



WORK INSTRUCTION

Process Name/Title:

TAPING ASSEMBLY PROCESS

Effectivity Date:

June 6, 2024

Model code/Part number:

310 / 7M0555-7020A

Customer:

TRJ

Car Model:

TOYOTA-RAV4

Document No.:

WI-ENG-PDE-116A

Purpose:

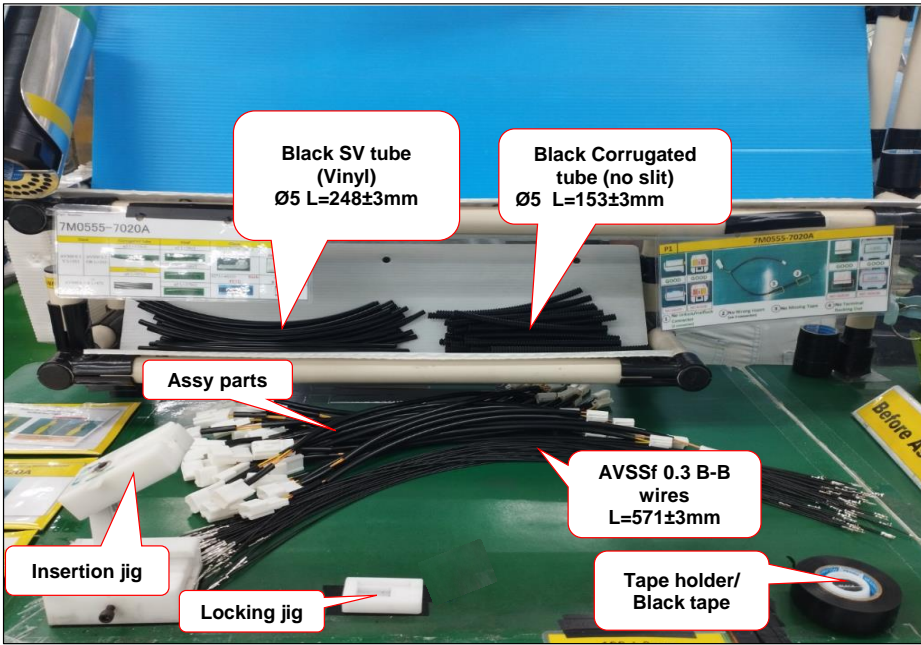
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PARTS:		1. Assy Parts; Black corrugated tube (no slit) $\varnothing 5$ L=153mm; Black SV tube (Vinyl) $\varnothing 5$ L=248mm; AVSSf 0.3 B wires L=571; Black tape;				JIG:		1. Insertion jig 2. Locking jig		
NO.	PROCESS NAME		11 WORK PROCEDURE/ ILLUSTRATION				TOOLS/PPE		QUALITY POINTERS	
1	P1	Table Lay-out	<div>Table Lay-out</div> 				<div>Safety Instruction Be sure to wear required 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>Document reference/s: 1. Please refer to WI-ENG-PDE-532 for Offline Assembly Process 2. Please refer to WI-PRO-CNC-017 for Wire and Strip length tolerance.</div> <div>1.No missing parts/tools. 2.No excess parts/tools.</div>	
Revision History										
06/06/24	11	Change process sequence. Removal of terminal cover jig and Taping corrugated tube to vinyl tube first before wire insertion to connector and improve Visual inspection. on page 9.				A.Hernandez	C. Villanueva	A. Arañes	n/a	
04/26/23	10	Inclusion of Quality Checkpoints. Standardize tube description:SV tube (Vinyl) on process 1, 3 and 5 due to Document process improvement.				M.Ariola	J. Loterte	C. Villanueva	A. Arañes	
12/02/22	9	Change process sequences to prevent connector 6098-2220(W) hit to the table during taping.				M.Ariola	J. Loterte	C. Villanueva	A. Arañes	
11/11/22	8	Improve Quality pointers; Reminders/notes and reminders on page no.1,2,3,4,5,7 and 8 due to document improvements; Improve work procedure on process no.5- Connector lock due to process improvements.				M. Catapang	R. Peñaloza	A. Shimamura	A. Arañes	
Eff. Date	Rev. No	Details of Change				Revised	Reviewed	Approved	Noted	Est. Date:
										October 17, 2018

