



WORK INSTRUCTION

TAPING ASSEMBLY PROCESS

Effectivity Date:

August 20, 2024

Process Name/Title:

Validity Date:

n/a

Model code/Part number:

310D / 7M0523-7020B

Customer:

TRJ

Car Model:

TOYOTA RAV4

Document No.:

WI-ENG-PDE-064

Purpose:

☐ PROTOTYPE☐ PRE-LAUNCH☒ MASSPRO

Revision No.:

7

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PARTS:

1. Connector 6098-3802 (W); Black wire AVSSf 0.3 L=646±3mm ; Black Corrugated tube ø5 L=507±5mm (No slit); Black VM tube (Sunprene) ø9 L=120±3mm; Black tape;

JIG:

1. Insertion jig
2. Locking jig

NO.

PROCESS NAME

WORK PROCEDURE/ ILLUSTRATION

TOOLS/PPE

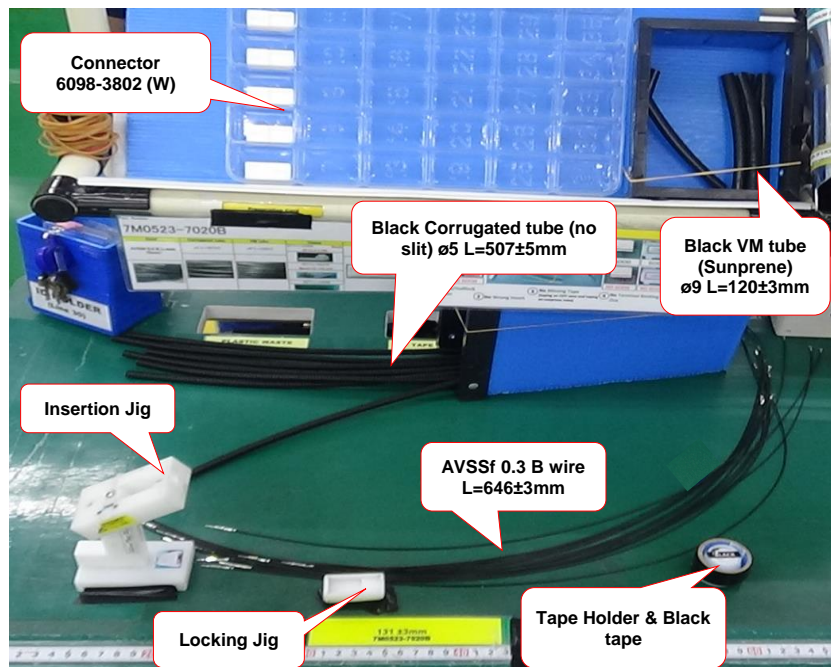
QUALITY POINTERS

1

P1

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

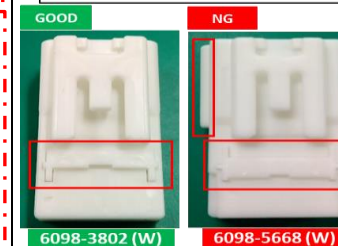
For any trouble, inform the Assembly Assistant Supervisor or Line Leader for immediate corrective action.

Document reference/s:

1. Refer to **WI-PRO-CNC-017** for Wire and Strip Length Tolerance

1. No missing parts/tools
2. No excess parts/tools

CONNECTOR ILLUSTRATION



Revision History

Eff. Date	Rev. No	Details of Change	Revised	Reviewed	Approved	Noted	Prepared by	Reviewed by	Approved by	Noted by
08/20/24	7	Inclusion of GOOD and NO GOOD illustration for terminal as countermeasure for customer claim of "Deformed terminal". Improved Visual inspection/Quality checkpoints.	D. Castillo	C. Villanueva	A. Arañes	n/a				
06/06/24	6	Inclusion of all improvements (Table lay-out; Visual inspection/Quality checkpoints; Important reminders and note/s; Document references). Standardized tube description VM tube (sunprene). Improve work procedure/illustration on connector lock process. Change process sequence and removal of terminal cover jig due to process improvement. Inclusion of Car model "TOYOTA-RAV 4"	D. Castillo	C. Villanueva	A. Arañes	n/a				
02/20/21	5	Change connector color in accordance with color standardization for plastic parts (Please refer to GL-COM-003 for Color Standardization for Plastic Parts). Change from 2x pulling to Pull-Push-Pull-Push insertion quality pointers. Remove cycle time.	D. Castillo	C. Villanueva	A. Shimamura	A. Arañes				
Eff. Date	Rev. No	Details of Change	Revised	Reviewed	Approved	Noted	Est. Date:	October 26, 2018		

