



WORK INSTRUCTION

TAPING ASSEMBLY PROCESS

Effectivity Date:

October 15, 2024

Process Name/Title:

Validity Date:

n/a

Model code/Part number:

780B / 7R0102-7023B

Customer:

TRMX

Car Model:

TOYOTA TUNDR

Document No.:

WI-ENG-PDE-1101A

Purpose:



PROTOTYPE



PRE-LAUNCH



MASSPRO

Revision No.:

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PARTS:

1. Connector 6189-1142 (W); Connector 6189-1161 (B); AVSSf 0.3 wires Y L=460±2mm; AVSSf 0.3 wires OR L=460±2mm; Black Vinyl tube Ø7 L=219±3mm; Black Vinyl tube Ø5 L=194±3mm; Black Sunprene tube Ø5 L=135±3mm; MR SW CP TVSSf 0.3 wires G L=642±3mm; TVSSf 0.3 wires B/W L=642±3mm; Black tape; Black COT Ø7 L=205±3mm (no slit).

JIG:

1. Insertion jig w/ switch cover & insertion jig only
2. Locking jig
3. Terminal cover jig

NO.

PROCESS NAME

WORK PROCEDURE/ ILLUSTRATION

TOOLS/PPE

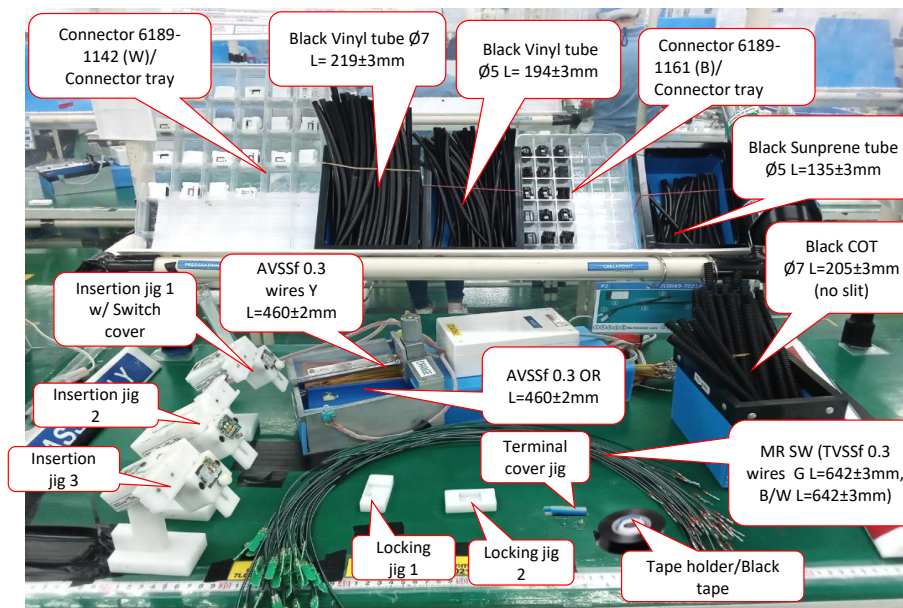
QUALITY POINTERS

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.

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

Document reference/s:

1. Please refer to WI-PRO-CNC-017 for Wire and Strip Length tolerance.
2. Please refer to WI-PRO-KIT-005 for Wire Taping without Vinyl tube.

Revision History

Prepared by

Reviewed by

Approved by

Noted by

10/15/24 1 Change pre-launch to mass pro

A.Hernandez C. Villanueva A. Arañes n/a

10/14/24 0 Initial issue.

A.Hernandez C. Villanueva A. Arañes n/a

Eff. Date Rev. No Details of Change

Revised Reviewed Approved Noted

Est. Date:

October 14, 2024

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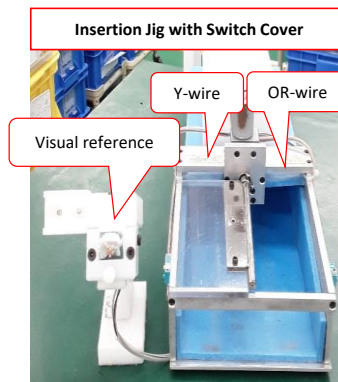
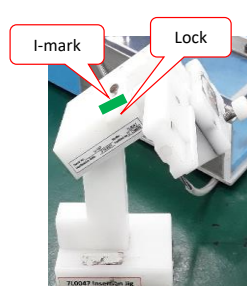
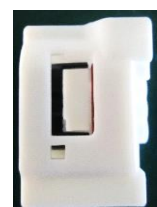
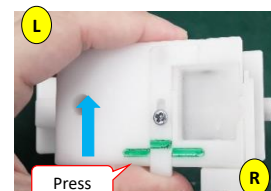

