
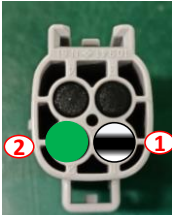

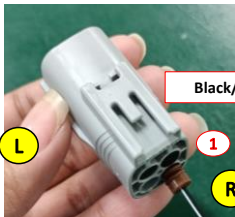
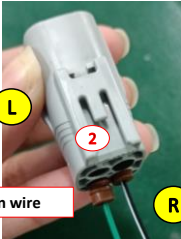




	WORK INSTRUCTION				Effectivity Date:		January 18, 2023	
	Process Name/Title: TAPING ASSEMBLY PROCESS				Validity Date:		n/a	
	Model Code/Part Number: 380D / 7L0139-7020		Customer: TRQSS		Document No.:		WI-ENG-PDE-612	
	Purpose: <input type="checkbox"/> PROTOTYPE <input checked="" type="checkbox"/> PRE-LAUNCH <input type="checkbox"/> MASSPRO		Revision No.:		0		Page No.: 1 of 11	

PARTS:		1. Connector 6188-0066 (GR) with inserted Dummy Seal [2pcs] 2. TVSSf 0.3 wires G-B/W L=677±3mm		JIG:		n/a	
NO.	PROCESS NAME	WORK PROCEDURE/ ILLUSTRATION		TOOLS/PPE		QUALITY POINTERS	
1	n/a Wire Insertion to Connector 6188-0066 (GR)	<div style="display: flex; justify-content: space-around; align-items: flex-start;"> <div style="text-align: center;">  <p>CONNECTOR ORIENTATION</p> </div> <div style="text-align: center;">  <p>VISUAL REFERENCE</p> </div> <div style="text-align: center;">  <p>WIRE FACING</p> </div> </div> <div style="display: flex; justify-content: space-around; align-items: flex-start;"> <div style="text-align: center;">  <p>Black/white wire</p> </div> <div style="text-align: center;">  <p>Green wire</p> </div> </div> <div style="display: flex; justify-content: space-between; margin-top: 10px;"> <div style="width: 45%;"> <p>1. Get the connector 6188-0066 (GR) then hold the Black/White wire and insert to terminal slot 1 of connector using right hand. Conduct 2x push pull after wire insertion.</p> </div> <div style="width: 45%;"> <p>2. Hold the connector 6188-0066 (GR) then get the Green wire and insert to terminal slot 2 of connector using right hand. Conduct 2x push pull after wire insertion.</p> </div> </div>		<div style="border: 1px dashed red; padding: 5px;"> <p>Safety Instruction</p> <p>Be sure to wear required personal protective equipment during operation (gloves, finger cots, etc.)</p> </div> <div style="border: 1px dashed red; padding: 5px; margin-top: 10px;"> <p>Housekeeping</p> <p>1. Maintain and always practice 5's. 2. Personal things on the workplace is prohibited. Keep it in your locker.</p> </div> <div style="border: 1px dashed red; padding: 5px; margin-top: 10px;"> <p>Alert level</p> <p>For any trouble, inform the Assembly Assistant Supervisor or Line Leader for immediate corrective action.</p> </div>		<p>1. No wrong orientation of connector 2. No wrong use of connector 3. No damaged connector 4. No wrong insertion of wires 5. No loose insertion 6. No wrong insertion 7. One by one insertion 8. No deformed terminal 9. No wrong wire facing</p> <p>Important reminders/Note/s:</p> <p>1. Please hold the wire near terminal. 2. Make sure wires are properly inserted. Conduct Pull-Push-Pull-Push after insertion. Do not exert extra force.</p> <p>Document references:</p> <p>1. Refer to GL-PRO-ASY-029 for Pull-Push procedure. 2. Refer to WI-PRO-CNC-017 for Wire and Strip Length Tolerance</p>	

Revision History								Prepared by	Reviewed by	Approved by	Noted by
01/18/23	0	Initial issue	D. Castillo	J. Loterte	C. Villanueva	A. Arañes	 D. Castillo	 J. Loterte	 C. Villanueva	 A. Arañes	
Eff. Date	Rev. No	Details of Change	Prepared	Reviewed	Approved	Noted	Est. Date:	January 18, 2023			