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NO.	PROCESS NAME	WORK PROCEDURE/ ILLUSTRATION	TOOLS/PPE	QUALITY POINTERS
2	P1	<div><div><div><div><div>Insertion jig</div><div></div></div><div><div></div><div></div></div></div><div><div><div><div><div>L</div><div></div></div><div><div></div><div><div></div><div><div>3. Check the holes/terminal slot for B-B wires.</div></div></div></div></div><div><div>1. Press the lock of insertion jig using left thumb.</div><div>2. Insert the connector (6098-3802) into jig using right hand and release the lock.</div></div></div></div><div>N/A</div><div><div><div><div>Connector Orientation Illustration</div><div><div><div>I-mark is align</div><div></div><div>GOOD</div></div><div><div>I-mark is not align</div><div></div><div>NG</div></div></div></div><div><div>2. No wrong orientation of connector</div></div></div></div></div></div>		

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PARTS:

1. Black wire AVSSf 0.3 L=646mm [2pcs]
2. Black Corrugated tube $\phi 5$ L=507 \pm 5mm (No slit)

JIG:

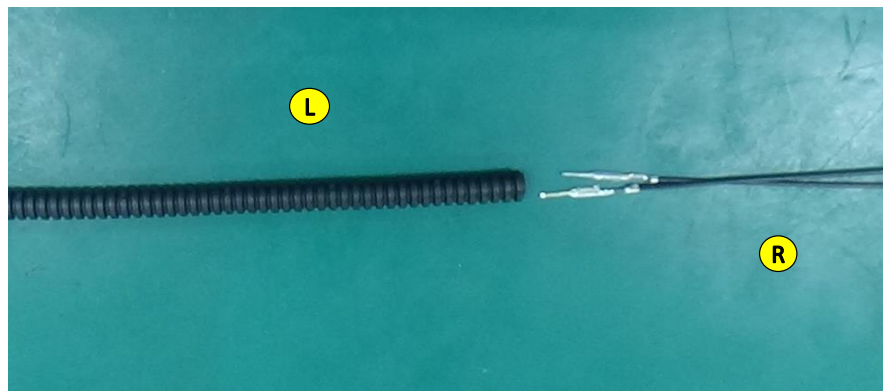
n/a

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

3

P1

Wire insertion to
Black Corrugated tube
 $\phi 5$ L=507 \pm 5mm (No slit)



1. Get **Black COT $\phi 5$ L=507 \pm 5mm** using left hand and insert Black wire AVSSf 0.3 L=646mm using right hand.

N/A

1. No wrong use of parts
2. No deformed terminal

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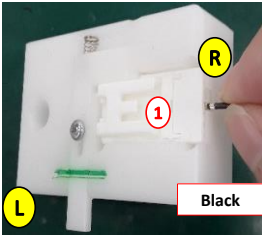
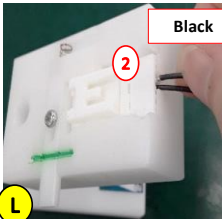


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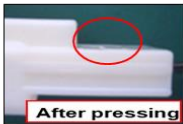
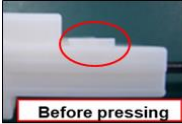
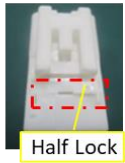