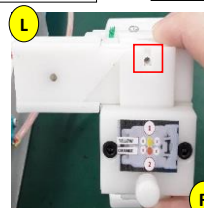



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PARTS:		1. Connector 6189-1142 (W)		JIG:	1. Insertion jig with switch cover
NO.	PROCESS NAME	WORK PROCEDURE/ ILLUSTRATION		TOOLS/PPE	QUALITY POINTERS
2	P1 Connector setting to Insertion jig 6189-1142 (W)	<div><div><p>Insertion Jig with Switch Cover</p><p>Y-wire</p><p>OR-wire</p><p>Visual reference</p></div><div><p>I-mark</p><p>Lock</p><p>Insertion Jig Orientation</p></div><div><p>Connector Orientation</p></div><div><p>Press</p><p>1. Press the insertion jig lock using left hand.</p></div><div><p>Press</p><p>2. Get the connector 6189-1142 (W) using right hand and insert to insertion jig. Release the lock after insertion.</p></div><div><p>3. Push the lower wire guide upward using right hand. Slot for yellow wire will be open.</p></div></div> <div>n/a</div> <div><div>CONNECTOR ORIENTATION ILLUSTRATION</div><div><p>I-mark is align</p></div><div><p>1 hole is open</p></div><div><p>GOOD</p></div></div>			

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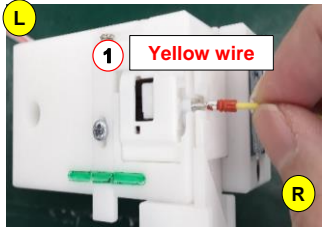
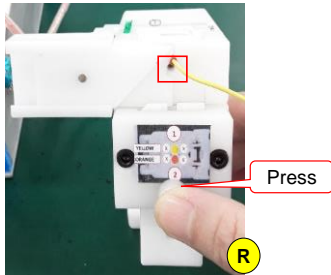
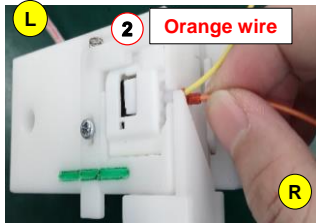
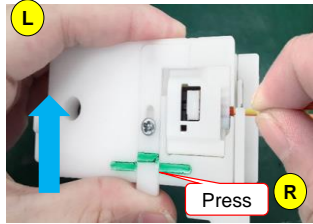
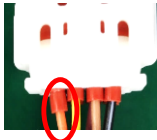
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PARTS:	1. AVSSf 0.3 wires Y L=460±2mm, OR L=460±2mm		JIG:	1. Insertion jig with switch cover
NO.	PROCESS NAME	WORK PROCEDURE/ ILLUSTRATION	TOOLS/PPE	QUALITY POINTERS
3	P1 Wire Insertion to connector 6189-1142 (W)	<div><div><div>Wire facing</div></div><div><div><div>1 Yellow wire</div></div><div><div>Press</div></div></div><div><div><div>2 Orange wire</div></div><div><div>Press</div></div></div><div><div><div>1. Hold the insertion jig using left hand. Get the Yellow wire and insert to connector using right hand.</div><div>2. Press the button using right thumb. slot for Orange wire will be open.</div></div><div><div>3. Get the Orange wire and insert to connector using right hand.</div><div>4. After insertion, push the lock using left thumb and then hold the wires and gently pull out the connector from jig using right hand.</div></div></div></div>	n/a	<div><div>Important reminders/Note/s:</div><div><div>1. Make sure wires are properly inserted. Conduct Pull-Push-Pull-Push after insertion. Do not exert extra force.</div><div>2. During insertion, hold the wire not the rubber seal to prevent the sagging.</div></div><div></div><div><div>1. No loose insertion</div><div>2. No wrong insertion</div><div>3. One by one insertion</div><div>4. No deformed terminal</div><div>5. No wrong wire facing</div></div><div><div>Document reference/s:</div><div><div>1. Refer to WI-PRO-CNC-017 for Wire and Strip length tolerance.</div><div>2. Refer to GL-PRO-ASY-029 for Pull-Push procedure.</div></div></div></div>