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

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January 18, 2023

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Model Code/Part Number: **380D / 7L0139-7020**

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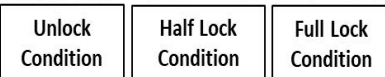



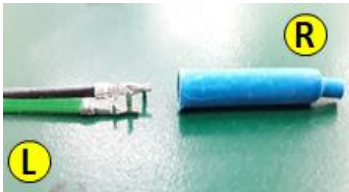

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PARTS:

1. Assy parts
2. Black Corrugated tube Ø5 L=482±3mm (no slit)

JIG

1. Locking jig
2. Terminal cover jig

NO.	PROCESS NAME	WORK PROCEDURE/ ILLUSTRATION	TOOLS/PPE	QUALITY POINTERS
2	Connector Lock	  Before pressing  After pressing  Connector Cross Sectional View NG NG GOOD  Unlock Condition Half Lock Condition Full Lock Condition <p>1. Put the connector into locking jig using right hand then press 2x. Check if properly locked.</p>	Locking Jig 	<ol style="list-style-type: none">1. Use the provided locking jig per model2. No unlock/half-locked connector
3	Wire Insertion to Black Corrugated tube Ø5 L=482±3mm (no slit)	  <p>1. Get the terminal cover jig using right hand then insert the G-B/W wires using left hand.</p> <p>2. Get the corrugated tube (no slit) Ø5 L=482±3mm using right hand and then insert the G-B/W wires using left hand.</p>  <p>3. After insertion, remove the terminal cover jig using right hand.</p>	TERMINAL COVER JIG 	<ol style="list-style-type: none">1. No wrong use of parts2. No deformed terminal

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PARTS:



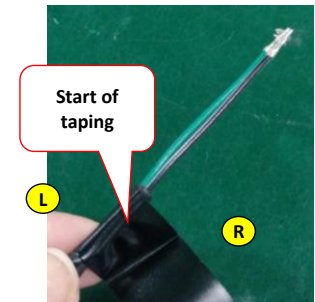
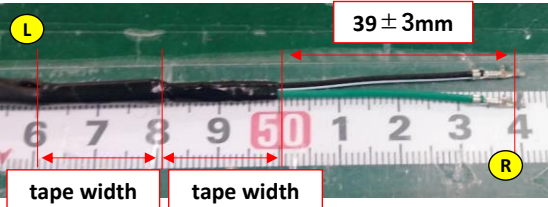
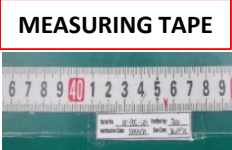
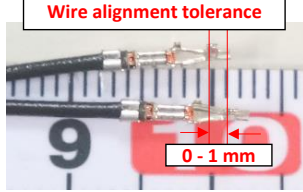
1. Assy parts

2. Black VM tube (Sunprene) Ø5 L=125±3mm

3. Black tape

JIG

n/a

NO.	PROCESS NAME	WORK PROCEDURE/ ILLUSTRATION	TOOLS/PPE	QUALITY POINTERS
4	Wire insertion to Black VM tube (Sunprene) Ø5 L=125±3mm	 <p>1. Get the VM tube (Sunprene) Ø5 L=125±3mm using right hand then insert the G-B/W wires using left hand.</p>	n/a	1. No wrong use of parts 2. No deformed terminal
5	Taping 1 Black sunprene tube to wire near terminal	 <p>1. Measure from end of sunprene tube up to end of the terminal pointed tip 59±3mm using both hands.</p>  <p>2. Hold the tube using left hand, get the Black tape using right hand then start taping process using both hands.</p>  <p>3. After taping, check the taping condition, measurement and wire alignment.</p>	 <p>MEASURING TAPE</p>	 <p>Wire alignment tolerance</p> <p>0 - 1 mm</p> <p>1. No flip-out tape 2. No peel-off tape 3. No loose tape 4. No missing tape 5. No wrong use of tape 6. No wrong dimension</p> <p>Important reminders/Note/s: Please use calibrated/verified measuring tape when getting the measurement.</p>

