



WORK INSTRUCTION

Process Name/Title: **CLAMP ASSEMBLY PROCESS**

Effectivity Date:

July 28, 2023

Validity Date:

n/a

Model code/Part number: **310B / 7M0524-7020C**

Customer: **TRJ**

Car Name: **TOYOTA-RAV4**

Document No.:

WI-ENG-PDE-697

Purpose:

☐ PROTOTYPE

☐ PRE-LAUNCH

☒ MASSPRO

Revision No.:

0

Page No.:

1 of 7

PARTS:

1. Clamp 82711-48070 (GR); Clamp 82711-52090 (W); Gray tape [2pcs]; Black tape [4pcs]; Assy parts

JIG:

1. Clamp assembly jig

NO.

PROCESS NAME

WORK PROCEDURE/ ILLUSTRATION

TOOLS/PPE

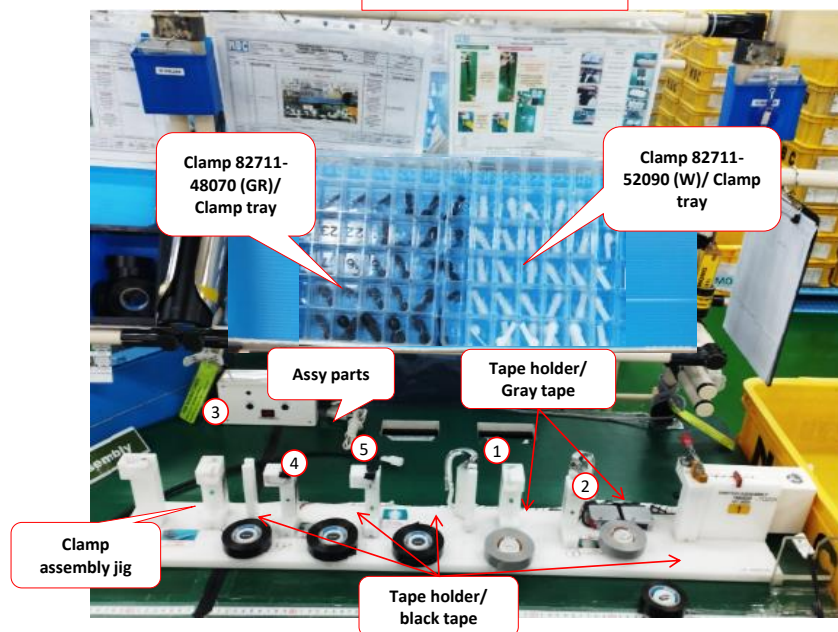
QUALITY POINTERS

1

n/a

Table lay-out

TABLE LAY-OUT



Safety Instruction

Be sure to wear prescribed personal protective equipment during operation (gloves, finger cots, etc.)

Housekeeping

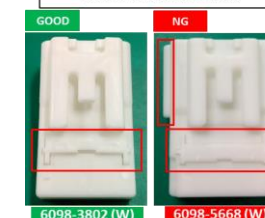
1. Maintain and always practice 5's.
2. Personal things on the workplace is prohibited. Keep it in your locker.

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.

CONNECTOR ILLUSTRATION



CLAMP ILLUSTRATION



Revision History

| Eff. Date | Rev. No | Details of Change | M. Ariola | J. Loterte | C. Villanueva | A. Arañes | Prepared by | Reviewed by | Approved by | Noted by |
|-----------|---------|---|-----------|------------|---------------|-----------|-------------|-------------|---------------|-----------|
| 07/28/23 | 0 | Initial Issue. Excluded process from P2; Changed Process Name/Title from "TAPING ASSEMBLY PROCESS" to "CLAMP ASSEMBLY PROCESS"; Changed document control number from WI-ENG-PDE-163 to WI-ENG-PDE-697 due to separation of process. Remove and transfer taping of COT to SV tube (Vinyl) from P2 to P1. Updated Template; Inclusion of CAR MODEL " TOYOTA-RAV4" . Refer to ENGDRR-126 for Document revision request | | | | | M. Ariola | J. Loterte | C. Villanueva | A. Arañes |

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PARTS:

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

3. Gray tape [2pcs]
4. Black tape [3pcs]

JIG

1. Clamp assembly jig

NO.

