



WORK INSTRUCTION

Process Name/Title:

TAPING ASSEMBLY PROCESS

Effectivity Date:

February 7, 2024

Validity Date:

n/a

Model code/Part number:

930B

/ 7N0205-7020A

Customer: TRJ

Car Model:

TOYOTA-4RUNNER

Document No.:

WI-ENG-PDE-782A

Purpose:

☐ PROTOTYPE☐ PRE-LAUNCH☒ MASSPRO

Revision No.:

1

Page No.:

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PARTS:

1. Connector 6189-0451 (W); AVSSf 0.3 Y-OR Wires L=254±2mm; Connector 6188-0066 (GR); Black Corrugated tube ø7, L=154±3mm; Black Corrugated tube ø7, L=40±3mm; Black Corrugated tube ø7, L=391±3mm; Black tape; MRSW CP TVSSf 0.3 G and B/W L=784±3mm with SV tube (Vinyl) L= 72±3mm

JIG:

1. Insertion jig with switch cover
2. Locking jig
3. Terminal cover jig

NO.

PROCESS NAME



WORK PROCEDURE/ ILLUSTRATION

TOOLS/PPE

QUALITY POINTERS

1

P1

Table lay-out

Connector 6189-0451 (W)/
Connector tray

TABLE LAY-OUT

Connector 6188-0066 (GR)/
Connector tray

Black Corrugated
tube ø7,
L=40±3mm

Black Corrugated
tube ø7,
L=154±3mm

AVSSf 0.3 OR wires
L=254±2mm

Switch cover

Insertion jig A

AVSSf 0.3 Y wires
L=254±2mm

Black Corrugated
tube ø7,
L=391±3mm

Terminal

Insertion jig B

MRSW CP TVSSf 0.3 G
and B/W L=784±3mm with
SV tube (Vinyl) L= 72±3mm

Locking jig

Tape
holder/Black
tape

Safety Instruction

Be sure to wear
required 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/tols

Document references:

1. Refer to WI-PRO-CNC-017 for Wire
Strip lenght tolerance.

Revision History

Prepared by

Reviewed by

Approved by

Noted by

02/07/24

1

Change purpose from Pre-launch to Masspro. Additional table lay-out and Quality checkpoints. Improve work procedure/Illustration from pages no.2 to 9.

M. Ariola

C. Villanueva

A. Arañes

n/a

01/15/24

0

Initial issue

M. Ariola

C. Villanueva

A. Arañes

n/a

Eff. Date

Rev. No

Details of Change

Revised

Reviewed

Approved

Noted

Est. Date:

January 15, 2023

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PARTS:		1. Connector 6189-0451 (W)		JIG:	1. Insertion jig with switch cover
NO.	PROCESS NAME	1 WORK PROCEDURE/ ILLUSTRATION		TOOLS/PPE	QUALITY POINTERS
2	P1 Connector setting to insertion jig 6189-0451 (W)	<div><div>INSERTION JIG WITH SWITCH COVER</div><div><div>Insertion jig</div><div>OR-wire</div><div>Switch cover</div><div>Y-wire</div><div>Wire guide</div><div>Holes</div><div>Wire guide</div><div>Button</div></div><div><div>CONNECTOR ORIENTATION</div><div><div>I-Mark</div><div>Lock</div></div><div>INSERTION JIG ORIENTATION</div></div><div><div><div>L</div><div>Press</div></div><div><div>L</div><div>Press</div></div><div><div>R</div><div>Release</div></div></div><div><div>1. Press the lock of insertion jig using left thumb.</div><div>2. Insert the connector 6189-0451 (W) into jig using right hand then release the lock using left thumb. Note: Follow the connector orientation.</div><div><div>3. Push the guide using right hand. The slot for Yellow wire will be opened.</div></div></div></div>		n/a	<div>1. Use the provided jog per model</div> <div>2. No unlocked/half-locked connector</div> <div>Important reminders/Note/s:</div> <div>1. MANUAL LOCKING MAY CAUSE DAMAGED CONNECTOR LOCK</div> <div>Document references:</div> <div>1. Refer to GL-PRO-ASY-017 for the verification of connector lock.</div>