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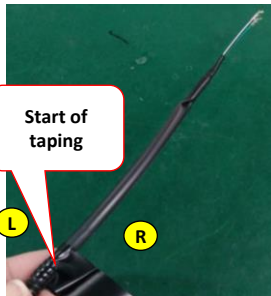


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PARTS:

1. Assy parts
2. Black tape

JIG

n/a

NO.	PROCESS NAME	WORK PROCEDURE/ ILLUSTRATION	TOOLS/PPE	QUALITY POINTERS
6	n/a Taping 2 Black COT to Black VM tube (Sunprene) near terminal	 <p>184 ± 3mm</p> <p>1. Measure from end of corrugated tube up to terminal pointed tip 184±3mm using both hands.</p>  <p>Start of taping</p> <p>2. Hold the corrugated tube and sunprene tube using left hand, get the Black tape then start taping process using both hands.</p>  <p>184 ± 3mm</p> <p>tape width</p> <p>3. After taping, check the taping condition, measurement and wire alignment.</p>	<p>MEASURING TAPE</p> 	<p>Important reminders/Note/s: <i>Please use calibrated/verified measuring tape when getting the measurement.</i></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

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PARTS:

1. Clamp 82711-16820 (BR) [2pcs.]
2. Clamp 82711-52090 (W) [2pcs.]

3. Black tape [2pcs.]

JIG

1. Temporary clamp assembly jig

NO.

PROCESS NAME

WORK PROCEDURE/ ILLUSTRATION

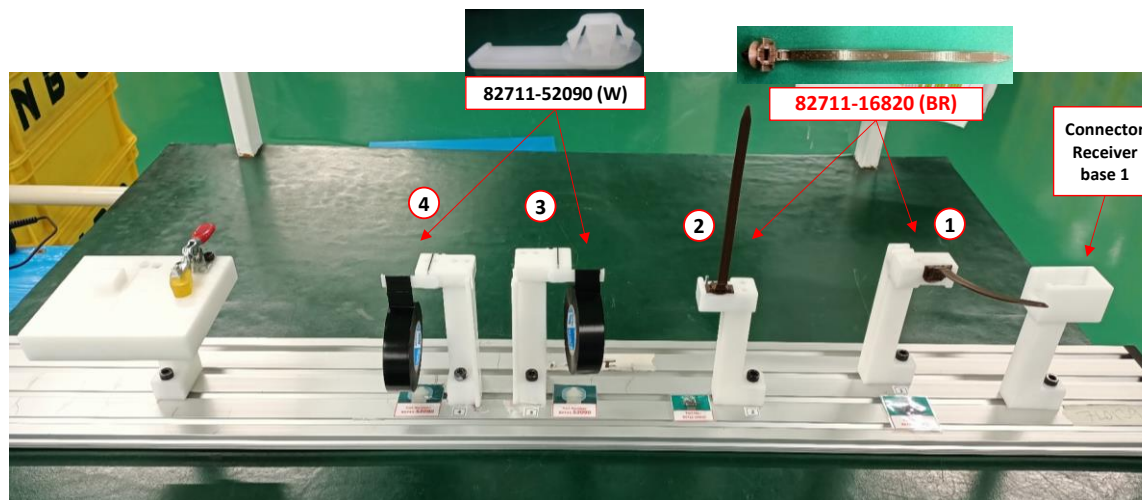
TOOLS/PPE

QUALITY POINTERS

7

n/a

Clamp setting



1. Get 2pcs. of clamp **82711-52090 (W)** using both hands then set to clamp location **3 and 4** using both hands.

2. Get 2pcs. of clamp **82711-16820 (BR)** using both hands then set to clamp location **1 and 2** using both hands.

3. Initially attach **Black tape** on clamp location **3 and 4** using both hands.

STANDARD TAPING FOR CLAMP

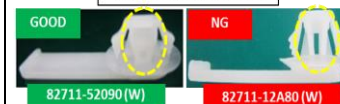
One side tape under clamp

Important reminders/Note/s:

1. Please check the **Clamp** first before start of assembly to avoid wrong use of clamp.

1. No wrong use of clamp
2. No damaged clamp
3. No missing clamp
4. No wrong use of tape
5. No missing tape

CLAMP ILLUSTRATION



BAND CLAMP ILLUSTRATION



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PARTS:

1. Assy parts

JIG

1. Temporary clamp assembly jig

NO.