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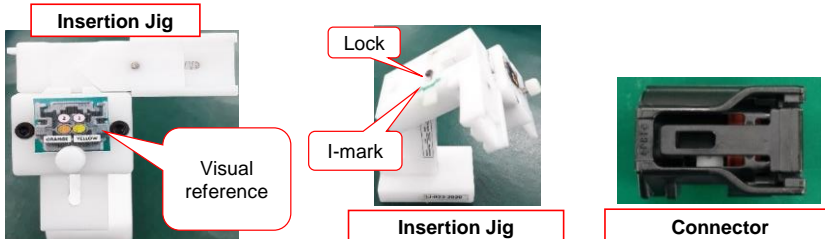
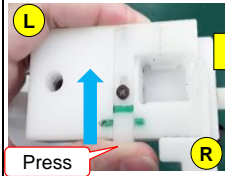
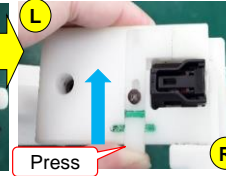
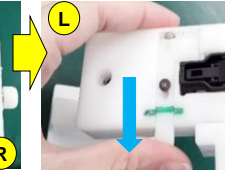


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PARTS:		1. Assy parts. 2. Black Vinyl tube Ø7 L= 219±3mm		3. Black Vinyl tube Ø5 L= 194±3mm 4. Connector 6189-1161 (B)		JIG:	1. Insertion jig
NO.	PROCESS NAME		WORK PROCEDURE/ ILLUSTRATION			TOOLS/PPE	QUALITY POINTERS
4		Wire insertion to Vinyl tube Ø7 L= 219±3mm Ø5 L= 194±3mm	<div><div><p>1. Get the Vinyl tube Ø7 L= 219±3mm using right hand then insert the yellow wire and orange wire by using left hand.</p></div><div><p>2. Get the Vinyl tube Ø5 L= 194±3mm using right hand then insert the yellow wire and orange wire by using left hand.</p></div></div>			n/a	1. No wrong use of parts 2. No deformed terminal
5	P1	Connector setting to Insertion jig 6189-1161 (B)	<div><div><p>Insertion Jig</p><p>Lock</p><p>I-mark</p><p>Visual reference</p><p>Insertion Jig</p><p>Connector</p></div><div><p>Press</p><p>1. Press the insertion jig lock using left hand.</p></div><div><p>Press</p><p>2. Get the connector 6189-1161 (B) using right hand and insert to insertion jig. Release the lock after insertion.</p></div><div><p>3. Push the lower wire guide upward using right hand. Slot for yellow wire will be open.</p></div></div>			n/a	<div><div><p>CONNECTOR ORIENTATION ILLUSTRATION</p><p>I-mark is align</p><p>1 hole is open</p><p>GOOD</p></div><div><p>I-mark is not align</p><p>1 hole is open</p><p>NG</p></div><p>1. Use the provided jig per model 2. No wrong orientation of connector</p></div>