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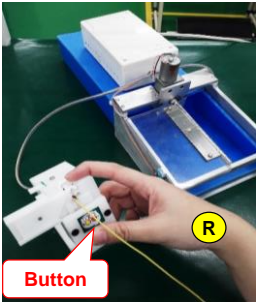
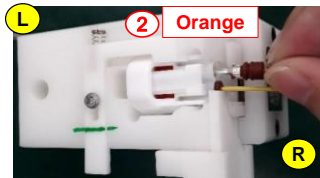
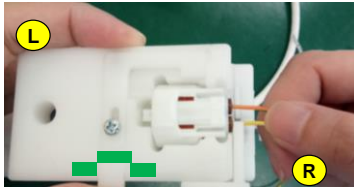
☐ PROTOTYPE☐ PRE-LAUNCH☒ MASSPRO

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PARTS:	1. Connector 6189-0451 (W) 2. AVSSf 0.3 Y-OR Wires L=254±2mm			JIG:	1. Insertion jig with switch cover
NO.	PROCESS NAME	1 WORK PROCEDURE/ ILLUSTRATION		TOOLS/PPE	QUALITY POINTERS
3	P1 Wire insertion to Connector 6189-0451 (W)	<div></div> <div>WIRE FACING</div> <div> 1. Hold the insertion jig using left hand, get Yellow wire and insert to connector slot 1 using right hand.</div> <div> 2. Press the button using right thumb, slot for Orange wire will be opened.</div> <div> 3. Hold the insertion jig using left hand, get Orange wire and insert to connector slot 2 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>		n/a	1. No wrong usage of parts. 2. No deformed terminal

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PARTS:	1. Assy Parts		JIG:	1. Locking jig
NO.	PROCESS NAME	<div><div>1</div>WORK PROCEDURE/ ILLUSTRATION</div>	TOOLS/PPE	QUALITY POINTERS
4	P1	Connector lock	<div>LOCKING JIG</div> <div></div>	<div>1. Use the provided jog per model</div> <div>2. No unlocked/half-locked connector</div> <div><div>Important reminders/Note/s:</div><div>1. MANUAL LOCKING MAY CAUSE DAMAGED CONNECTOR LOCK</div><div>Document references:</div><div>1. Refer to GL-PRO-ASY-017 for the verification of connector lock.</div></div>

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PARTS:		1. Assy parts 2. Black Corrugated tube $\varnothing 7$, L=40 \pm 3mm (no slit) 3. Black tape	4. Black Corrugated tube $\varnothing 7$, L=154 \pm 3mm (no slit)	JIG:	1. Terminal cover jig
NO.	PROCESS NAME	1 WORK PROCEDURE/ ILLUSTRATION		TOOLS/PPE	QUALITY POINTERS
5	P1	<div>Wire Insertion to Black Corrugated tube $\varnothing 7$, L=40\pm3mm $\varnothing 7$, L=154\pm3mm (no slit)</div> <div><div>1. Get the cover jig then insert to Y-OR wires using left hand.</div><div>2. Get the corrugated tube (no slit) $\varnothing 7$, L=40\pm3mm using left hand then insert the Y-OR wires using right hand.</div><div>3. Get the corrugated tube (no slit) $\varnothing 7$, L=154\pm3mm using left hand then insert the Y-OR wires using right hand.</div><div>4. After insertion, remove the cover jig using left hand.</div></div> <div>TERMINAL COVER JIG</div> <div></div> <div>1. No wrong usage of parts. 2. No deformed terminal</div>			

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PARTS:		1. Connector 6188-0066 (GR)		JIG:	1. Insertion jig
NO.	PROCESS NAME	1 WORK PROCEDURE/ ILLUSTRATION		TOOLS/PPE	QUALITY POINTERS
6	P1 Connector setting to insertion jig 6188-0066 (GR)	<div><div><div>INSERTION JIG FOR Y-OR</div><div>Wire guide</div><div>Holes</div><div>Wire guide</div><div>Visual Reference</div><div>Button</div></div><div><div>INSERTION JIG ORIENTATION</div><div>I-MARK</div><div>Lock</div><div>CONNECTOR ORIENTATION</div></div><div><div><div>L</div><div>↑</div><div>Press</div></div><div><div>L</div><div>Press</div><div>R</div></div><div><div>L</div><div>↓</div><div>Release</div></div></div><div><div>1. Press the lock of insertion jig using left thumb.</div><div><div>2. Insert the connector 6188-0066 (GR) into jig using right hand then release the lock.</div><div>Note: Follow the connector orientation.</div></div><div><div><div>R</div><div>R</div><div>3. Push the guide using right thumb. The slot for Y wire will be opened.</div></div></div></div></div>			<div>1. No wrong usage of parts.</div> <div>2. No deformed terminal</div> <div><div>Connector Orientation Illustration</div><div><div>I-mark is align</div><div>1 hole is open</div><div>GOOD</div></div><div><div>I-mark is NOT align</div><div>2 holes are open</div><div>NG</div></div></div>

