



## WORK INSTRUCTION

Process Name/Title: OFFLINE ASSEMBLY PROCESS

Effectivity Date:

September 25, 2024

Model code/Part number: 311D / 7L0154-7022 Customer: TRJ Car Model: TOYOTA-RAV4

Validity Date:

n/a

Purpose: ☐ PROTOTYPE☐ PRE-LAUNCH☒ MASSPRO

Document No.:

WI-ENG-PDE-1009

Revision No.:

0

Page No.:

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## PARTS:

1. Connector 6189-0451 (W)  
2. MR SW CP (TVSSf 0.3 G wires L=637±3mm; AVSSf 0.3 B/W wires L=637±3mm)  
3. Black Corrugated tube (No slit) ø7, L=346±3mm

JIG:

1. Insertion jig  
2. Locking jig

NO.

PROCESS NAME

WORK PROCEDURE/ ILLUSTRATION

TOOLS/PPE

QUALITY POINTERS

1

Offline

Table lay-out

## TABLE LAY-OUT

Connector 6189-0451(W)/  
Connector tray

Black Corrugated  
tube (No slit) ø7,  
L=346±3mm

Insertion jig

MR SW CP (AVSSf 0.3 G  
wires L=637±3mm; AVSSf  
0.3 B/W wires  
L=637±3mm)

Locking jig

## 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

## Revision History

Prepared by

Reviewed by

Approved by

Noted by

9/25/2024

0

Initial issue.  
Change purpose from Pre-launch to Masspro.  
Excluded process from WI-ENG-PDE-942 to WI-ENG-PDE-1008; Change Process Name/Title from TAPING ASSEMBLY  
PROCESS to OFFLINE ASSEMBLY PROCESS; Provided insertion jig; Additional table lay-out and Improve Visual  
inspection/Quality checkpoints.

M. Ariola

C. Villanueva

A. Arañes

n/a

M. Ariola

C. Villanueva

A. Arañes

n/a

Eff. Date

Rev. No

Details of Change

Revised

Reviewed

Approved

Noted

Est. Date:

September 25, 2024

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☐ PRE-LAUNCH

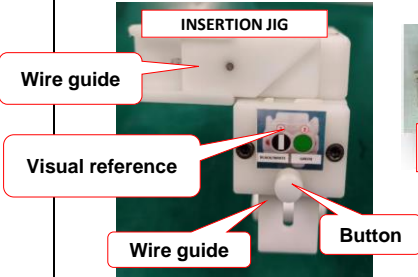


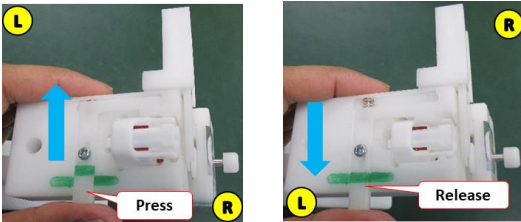
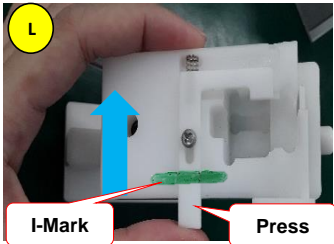
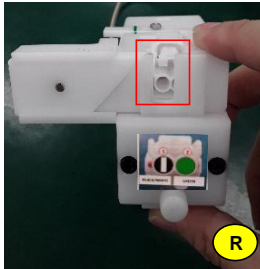


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PARTS:	1. Connector 6189-0451 (W)		JIG:	1. Insertion jig
NO.	PROCESS NAME	WORK PROCEDURE/ ILLUSTRATION	TOOLS/PPE	QUALITY POINTERS
2	Offline  Connector setting to insertion jig Connector 6189-0451 (W)	<div><div></div><div></div><div></div><div></div><div><p>1. Press the lock of insertion jig using left thumb.</p><p>2. Insert the connector 6189-0451 (W) into jig using right hand and release the lock.</p><p>3. Push the guide using right hand. The slot for B/W wire will be open.</p></div></div> <div>n/a</div> <div><div><p>Connector Orientation Illustration</p></div><p>1. Use provided jig per model 2. No wrong orientation of connector</p></div>		