PROCESS NAME

WORK PROCEDURE/ ILLUSTRATION

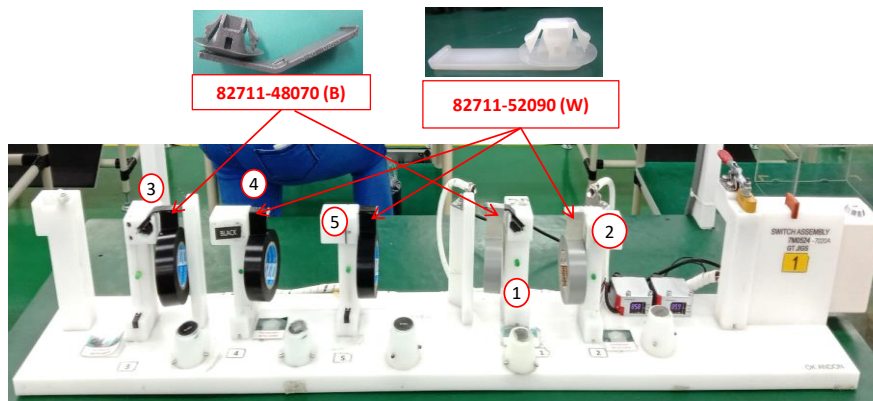
TOOLS/PPE

QUALITY POINTERS

2

n/a

Clamp setting



1. Get 3pcs. of clamp 82711-52090 (W) using right hand and set to clamp location 2, 4 and 5 using both hands.

3. Get the Gray tape using right hand. Conduct pre-taping on clamp location 1 and 2 using both hands.

2. Get 2pcs. of clamp 82711-48070 (GR) using right hand and set to clamp location 1 and 3 using both hands.

4. Get the Black tape using right hand. Conduct pre-taping on clamp location 3, 4 and 5 using both hands.

n/a

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

Important reminders/Note/s:

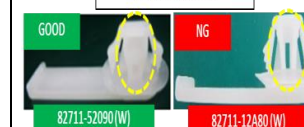
1. Please check the clamp first before start of assembly to avoid wrong use of clamp

STANDARD TAPING FOR CLAMP

One side tape under clamp



CLAMP ILLUSTRATION



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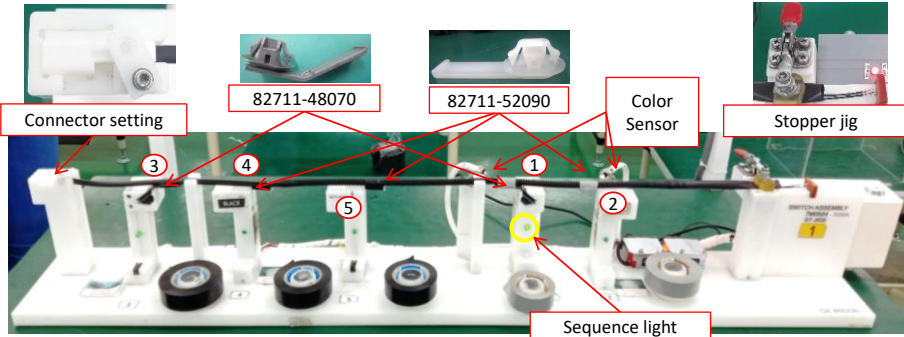

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| | | | | | |
|---------------|---------------------|-------------------------------------|---|------------------|--|
| PARTS: | 1. Assy parts | | | JIG | 1. Clamp assembly jig |
| NO. | PROCESS NAME | WORK PROCEDURE/ ILLUSTRATION | | TOOLS/PPE | QUALITY POINTERS |
| 3 | n/a | Clamp assembly | <div></div> <div>1. Get the assy parts using right hand and set to jig using both hands. First, put the connector into receiver base and lock. Second put the terminal into stopper jig then pull down the toggle clamp. <i>Note: Please refer to above illustration for correct setting.</i></div> <div>2. Check if LED light for POWER ON, CLAMP ON and Sequence light is ON. If encountered abnormality, STOP the process, CALL the attention of leaders and WAIT for instruction.</div> <div>3. Hold the clamp on location 1 using left hand and begin taping using right hand. Make 3 winds and cut the tape. Color sensor will beep/buzz if the Gray tape detected by the color sensor. Press the switch button after taping. Proceed to location 2 and repeat the process. USE GRAY TAPE ONLY.</div> <div>4. Hold the clamp on location 3 using left hand and begin taping using right hand. Make 3 winds and cut the tape. Press the switch button after taping. Proceed to location 4 and 5. USE BLACK TAPE ONLY.</div> <div>5. Conduct POINT CHECKING using right hand before removal from jig.</div> | n/a | <div>1. No damaged clamp 2. No wrong use of clamp 3. No missing tape 4. No wrong use of tape</div> <div></div> <div>Important reminders/Note/s: 1. Make sure no gap between terminal and stopper jig.</div> |