PARTS:	1. Assy parts		JIG:	1. Insertion jig
NO.	PROCESS NAME	WORK PROCEDURE/ ILLUSTRATION	TOOLS/PPE	QUALITY POINTERS
4	P1 Wire insertion to connector 6098-3802 (W)	<div><div><div>Wire facing</div></div><div><div><div>1. Get the first Black wire and insert to Slot 1 of connector using right hand.</div></div><div><div><div>2. Get the second Black wire and insert to Slot 2 of connector using right hand.</div></div><div><div><div>3. After insertion, push the lock using left thumb, hold the wires and gently pull out the connector from jig using right hand. Check the terminal condition.</div></div><div><div></div></div></div></div></div></div>	N/A	<p>Important reminders/Note/s:</p> <p>1. Please hold the wire near terminal during insertion. 2. Insertion must be from left to right. 3. Make sure wires are properly inserted. Conduct <u>Pull-Push-Pull-Pull</u> after insertion. Do not exert extra force.</p> <p>Document reference/s:</p> <p>1. Refer to WI-PRO-CNC-017 for Wire and Strip length tolerance. 2. Refer to GL-PRO-ASY for pull-push procedure.</p> <p>1. No loose insertion 2. No wrong insertion 3. One by one insertion 4. No deformed terminal 5. No wrong wire facing 6. No terminal backing out</p>

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	Purpose: <input type="checkbox"/> PROTOTYPE <input type="checkbox"/> PRE-LAUNCH <input checked="" type="checkbox"/> MASSPRO			Revision No.:	7	Page No.:	5 of 9


PARTS:	1. Assy parts			JIG:	1. Locking jig			
NO.	PROCESS NAME	WORK PROCEDURE/ ILLUSTRATION			TOOLS/PPE	QUALITY POINTERS		
5	P1	Connector Lock			<div>LOCKING JIG</div> 	<div></div> <div></div> <div>1. Use the provided jog per model 2. No unlocked/half-locked connector</div> <div>Important reminders/Note/s: 1. Manual locking may cause damaged connector lock.</div> <div>Document reference/s: 1. Refer to WI-PRO-KIT-001 for Proper locking and checking of connector lock.</div>		

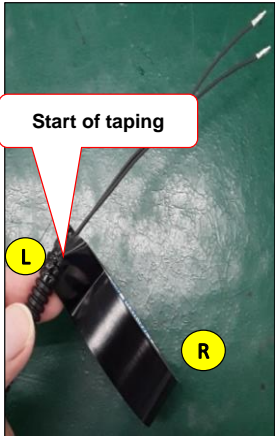

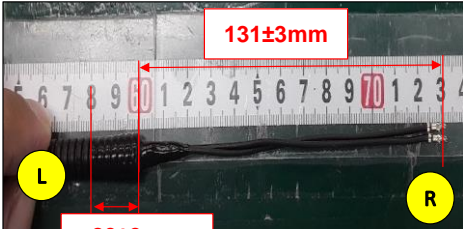

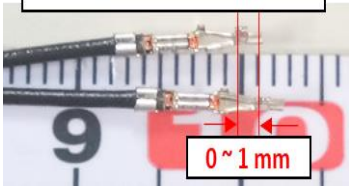
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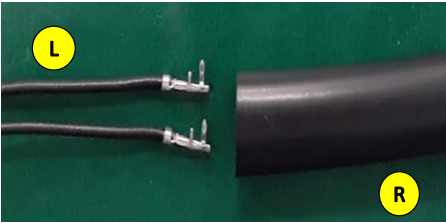
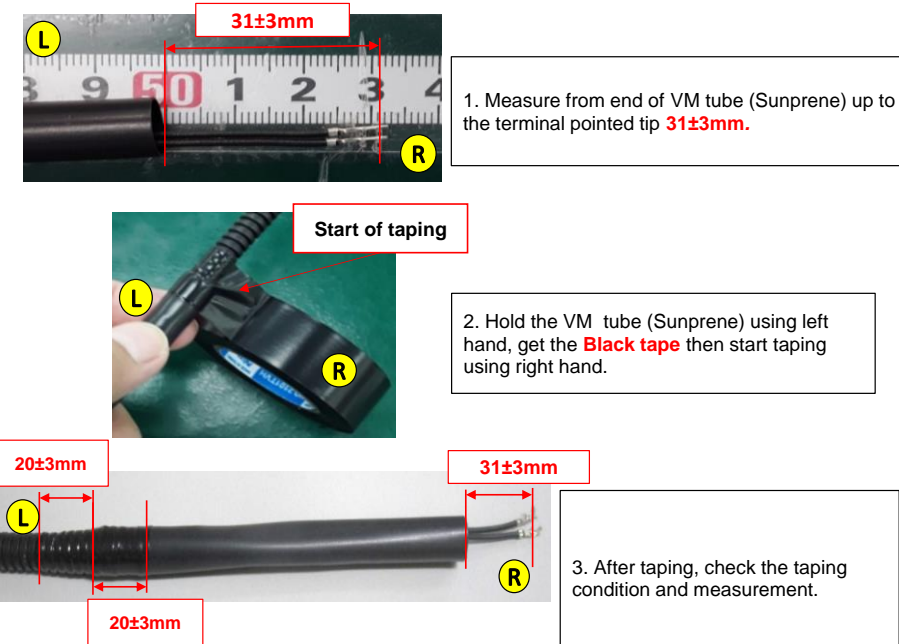