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PROTOTYPE



PRE-LAUNCH



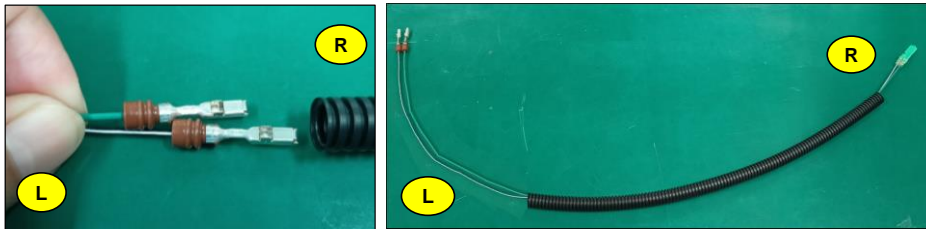
MASSPRO

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PARTS:		1. Assy parts 2. Black Corrugated tube (No slit) $\varnothing 7$ , L=346 $\pm$ 3mm		JIG:	n/a
NO.	PROCESS NAME	WORK PROCEDURE/ ILLUSTRATION		TOOLS/PPE	QUALITY POINTERS
3	Offline	<div></div> <div>1. Get the <b>Black Corrugated tube (No slit) <math>\varnothing 7</math>, L=346<math>\pm</math>3mm</b> using right hand then insert the wire using left hand.</div>		n/a	<div>1. No wrong used of parts. 2. No deformed terminal.</div> <div><b>Document reference/s:</b>  <b>1. Please refer to WI-PRO-CNC-017 for Wire and Strip length tolerance.</b></div>

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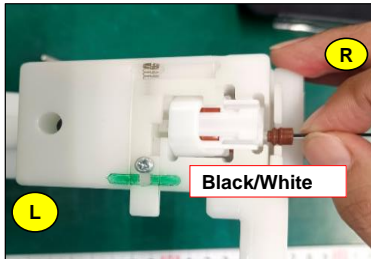
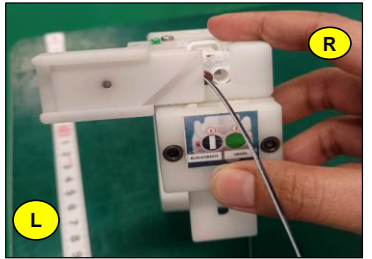
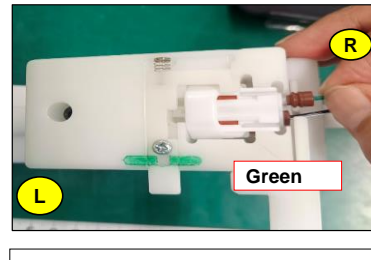
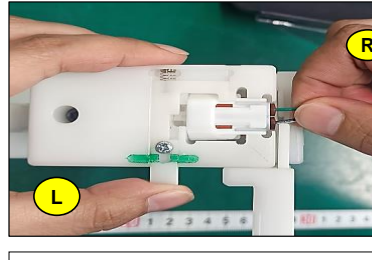
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PARTS:		1. Assy parts 2. MR SW CP (AVSSf 0.3 G wires L=637±3mm; AVSSf 0.3 B/W wires L=637±3mm)		JIG:	1. Insertion jig
NO.	PROCESS NAME	WORK PROCEDURE/ ILLUSTRATION		TOOLS/PPE	QUALITY POINTERS
4	Offline  Wire insertion to Connector 6189-0451 (W)	<div><p>1. Get the <b>B/W wire</b> then insert to terminal <b>slot no.1</b> using right hand.</p></div> <div><p>2. After insertion of <b>B/W wire</b> press the button using right hand. The slot for <b>Green wire</b> will be open.</p></div> <div><p>3. Get the <b>B/W wire</b> then insert to terminal <b>slot no.1</b> using right hand.</p></div> <div><p>4. After insertion, push the lock of insertion jig using left thumb and then hold the wires and gently pull-out the connector from the jig using right hand</p></div>		n/a	<div>1. No wrong use of connector 2. No damaged connector 3. No wrong insertion 4. One by one insertion 5. No deformed terminal 6. No wrong wire facing</div> <div><b>Important reminder/Notes/:</b></div> <div><b>1. Please hold the wire near terminal during insertion.</b></div> <div><b>2. Make sure wires are properly inserted. Conduct <u>Pull-Push-Pull-Push</u> after insertion. Do not exert extra force.</b></div> <div><b>Document reference/s:</b></div> <div><b>1. Please refer to WI-PRO-CNC-017 for Wire and Strip length tolerance.</b></div> <div><b>2. Please refer to GL-PRO-ASY-029 for Pull-Push procedure.</b></div>

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☐ PROTOTYPE

☐ PRE-LAUNCH

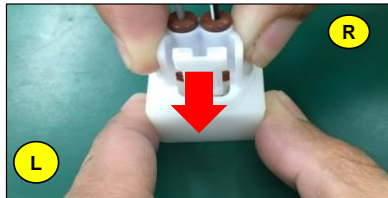
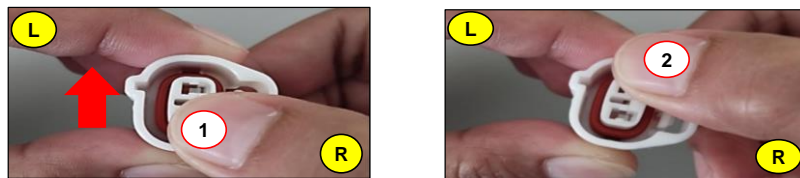