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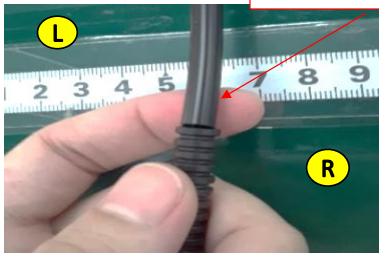
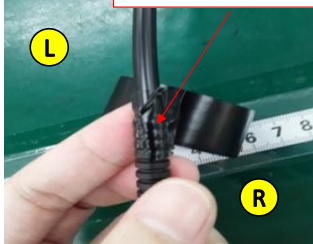
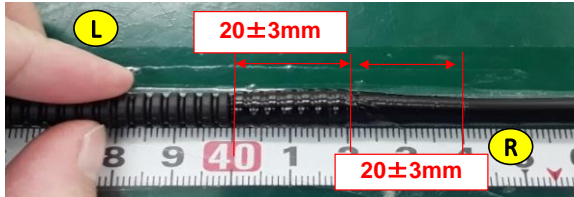

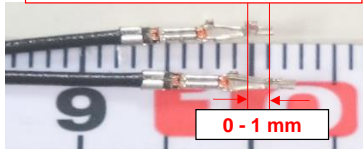
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PARTS:		1. Black Corrugated tube(no slit) Ø5 L=153±3mm 2. Black tape		3. Black SV tube (Vinyl) Ø5 L=248±3mm	JIG:	n/a	
NO.	PROCESS NAME		WORK PROCEDURE/ ILLUSTRATION			TOOLS/PPE	QUALITY POINTERS
2	P1	Taping 1 Black Corrugated tube(no slit) Ø5 L=153±3mm to Black SV tube (Vinyl) Ø5 L=248±3mm	<div><div></div><div></div><div><p>1. Get the Black Corrugated tube (no slit) Ø5 L=153±3mm and Black SV tube (Vinyl) Ø5 L=248±3mm using right hand. Then Fix the corrugated tube and SV tube (Vinyl) using both hands. Note: Must be no gap in between.</p></div><div></div><div><p>3. After taping, check the measurement and taping condition. NOTE: Must be tape width 20±3mm</p></div></div> <div><div>MEASURING TAPE</div></div>			<div><div>Wire alignment tolerance</div></div> <div><p>Important reminders/Note/s:</p><p>1.Please use calibrated/ verified measuring tape when getting the measurement.</p><ol style="list-style-type: none">1. No flip-out tape2. No peel-off tape3. No loose tape4. No missing tape5. No wrong use of tape6. No wrong dimension</div>	

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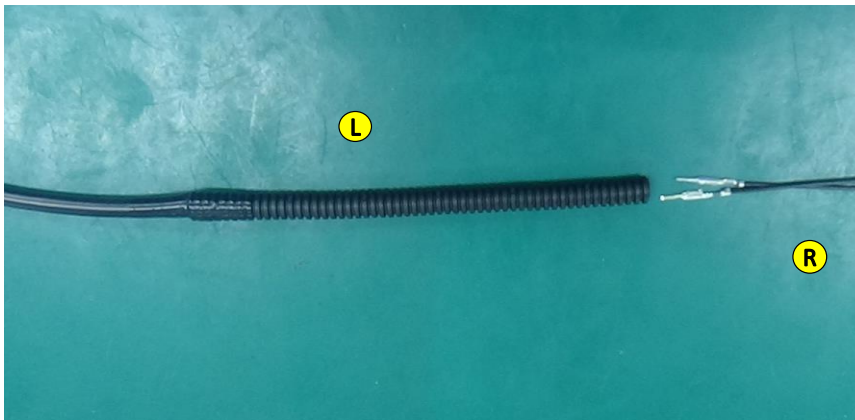
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PARTS:		1. Corrugated tube(Ø5 L=153mm) ;Vinyl tube (Ø5 L=248mm) (Assy Part) ; Black wire AVSSf 0.3 L=571mm		JIG:	n/a
NO.	PROCESS NAME	WORK PROCEDURE/ ILLUSTRATION		TOOLS/PPE	QUALITY POINTERS
3	P1	<div>Wire insertion to Black COT (no slit) Ø5 L=507±5mm and Black vinyl tube Ø5L=248±3mm (Assy Part)</div> <div></div> <div>1. Get combined (Black COT Ø5 L=153mm/Black VT Ø5 L=248mm) using left hand and insert Black wires L=571±3mm using right hand.</div>		n/a	1. No wrong use of parts 2. No deformed terminal