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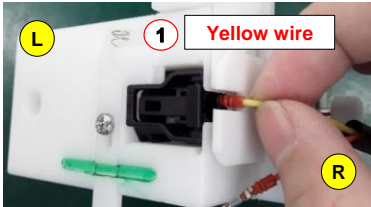
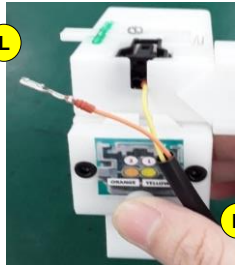
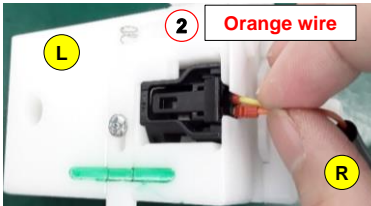
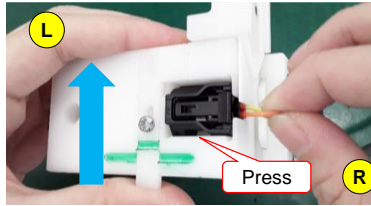
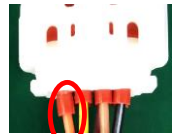
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PARTS:		1. Assy parts		JIG:	1. Insertion jig
NO.	PROCESS NAME	WORK PROCEDURE/ ILLUSTRATION		TOOLS/PPE	QUALITY POINTERS
6	P1	Wire insertion to connector 6189-1161 (B)	<div><p>Wire facing</p></div> <div><p>1. Hold the insertion jig using left hand. Get the Yellow wire and insert to connector using right hand.</p></div> <div><p>2. Press the button using right thumb. slot for Orange wire will be open.</p></div> <div><p>3. Get the Orange wire and insert to connector using right hand.</p></div> <div><p>4. After insertion, push the lock using left thumb and then hold the wires and gently pull out the connector from jig using right hand.</p></div>	n/a	<p>Important reminders/Note/s:</p> <p>1. Make sure wires are properly inserted. Conduct <u>Pull-Push-Pull-Push</u> after insertion. Do not exert extra force. 2. During insertion, hold the wire not the rubber seal to prevent the sagging.</p>  <p>1. No loose insertion 2. No wrong insertion 3. One by one insertion 4. No deformed terminal 5. No wrong wire facing</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-029 for Pull-Push procedure.</p>

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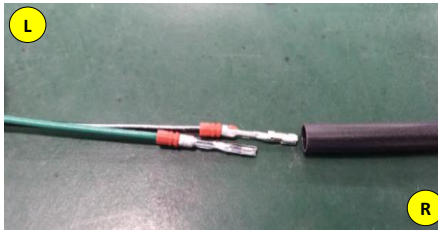
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PARTS:

1. Assy parts
2. Black Sunprene tube Ø5 L= 135±3mm
3. MR SW CP (TVSSf 0.3 wires G L=(642mm;B/W L=642mm)

JIG:

1. Locking jig

NO.	PROCESS NAME	WORK PROCEDURE/ ILLUSTRATION	TOOLS/PPE	QUALITY POINTERS
7	Connector lock	 <p>1. Put the connector into locking jig using both hands and then press 2x. Check the connector lock if properly lock.</p>  <p>BEFORE PRESSING</p>  <p>AFTER PRESSING</p>  <p>NG NG GOOD</p> <p>Unlock Condition Half Lock Condition Full Lock Condition</p>	<p>LOCKING JIG</p> 	<p>Important reminders/Note/s:</p> <p>1. Manual locking may caused damaged connector lock</p> <p>1. Use provided locking jig per model. 2. No unlock/half-locked connector</p>
8	Wire insertion to Sunprene tube Ø5 L= 135±3mm	 <p>1. Get the Sunprene tube Ø5 L= 135±3mm using left hand then insert the G and B/W hotmelted wires by using right hand.</p>	n/a	<p>1. No wrong use of parts 2. No deformed terminal</p>

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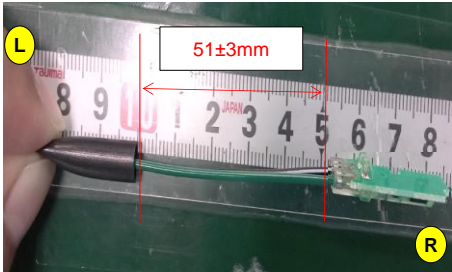
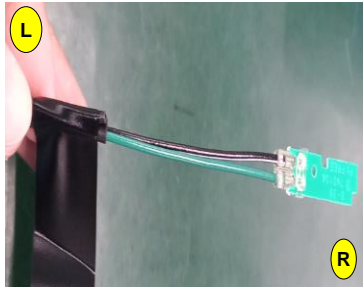
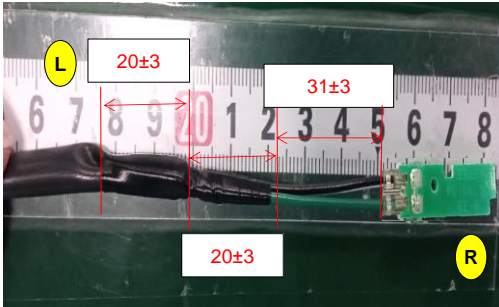

