Missing Clamp
(6pcs.) and BENDING
of 2 sides of wing
clamp

③ No Wrong Used of Tape
(BROWN TAPE)

④ No Deformed
Terminal

⑤ Checking of
Clamp Alignment

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