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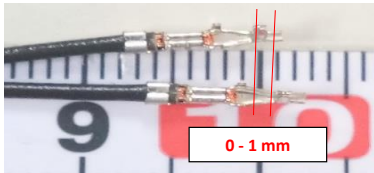
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PARTS:		1. Assy parts 2.Black tape		JIG:	n/a
NO.	PROCESS NAME	WORK PROCEDURE/ ILLUSTRATION		TOOLS/PPE	QUALITY POINTERS
4	P1 Taping 2 Black corrugated tube to wire near terminal	<div><div><div>Start of taping</div><div><div>L</div><div>R</div></div></div><div><div>108±3mm</div><div><div>L</div><div>R</div></div></div><div><div>108±3mm</div><div><div>L</div><div>R</div></div></div><div><div>20±3mm</div><div><div>L</div><div>R</div></div></div><div>2. Measure from end of COT up to the terminal tip 108±3mm and continue the taping process.</div><div>3. After taping, check the measurement, wire alignment and taping condition.</div></div> <div><div>MEASURING TAPE</div><div></div></div>		<div><div>Wire alignment tolerance</div><div></div></div> <div><div>Important reminders/Note/s:</div><div>1. Please use calibrated/ verified measuring tape when getting the measurement.</div><div>2. No flip-out tape</div><div>3. No peel-off tape</div><div>4. No loose tape</div><div>5. No missing tape</div><div>6. No wrong use of tape</div><div>7. No wrong dimension</div></div>	

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PARTS:		1. Connector 6098-3802 (W) (Assy Parts)		JIG:	1. Insertion jig
NO.	PROCESS NAME	WORK PROCEDURE/ ILLUSTRATION		TOOLS/PPE	QUALITY POINTERS
5	P1	<div><div><div><div><div>INSERTION JIG</div><div>I-MARK</div><div>Lock</div><div>Holes</div><div>Visual reference</div></div><div><div>I-MARK</div><div>Lock</div><div>Visual reference</div></div><div><div>CONNECTOR ORIENTATION</div></div></div><div><div><div>L</div><div>↑</div><div>Press</div></div><div>1. Press the lock of insertion jig using left thumb.</div></div><div><div><div>L</div><div>↑</div><div>Press</div></div><div>2. Insert the connector 6098-3802 (W) with inserted Y-OR wires into jig using right hand and release the lock. Holes/terminal slot for B-B wires are opened.</div></div><div><div><div>L</div><div>↓</div><div>Release</div></div><div>3. Check the holes for B-B wires, it must be opened.</div></div></div><div><div><div>GOOD</div><div>6098-3802 (W)</div></div><div><div>NG</div><div>6098-5668 (W)</div></div></div></div>		n/a	<div><div>1. Use the provided jig per model</div><div>2. No wrong orientation of connector</div><div>3. No wrong use of connector</div><div>4. No damaged connector</div></div> <div><div>Connector Orientation Illustration</div><div><div><div>GOOD</div><div>6098-3802 (W)</div></div><div><div>NG</div><div>6098-5668 (W)</div></div></div></div>

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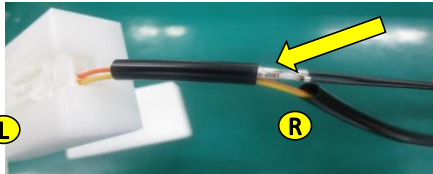