PARTS:		1. Assy parts 2. Black tape		JIG:	n/a	
NO.	PROCESS NAME	WORK PROCEDURE/ ILLUSTRATION		TOOLS/PPE	QUALITY POINTERS	
6	P1 Taping 1 Corrugated tube to wire near terminal	<div><p>Start of taping</p></div> <div><p>131±3mm</p></div> <div><p>2. Measure from end of COT up to the terminal tip 131±3m then continue the taping process.</p></div> <div><p>20±3mm</p></div> <div><p>3. After taping, check the taping condition, wire alignment and measurement.</p></div>		<div><p>MEASURING TAPE</p></div>	<div><p>Wire alignment tolerance 0~1 mm</p></div> <div><p>1. No flip-out tape 2. No peel-off tape 3. No loose tape 4. No missing tape 5. No wrong dimension 6. No wrong use of tape</p></div> <div><p>Important reminders and Note/s: 1. Please use calibrated/verified measuring tape when getting the measurement.</p><p>Document reference/s: 1. Refer to WI-PRO-ASY-001 for taping procedure.</p></div>	

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PARTS:	1. Assy parts 2. Black tape		3. VM tube (Sunprene) Ø9 L=120±3mm		JIG:	n/a	
NO.	PROCESS NAME	WORK PROCEDURE/ ILLUSTRATION			TOOLS/PPE	QUALITY POINTERS	
7	P1	Wire insertion to Black VM tube (Sunprene) ø9 L=120±3mm	 <div>1. Get and hold Black wires (Assy Parts) using right hand then get and insert VM tube (Sunprene) Ø9 L=120±3mm using left hand.</div>			n/a	1. No wrong use of parts 2. No deformed terminal
8		Taping 2 Black Corrugated tube (No slit) to Black VM tube (Sunprene)	 <div>1. Measure from end of VM tube (Sunprene) up to the terminal pointed tip 31±3mm.</div> <div>2. Hold the VM tube (Sunprene) using left hand, get the Black tape then start taping using right hand.</div> <div>3. After taping, check the taping condition and measurement.</div>			<div>MEASURING TAPE</div> 	Important reminders and Note/s: 1. Please use calibrated/verified measuring tape when getting the measurement. Document reference/s: 1. Refer to WI-PRO-ASY-001 for taping procedure. 1. No flip-out tape 2. No peel-off tape 3. No loose tape 4. No missing tape 5. No wrong dimension 6. No wrong use of tape