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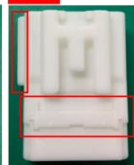




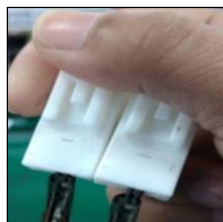




☐ PROTOTYPE☐ PRE-LAUNCH☒ MASSPRO

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| | | | | | |
|--------|--------------|--|--|-----------|--|
| PARTS: | | 1. Assembled parts 2. Master sample | | JIG | n/a |
| NO. | PROCESS NAME | WORK PROCEDURE/ ILLUSTRATION | | TOOLS/PPE | QUALITY POINTERS |
| 4 | n/a | Visual/By two's Inspection | | | <div>1. No skip checking during inspection</div> <div>MASTER SAMPLE</div> <div></div> <div><div>CONNECTOR ILLUSTRATION</div><div><div>GOOD</div><div>NG</div><div></div><div></div><div>6098-3802 (W)</div><div>6098-5668 (W)</div></div><div><div>CLAMP ILLUSTRATION</div><div><div>GOOD</div><div>NG</div><div></div><div></div><div>82711-52090 (W)</div><div>82711-12A80 (W)</div></div></div><div><div><div><div><div>L</div><div>Assembled parts</div><div></div><div><div>R</div><div>Master sample</div><div></div></div></div><div><div></div><div></div></div><div><div></div><div></div><div></div></div></div><div><div>1. Conduct alignment of harness (Master sample vs. Assembled parts) using both hands.</div><div>2. Check the connector lock condition, insertion and terminal.</div><div>3. Check the presence of all clamp attachment, taping condition and color of tape . Conduct slightly bending of COT to clamp.</div></div></div></div></div> |

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PARTS:

1. Assembled parts
2. Master sample

JIG

n/a

NO.

PROCESS NAME

WORK PROCEDURE/ ILLUSTRATION

TOOLS/PPE

QUALITY POINTERS

4

n/a

Visual/By two's
Inspection
(Continuation)



4. Check the **Taping condition**. Conduct **slightly pulling of VM tube (Sunprene) during bending of part with COT to VM tube (Sunprene) taping** to avoid overlook of missing tape



5. Check the **correct facing of Clamp**.



6. Check the **taping condition** and **terminal appearance**. Must be **no deformed terminal**.

1. No skip checking during inspection

MASTER SAMPLE



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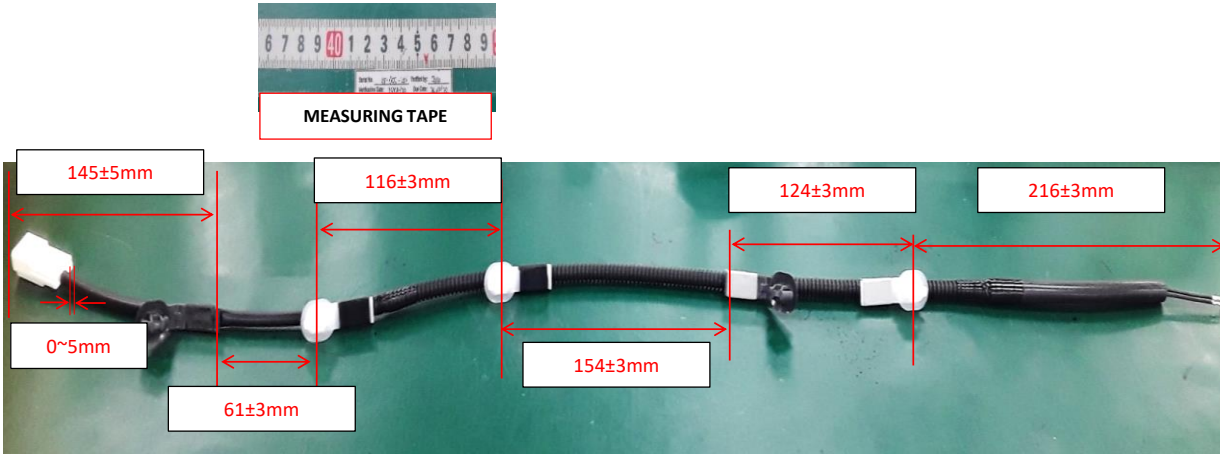
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| PARTS: | | JIG | | |
|--------|--------------|------------------------------|--|---|
| NO. | PROCESS NAME | WORK PROCEDURE/ ILLUSTRATION | TOOLS/PPE | QUALITY POINTERS |
| 5 | n/a | Measurement |  | <p>Important reminders/Note/s:</p> <ol style="list-style-type: none">For Hatsumono and Owarimono.Please use calibrated/verified measuring tape when getting the measurement. <p>1. No wrong dimension</p> |