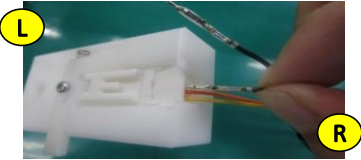
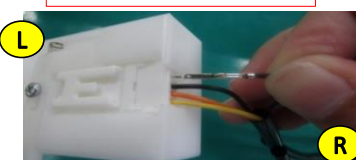
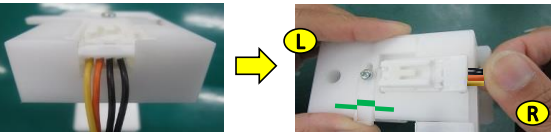
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PARTS:	1. Assy parts 2. AVSSf 0.3 B-B wires L=571±3mm [2pcs.]			JIG:	1. Insertion jig
NO.	PROCESS NAME	WORK PROCEDURE/ ILLUSTRATION		TOOLS/PPE	QUALITY POINTERS
6	Wire AVSSf 0.3 B-B wires L=571±3mm [2pcs.] insertion to assy parts	 <div data-bbox="1014 448 1458 552">1. Hold the SV tube (Vinyl) Ø5 L=30±3mm using left hand then insert B-wires L=571±3mm the assy parts using right hand.</div>		n/a	1. No wrong insertion 2. No deformed terminal
7	P1 Wire insertion to connector 6098-3802 (W)	 <div data-bbox="781 756 889 780">Wire facing</div>  <div data-bbox="1099 788 1276 812">TERMINAL SLOTS</div>  <div data-bbox="562 979 985 1131">1. Hold the 1st B wire and insert to terminal slot 3 beside OR wire using right hand. Conduct Pull-Push-Pull-Push after insertion. Note: Insertion of wire must be from left to right.</div>  <div data-bbox="1010 979 1431 1075">2. Hold the 2nd B wire and insert to terminal slot 4 using right hand. Conduct Pull-Push-Pull-Push after insertion.</div>  <div data-bbox="1140 1155 1447 1275">3. After insertion, press the lock of insertion jig using left hand, hold the wires and gently pull out the connector from jig using right hand.</div>		n/a	1. No loose insertion 2. No wrong insertion 3. One by one insertion 4. No deformed terminal 5. No wrong wire facing Important reminders/Note/s: 1. Please hold the wire near terminal during insertion. 2. Insertion of Wire must be from left to right. 3. Make sure wires are properly inserted. Conduct Pull-Push-Pull-Push after insertion. Do not exert extra force. Document reference/s: 1. Please refer to WI-PRO-CNC-017 for Wire and Strip length tolerance. 2. Please refer to GL-PRO-ASY-029 for pull-push procedure.

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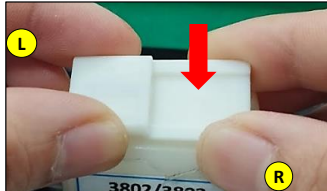




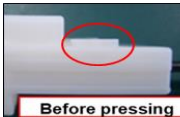


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PARTS:	1. Assy parts			JIG:	1. Locking jig
NO.	PROCESS NAME	WORK PROCEDURE/ ILLUSTRATION		TOOLS/PPE	QUALITY POINTERS
8	P1 Connector Lock	<div><div><p>1. Load the connector into the jig holding both side of the connector, tip first.</p></div><div><p>2. Press the lower part of connector to fully insert into the locking jig.</p></div><div><p>Right thumb-Lower Left thumb-middle</p><p>3. Press the lower parts of connector using right hand while left hand holding the middle.</p></div><div><p>Right thumb-upper Left thumb-middle</p><p>4. Press the upper part of connector using right hand while left hand holding the middle.</p></div></div>		<div>LOCKING JIG</div> 	<p>Important reminders/Note/s:</p> <p>1. Manual locking may cause damaged connector lock.</p> <p>1. Use the provided jog per model 2. No unlocked/half-locked connector</p> <div></div> <div><div>GOOD  Full Lock</div><div>NG  Half Lock</div></div>

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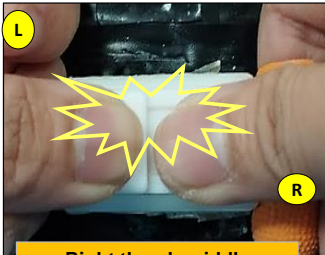
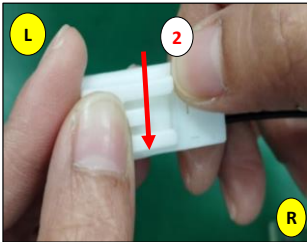
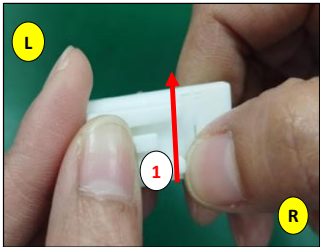


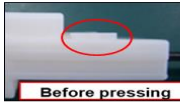
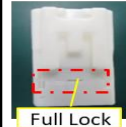