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PARTS:	1. Black tape			JIG:	n/a
NO.	PROCESS NAME	WORK PROCEDURE/ ILLUSTRATION		TOOLS/PPE	QUALITY POINTERS
9	P1 Taping 1 Sunprene tube to wire near PCB	<div><div></div><div></div><div><p>1. Hold the Sunprene tube using left hand. Measure the end of Sunprene up to the edge of hotmelted wires 51±3mm using right hand.</p></div><div><p>2. Hold the Sunprene tube using left hand. Get the Black tape using right hand and start taping.</p></div><div></div><div><p>3. After taping, check the measurement and taping condition.</p></div></div> <div><p>MEASURING TAPE</p></div> <td><p>Important reminders/Note/s:</p><p>1. Please use calibrated/verified measuring tape when getting the measurement.</p><p>1. No peel-off tape 2. No flip out tape 3. No loose tape 4. No wrong use of tape</p></td>		<p>Important reminders/Note/s:</p> <p>1. Please use calibrated/verified measuring tape when getting the measurement.</p> <p>1. No peel-off tape 2. No flip out tape 3. No loose tape 4. No wrong use of tape</p>	

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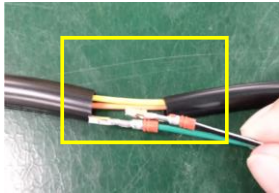

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PARTS:		1. Black Corrugated tube Ø7 L= 205±3mm (no slit) 2. Assy parts 1 (G and B/W wires)		3. Assy parts 2 (Y and OR wires)		JIG:	n/a
NO.	PROCESS NAME		WORK PROCEDURE/ ILLUSTRATION			TOOLS/PPE	QUALITY POINTERS
10	P1	Wire insertion to COT Ø7 L= 205±3mm (no slit)	<div><div>1. Get the Corrugated tube Ø7 L= 205±3mm (no slit) using left hand then insert the G and B/W wires from assy parts 2 by using right hand.</div></div>			n/a	1. No wrong use of parts 2. No deformed terminal
11		Wire insertion to COT Ø7 L= 205±3mm (no slit)	<div><div>Ø7 L= 219±3mm</div><div>Ø5 L= 194±3mm</div><div>1. Get the assy parts 2 using both hands. Insert the G and B/W wire to Vinyl tube Ø7 L= 219±3mm using right hand.</div><div></div></div>			n/a	1. No wrong insertion 2. No deformed terminal

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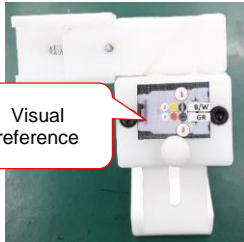

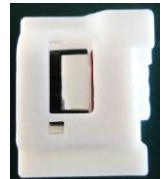
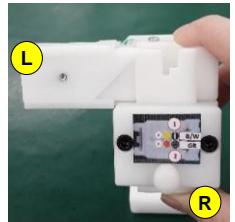
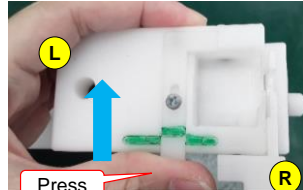

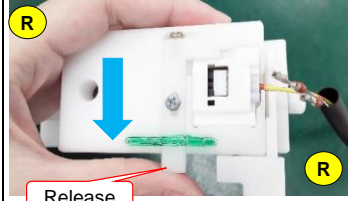
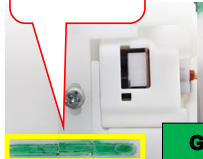