PROCESS NAME

WORK PROCEDURE/ ILLUSTRATION

TOOLS/PPE

QUALITY POINTERS

8

n/a

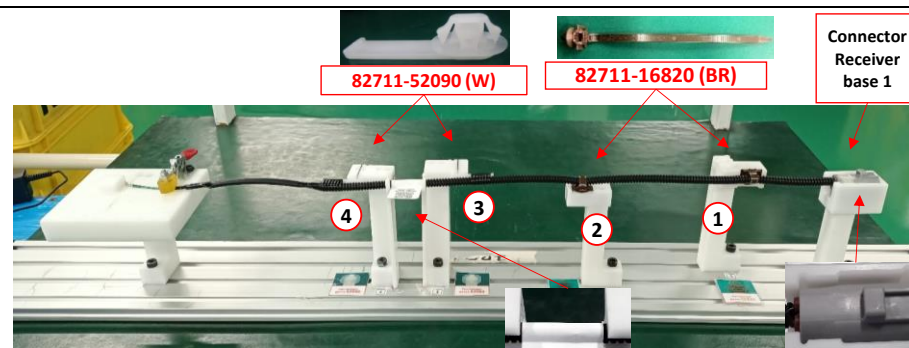
Clamp assembly

1. Get the assy parts then set into jig. (*See above illustration*). First, set the connector **6188-0066 (GR)** to **Receiver base 1**. Continue to set the harness in jig. Last, set the G-B/W wires to stopper then press by toggle clamp.

2. Initially tighten the band clamp on location **1** and **2** using both hands.

3. Get the bando gun using right hand then cut the band clamp on location **1** using both hands. Continue on clamp location **2**.

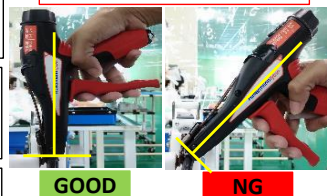
Note: Setting of band clamp cutter depends on the size of the COT/Vinyl tube.
For: $\phi 5 - 1 \sim 2$, $\phi 7 - 3 \sim 4$



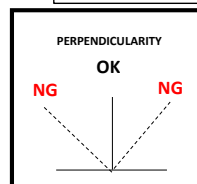
CONNECTOR SETTING

QR Code label facing

BANDO GUN POSITION ON CLAMP LOCATION 1

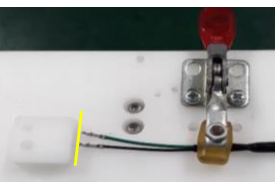


BANDO GUN ALIGNMENT

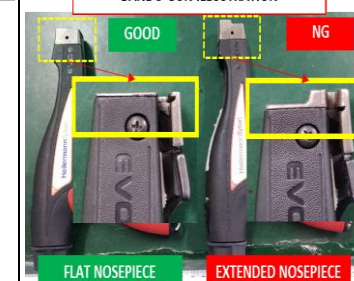


1. No wrong use of clamp
2. No damaged clamp
3. No missing clamp

Important reminders/Note/s:
1. Make sure no gap between stopper and terminals



BANDO GUN ILLUSTRATION



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PARTS:

1. Assy parts

JIG

1. Temporary clamp assembly jig

NO.