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n/a

JIG

n/a

NO.

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WORK PROCEDURE/ ILLUSTRATION

TOOLS/PPE

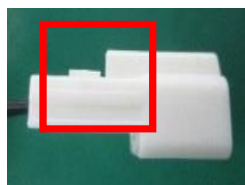
QUALITY POINTERS

P2

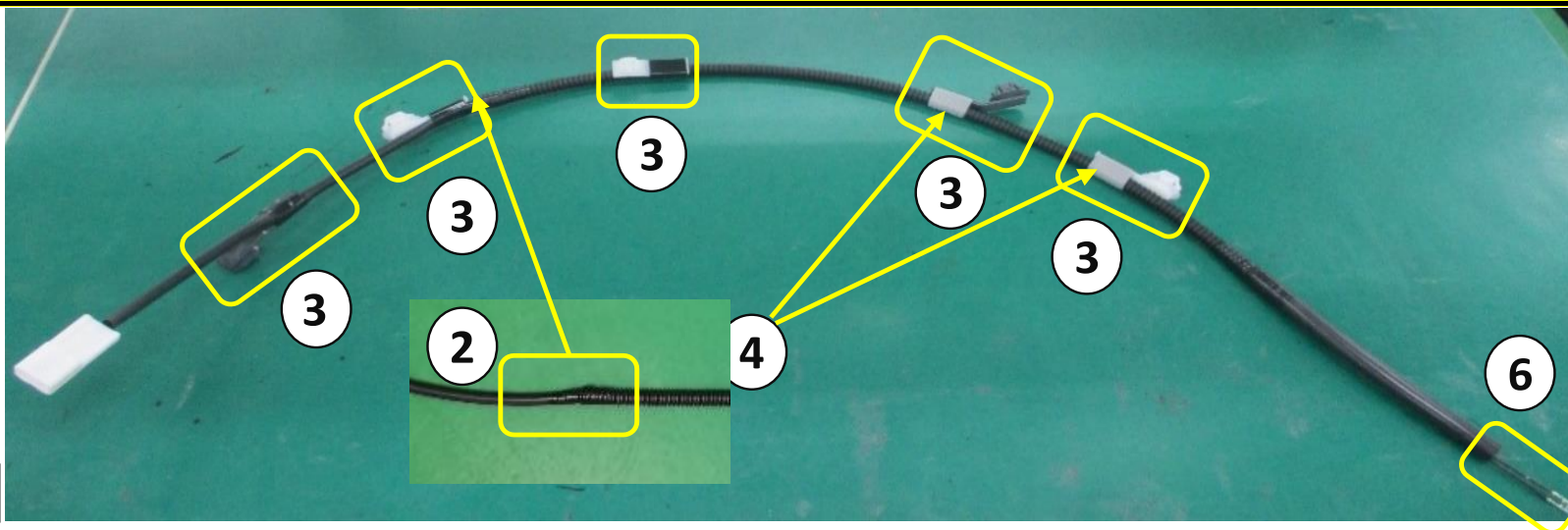
7M0524-7020C



GOOD



NO GOOD



1 No

Unlock/Halflock
Connector

2

No Missing Tape

4

No Wrong Used of
Tape (gray tape)

5

Checking of Clamp
Alignment

3

No Missing Clamp(5pcs.)

6

No Deformed Terminal

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