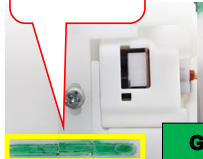


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PARTS:	1. Assy parts		JIG:	1. Insertion jig
NO.	PROCESS NAME	WORK PROCEDURE/ ILLUSTRATION	TOOLS/PPE	QUALITY POINTERS
12	P1 Connector setting to Insertion jig 6189-1142 (W)	<div><div><div><div>Insertion Jig</div><div></div><div>Visual reference</div></div><div><div></div><div>I-mark</div><div>Lock</div><div>Insertion Jig Orientation</div></div><div><div></div><div>Connector Orientation</div></div></div><div><div><div><div></div><div>L</div><div>R</div></div><div><div></div><div>L</div><div>R</div><div>Press</div></div><div><div></div><div>L</div><div>R</div><div>Press</div></div></div><div><div><div></div><div>R</div></div><div>Release</div></div><div><div>1. Press the lower wire guide using right thumb to make sure connector with inserted wires will be inserted.</div><div>2. Press the Insertion jig lock using left thumb. Get the assy parts and insert the connector using right hand.</div><div>3. After insertion, release the insertion jig lock using left thumb.</div></div></div><div>n/a</div><td><div><div>CONNECTOR ORIENTATION ILLUSTRATION</div><div><div></div><div>I-mark is align</div></div><div><div></div><div>1 hole is open</div></div><div><div></div><div>GOOD</div></div></div><div><div>1. Use the provided jig per model</div><div>2. No wrong orientation of connector</div></div></td></div>	<div><div>CONNECTOR ORIENTATION ILLUSTRATION</div><div><div></div><div>I-mark is align</div></div><div><div></div><div>1 hole is open</div></div><div><div></div><div>GOOD</div></div></div> <div><div>1. Use the provided jig per model</div><div>2. No wrong orientation of connector</div></div>	

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WORK INSTRUCTION

TAPING ASSEMBLY PROCESS

Effectivity Date:

October 15, 2024

Process Name/Title:

Validity Date:

n/a

Model code/Part number:

780B / 7R0102-7023B

Customer:

TRMX

Car Model:

TOYOTA TUNDR

Document No.:

WI-ENG-PDE-1101A

Purpose:



PROTOTYPE



PRE-LAUNCH





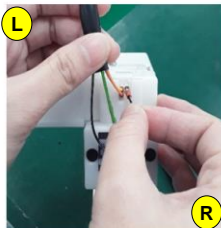
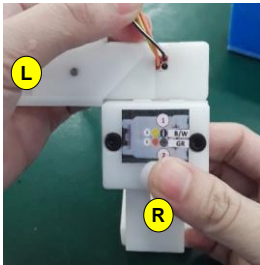

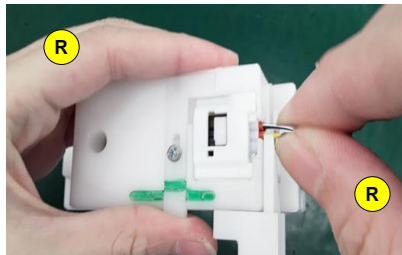

MASSPRO

Revision No.:

1

Page No.:

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PARTS:	1. Assy parts		JIG:	1. Insertion jig
NO.	PROCESS NAME	WORK PROCEDURE/ ILLUSTRATION	TOOLS/PPE	QUALITY POINTERS
13	P1	<div>Wire insertion to Connector (Assy parts)</div> <div><p>Wire terminal facing</p></div> <div><p>1. Hold the assy parts upward using left hand. Slot for B/W wire must be open.</p></div> <div><p>2. Insert the B/W wire using right hand.</p></div> <div><p>3. Press the push button using right hand. Slot for G wire will be open.</p></div> <div><p>4. Hold the G wire and insert to connector using right hand.</p></div> <div><p>5. After insertion, press the lock using left thumb and then hold the wires and gently pull out the connector from jig using right hand.</p></div>	n/a	<div>1. No loose insertion 2. No wrong insertion 3. One by one insertion 4. No deformed terminal 5. No wrong wire facing</div> <div>Important reminders/Note/s:</div> <div>1. Make sure wires are properly inserted. Conduct <u>Pull-Push-Pull-Push</u> after insertion. Do not exert extra force. 2. During insertion, hold the wire not the <u>rubber seal</u> to prevent the sagging.</div> <div></div> <div>Document reference/s:</div> <div>1. Refer to WI-PRO-CNC-017 for Wire and Strip length tolerance. 2. Refer to GL-PRO-ASY-029 for Pull-Push procedure.</div>