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☐ PROTOTYPE

☐ PRE-LAUNCH


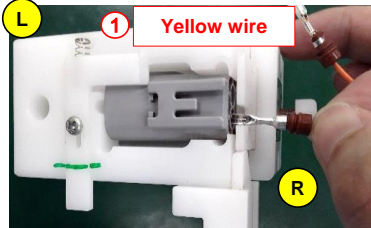

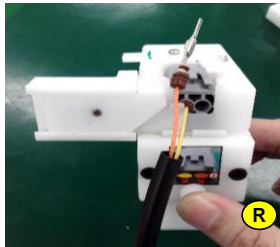
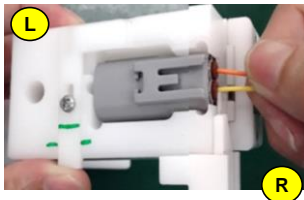


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PARTS:		1. Assy parts 2. Connector 6188-0066 (GR)		JIG:	1. Insertion jig
NO.	PROCESS NAME	1 WORK PROCEDURE/ ILLUSTRATION		TOOLS/PPE	QUALITY POINTERS
7	P1 Wire insertion to Connector 6188-0066 (GR)	<div><p>WIRE FACING</p></div> <div><p>1. Hold the insertion jig using left hand. Get the assy parts, insert the Yellow wire to connector slot 1 using right hand.</p></div> <div><p>3. Get Orange wire then insert to connector slot 2 using right hand.</p></div> <div><p>2. Press the button using right thumb, slot for Orange wire will be opened.</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>			<div><p>1. No wrong usage of parts. 2. No deformed terminal</p></div> <div><p>Connector Orientation Illustration</p><div><p>I-mark is align 1 hole is open GOOD</p></div><div><p>I-mark is NOT align 2 holes are open NG</p></div></div>

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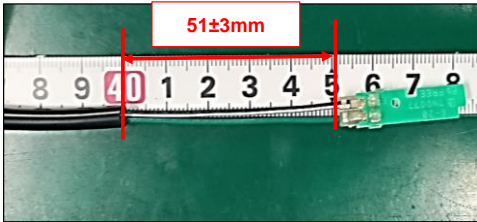


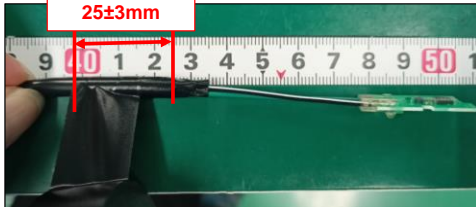
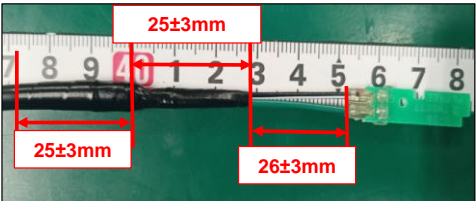
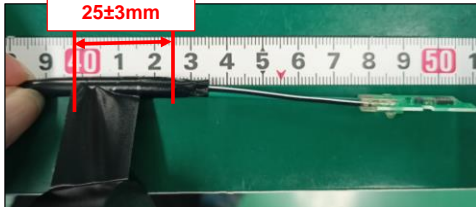

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PARTS:		1. MRSW CP TVSSf 0.3 G and B/W L=784±3mm with SV tube (Vinyl) L= 72±3mm 2. Black tape		JIG:	n/a
NO.	PROCESS NAME	1 WORK PROCEDURE/ ILLUSTRATION		TOOLS/PPE	QUALITY POINTERS
8	P1 Taping 1 Black SV tube (Vinyl) to Wire near Hotmelted wire	<div><p>51±3mm</p></div> <div><p>Start of taping</p></div> <div><p>25±3mm</p></div> <div><p>25±3mm</p></div> <div><p>25±3mm 25±3mm 26±3mm</p></div> <div><p>1. Get the MRSW CP TVSSf 0.3 G and B/W L=784±3mm with SV tube (Vinyl) L= 72±3mm. Hold the Black SV tube (Vinyl) using left hand. Measure from end of SV tube (Vinyl) up to edge of hotmelted wires 51±3mm using right hand.</p><p>2. Hold the Black SV tube (Vinyl) using left hand. Get the black tape using right hand and start taping process.</p><p>3. Confirm the measurement from end of tape up to end of SV tube (Vinyl) 25±3mm then start taping using both hands.</p><p>4. Confirm the measurement from SV tube (Vinyl) up to end of tape 25±3mm then start taping using both hands.</p><p>5. After taping, check the measurement and taping condition.</p></div>		<div><p>MEASURING TAPE</p></div> <div></div>	<p>Important reminders/Note/s: 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 dimension6. No wrong use of tape