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PARTS:		1. Assy parts		JIG:	1. Locking jig
NO.	PROCESS NAME	WORK PROCEDURE/ ILLUSTRATION		TOOLS/PPE	QUALITY POINTERS
5	Offline	Connector lock	<div><p>1. Put the connector into locking jig using right hand. Then press to lock 2x using both hands.</p></div> <div><p>2. Ensure that connector is in locked condition by slide touching the connector lock based on the sequence illustrated.</p></div> <div><div><p>BEFORE PRESSING</p><p>AFTER PRESSING</p></div><div><p>GOOD</p><p>NG</p><p>Check the double lock deformation</p></div></div> <div><div>LOCKING JIG</div></div> <div><p><b>Important reminders/Notes</b></p><p>1. Manual locking may cause damaged connector lock</p><p>1. Use the provided jig per model 2. No unclocked/half-locked connector.</p></div>		

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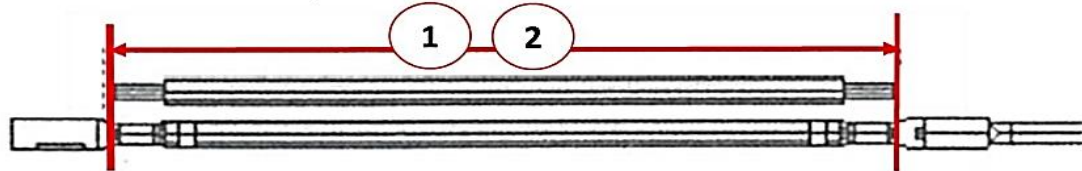
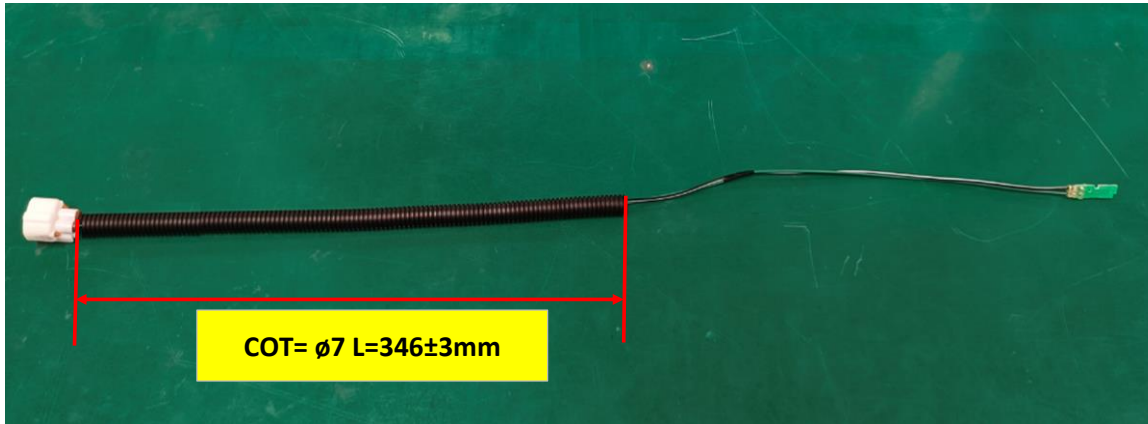
☐ PROTOTYPE☐ PRE-LAUNCH☒ MASSPRO

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PARTS:		n/a		JIG:	n/a
NO.	PROCESS NAME	WORK PROCEDURE/ ILLUSTRATION		TOOLS/PPE	QUALITY POINTERS
6	Offline	Measurement	<p>Note:</p> <ol style="list-style-type: none"><li>1. Measurement point: End of core wire to the end of core wire</li><li>2. Terminal is reference only.</li></ol>   <p>COT= ø7 L=346±3mm</p>		<p><b>Important reminders/Notes</b></p> <ol style="list-style-type: none"><li>1. Please use calibrated/verified measuring tape when getting the measurement.</li><li>2. For Hatsumono, Nakamono and Owarimono.</li></ol> <p>1. No wrong dimension.</p> <p><b>Document reference/s:</b></p> <ol style="list-style-type: none"><li>1. Refer to WI-PRO-ASY-056 for Sub-assembly Hatsumono, Nakamono and Owarimono Inspection.</li></ol>

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PARTS: n/a

JIG:

n/a

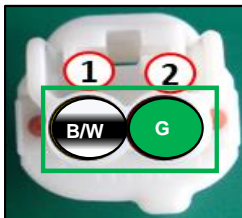
## QUALITY CHECKPOINTS

### OFFLINE INSERTION

# 7L0154-7022



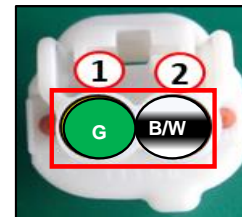
GOOD



GOOD



NO GOOD



NO GOOD



1

2

No **WRONG INSERT**

No **TERMINAL BACKING OUT**

No **UNLOCK/HALF-LOCKED CONNECTOR**

3

No **MISSING COT (NO SLIT)**

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