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PARTS:		1. Assy parts		JIG:	1. Locking jig
NO.	PROCESS NAME	WORK PROCEDURE/ ILLUSTRATION		TOOLS/PPE	QUALITY POINTERS
9	P1 Connector Lock (Continuation)	<div><p>Right thumb-middle Left thumb-middle</p></div> <div><p>5. Lift then press the connector in the middle using left and right hand.</p></div> <div></div> <div><p>6. Ensure that connector is in locked condition by slide touching the connector lock based on the sequence illustrated.</p></div>		<div><p>LOCKING JIG</p></div>	<div></div> <div><p>GOOD</p><p>Full Lock</p><p>NG</p><p>Half Lock</p></div> <div><p>Important reminders/Note/s:</p><p>1. Manual locking may cause damaged connector lock.</p><p>1. Use the provided jog per model 2. No unlocked/half-locked connector</p></div>

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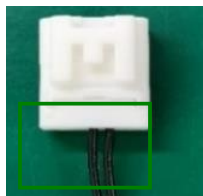
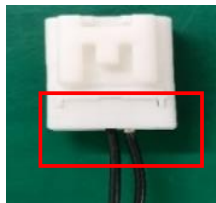
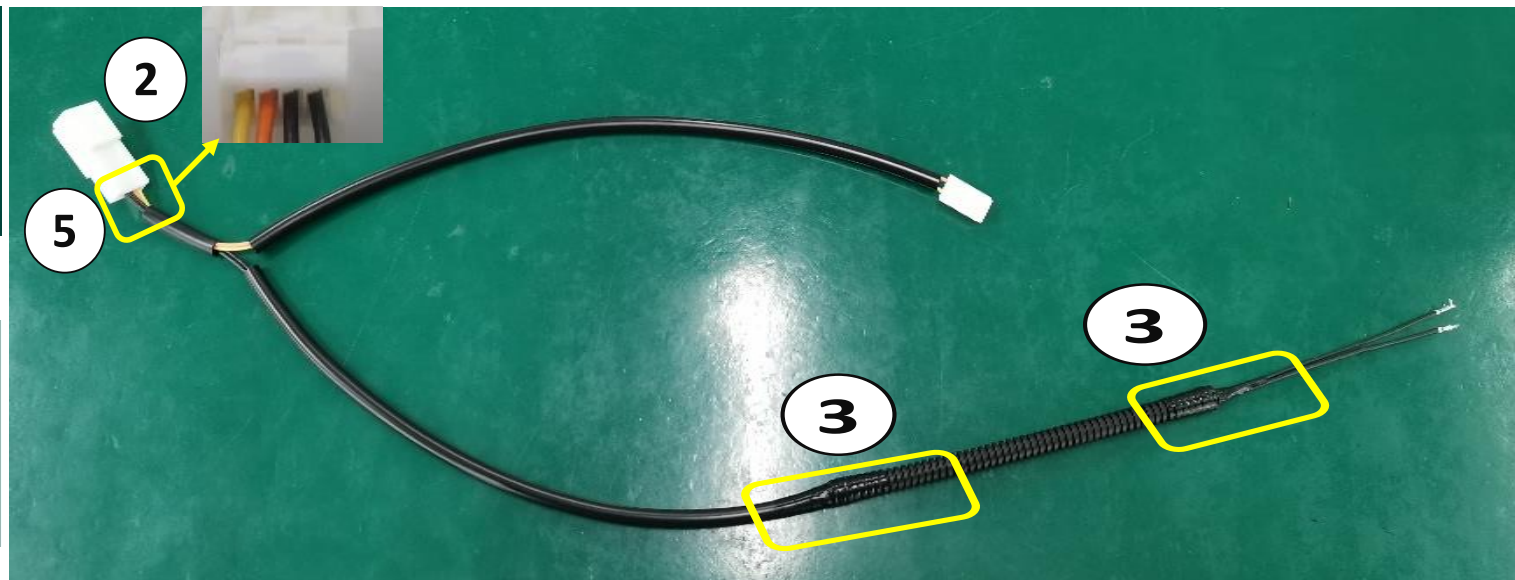
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PARTS:

n/a

JIG:

n/a

**VISUAL/QUALITY POINTERS****TAPING-P1****7M0555-7020A****GOOD****GOOD****NO GOOD****NO GOOD****1****No Unlock/Halflock
Connector****2****No Wrong Insert****3****No Missing Tape****4****No Terminal Backing
Out****5****No Deformed Terminal**

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