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PROTOTYPE



PRE-LAUNCH







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PARTS:		1. Assy parts 2. Black corrugated tube $\varnothing 7$, L=391 \pm 4mm (No slit),		JIG:	1. Terminal cover jig
NO.	PROCESS NAME	<div><div><div>1</div></div></div> WORK PROCEDURE/ ILLUSTRATION		TOOLS/PPE	QUALITY POINTERS
9	n/a	<div><div><div><div><div>L</div><div></div><div>R</div></div><div><div>1. Get the MRSW CP (TVSSf 0.3 G-B/W wires L=784\pm3mm) using both hands then insert the terminal cover jig using left hand.</div></div></div><div><div><div><div>L</div><div></div><div>R</div></div><div><div>2. Get the Black corrugated tube $\varnothing 7$, L=391\pm4mm (No slit), using left hand then insert the wires using right hand.</div></div></div><div><div><div><div>L</div><div></div><div>R</div></div><div><div>3. After insertion, remove the terminal cover jig using left hand.</div></div></div></div></div><div><div>TERMINAL COVER JIG</div><div></div></div><div><div>1. No wrong usage of parts. 2. No deformed terminal</div></div></div></div>			

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PARTS:

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1 QUALITY CHECKPOINTS

P1

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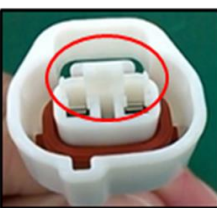
NO GOOD



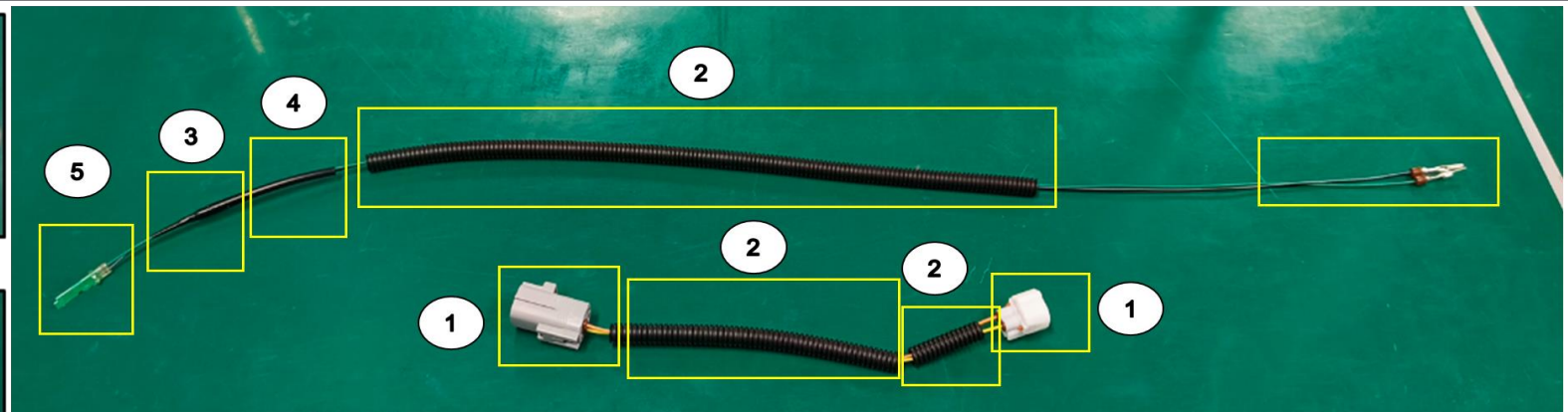
GOOD



GOOD



NO GOOD



2 No MISSING COT

3 No MISSING TAPE

4 No MISSING SV TUBE (VINYL)

5 No DEFORMED
TERMINAL/PCB

1 No WRONG INSERT
No UNLOCK/HALF-
LOCKED
No TBO

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