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**WORK INSTRUCTION****TAPING ASSEMBLY PROCESS**

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TOYOTA TUNDRA

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WI-ENG-PDE-1101A

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PROTOTYPE



PRE-LAUNCH



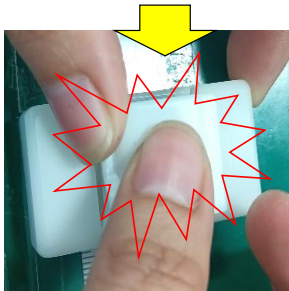
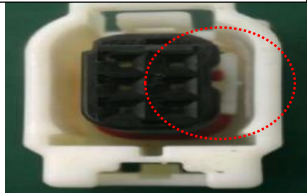
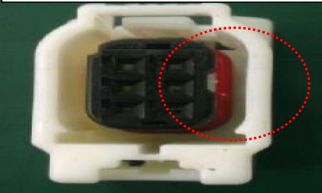

MASSPRO

Revision No.:

1

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PARTS:		1. Assy parts		JIG:	n/a
NO.	PROCESS NAME	WORK PROCEDURE/ ILLUSTRATION		TOOLS/PPE	QUALITY POINTERS
14	P1	Connector lock	<div></div> <div><p>Put the connector into locking jig using right hand then press 2x. Check the connector lock if properly lock.</p></div> <div><div>BEFORE PRESSING</div></div> <div><div>AFTER PRESSING</div></div>	<div>LOCKING JIG</div> 	<ol style="list-style-type: none">1. Use the provided locking jig per model2. No unlock/half-lock connector3. No damaged connector

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TAPING ASSEMBLY PROCESS

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PROTOTYPE



PRE-LAUNCH



MASSPRO

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PARTS:

n/a

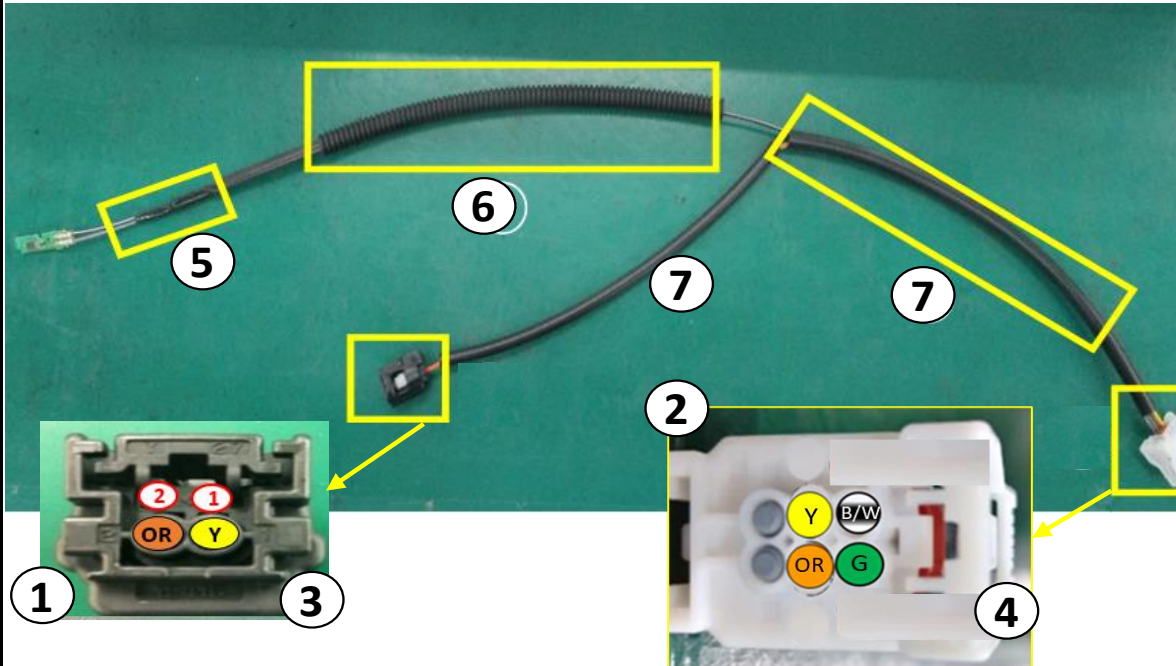
JIG:

n/a

VISUAL INSPECTION/ QUALITY CHECKPOINTS

TAPING - P1

7R0102-7023B



- ① ② No Wrong Insert
- ③ ④ No Half locked/ Unlocked Connector
- ⑤ No Missing Tape
- ⑥ No Missing COT
- ⑦ No Missing Vinyl
- ⑧ No Deformed Terminal
- ⑨ No Terminal Backing Out

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