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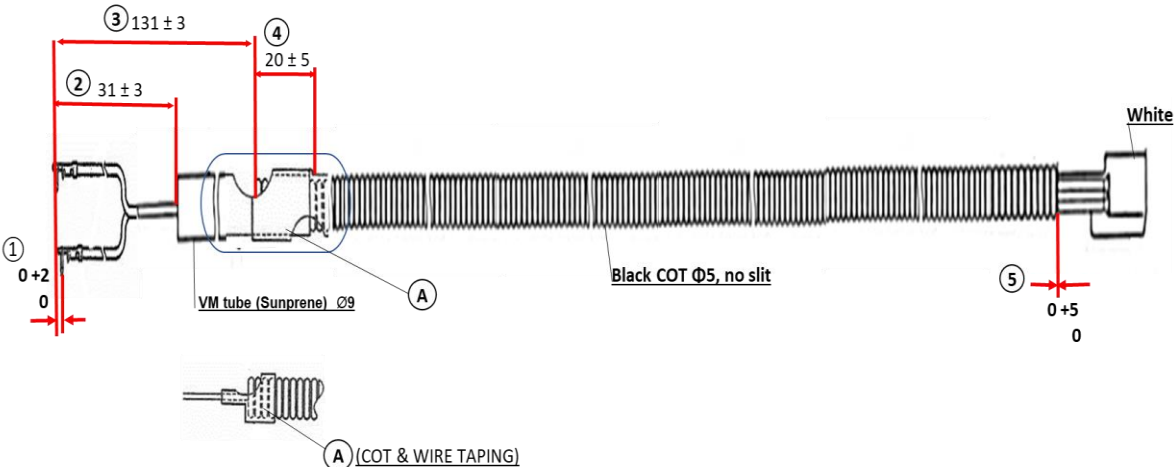
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PARTS:	1. Assy parts		JIG:	n/a
NO.	PROCESS NAME	WORK PROCEDURE/ ILLUSTRATION	TOOLS/PPE	QUALITY POINTERS
9	P1	Measurement	<div>MEASURING TAPE</div>  	<p>Important reminders and note/s:</p> <p>1. Please use calibrated/verified measuring tape when getting the measurement.</p> <p>2. For Hatsumono, Nakamono and Owarimono.</p> <p>Document reference/s:</p> <p>1. Refer to <i>WI-PRO-ASY-056</i> for Sub-assembly Hatsumono Nakamono Owarimono Inspection</p> <p>1. No wrong dimension.</p>

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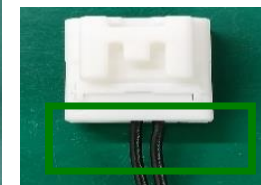
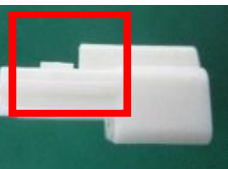
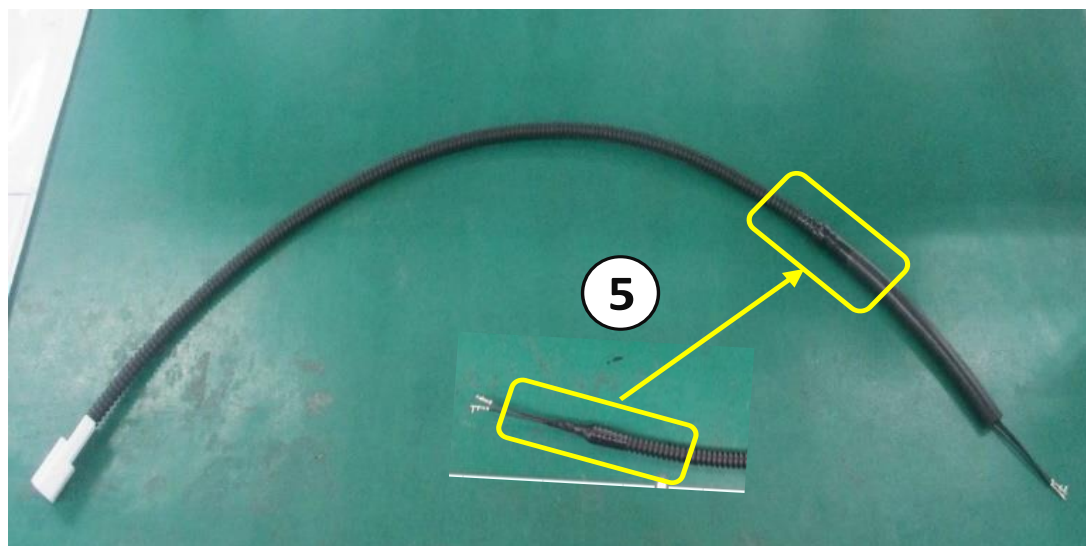
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PARTS:

1. Assy parts

JIG:

N/A

**VISUAL INSPECTION/ QUALITY CHECKPOINTS****P1****7M0523-7020B****1****GOOD****2****GOOD****3****GOOD****NO GOOD****NO GOOD****5****NO GOOD****1 No Unlocked/ Half-locked Connector****3 No Terminal Backing Out****5****No Missing Tape**
(taping on COT-wire and taping on sunprene tube)**2 No Wrong Insert****4 No Deformed terminal**

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