PROCESS NAME

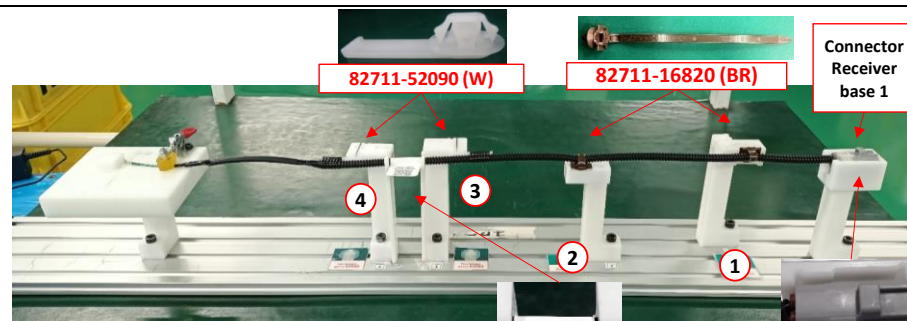
WORK PROCEDURE/ ILLUSTRATION

TOOLS/PPE

QUALITY POINTERS

8

n/a

Clamp assembly
(Continuation)

4. Cut the band clamp on location **2** using both hands. Continue on clamp location **3**.



Fixed setting of
band clamp
cutter: 3 ~ 4

BANDO GUN ALIGNMENT



QR Code label facing

5. Hold the tape on clamp location **3**. Make **3 windings** of tape then cut the tape using both hands. Continue the process on clamp location **4**.

6. Hold the tape on clamp location **4**. Make **3 windings** of tape then cut the tape using both hands. Continue the process on label attachment

7. For label attachment, get the QR code label then attach using both hands. (Refer to the next page for label attachment).

8. Conduct **POINT CHECKING** before removing the harness from jig.

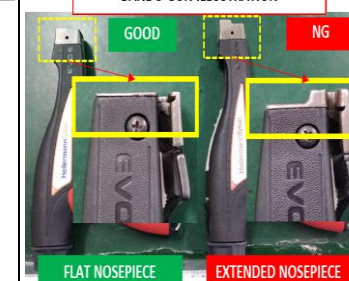
CONNECTOR SETTING

BANDO GUN



1. No wrong use of clamp
2. No damaged clamp
3. No missing clamp

BANDO GUN ILLUSTRATION



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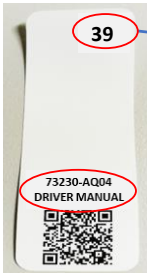

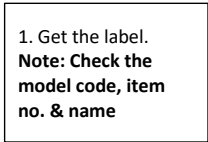




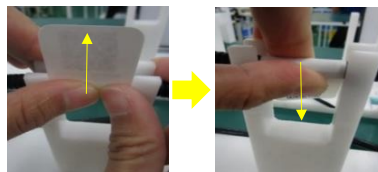
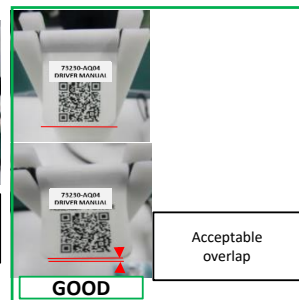


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PARTS:

1. Assy parts
2. Label 7V8130-0020

JIG

1. Temporary clamp assembly jig

NO.	PROCESS NAME		WORK PROCEDURE/ ILLUSTRATION		TOOLS/PPE	QUALITY POINTERS																								
9	n/a	Label attachment	<table border="1"><thead><tr><th>SWITCH ASSY P/N</th><th>SWITCH ASSY PART NUMBER REFERENCE</th><th>PART NO.</th><th>TOYOTA PART NO.</th><th>SEAT POSITION</th><th>SEAT TYPE</th></tr></thead><tbody><tr><td>7L0141-702</td><td>41</td><td>7V8120-0020</td><td>73230-AQ020</td><td>DRIVER</td><td>POWER</td></tr><tr><td>7L0140-702</td><td>40</td><td>7V8110-0020</td><td>73230-AQ010</td><td>DRIVER</td><td>PWR + MEM</td></tr><tr><td>7L0139-702</td><td>39</td><td>7V8130-0020</td><td>73230-AQ040</td><td>DRIVER</td><td>MANUAL</td></tr></tbody></table>	SWITCH ASSY P/N	SWITCH ASSY PART NUMBER REFERENCE	PART NO.	TOYOTA PART NO.	SEAT POSITION	SEAT TYPE	7L0141-702	41	7V8120-0020	73230-AQ020	DRIVER	POWER	7L0140-702	40	7V8110-0020	73230-AQ010	DRIVER	PWR + MEM	7L0139-702	39	7V8130-0020	73230-AQ040	DRIVER	MANUAL	<div><div><p>Model code</p></div><div><p>Item no. & name</p></div></div> <div><div><p>1. Get the label. Note: Check the model code, item no. & name</p></div></div>		<div><div><p>2. Align the end part of label in the jig.</p></div><div><p>3. Fold the center part of the label</p></div><div><div><p>4. Align both end part of label .</p></div><div><p>5. After alignment , Press the label with both fingers .</p></div><div><div><p>6. Press the label upside down using finger.</p></div><div><div><p>Acceptable overlap GOOD</p></div><div><p>NG</p></div></div></div><div></div></div></div>
			SWITCH ASSY P/N	SWITCH ASSY PART NUMBER REFERENCE	PART NO.	TOYOTA PART NO.	SEAT POSITION	SEAT TYPE																						
7L0141-702	41	7V8120-0020	73230-AQ020	DRIVER	POWER																									
7L0140-702	40	7V8110-0020	73230-AQ010	DRIVER	PWR + MEM																									
7L0139-702	39	7V8130-0020	73230-AQ040	DRIVER	MANUAL																									



Model code



Item no. & name

1. Get the label.
Note: Check the model code, item no. & name



1. No bubbles
2. No damage
3. No peel off
4. No wrong use of label
5. No missing parts
6. No loose attachment
7. No wrong usage of label

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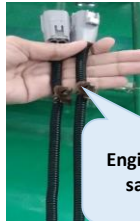
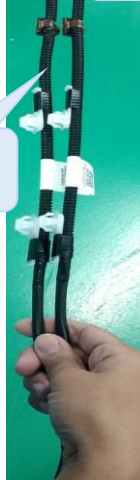




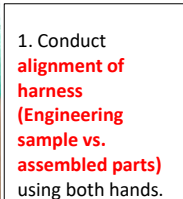


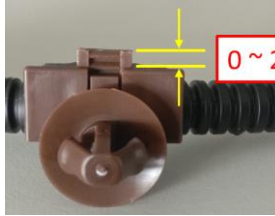
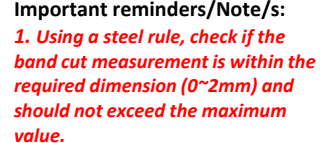
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PARTS:		1. Assy parts			JIG	n/a
NO.	PROCESS NAME		WORK PROCEDURE/ ILLUSTRATION		TOOLS/PPE	QUALITY POINTERS
10	n/a	Visual/By two's inspection	<div><div><p>ACTUAL PRODUCT</p></div><div><p>Engineering sample</p></div><div><p>Assembled parts</p></div><div><p>2. Check the connector lock, terminal, insertion.</p></div><div><p>3. Check the Y-Taping condition, presence of all clamp attachment, taping condition and band clamp cut condition.</p></div><div><p>5. Check the taping condition.</p></div><div><p>4. Check the presence of QR code and its part number.</p></div><div><p>1. Conduct alignment of harness (Engineering sample vs. assembled parts) using both hands.</p></div><div><p>6. Check the terminal appearance and taping condition. Must be no deformed terminal.</p></div></div> <div><div><p>Engineering sample</p></div><div><p>1. No skip checking during inspection.</p></div><div><p>Important reminders/Note/s: 1. Using a steel rule, check if the band cut measurement is within the required dimension (0~2mm) and should not exceed the maximum value.</p></div></div>			

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DCC Stamp

**WORK INSTRUCTION**

Process Name/Title:

TAPING ASSEMBLY PROCESS

Effectivity Date:

January 18, 2023

Model Code/Part Number:

380D / 7L0139-7020

Customer:

TRQSS

Validity date

n/a

Document No.:

WI-ENG-PDE-612

Purpose:


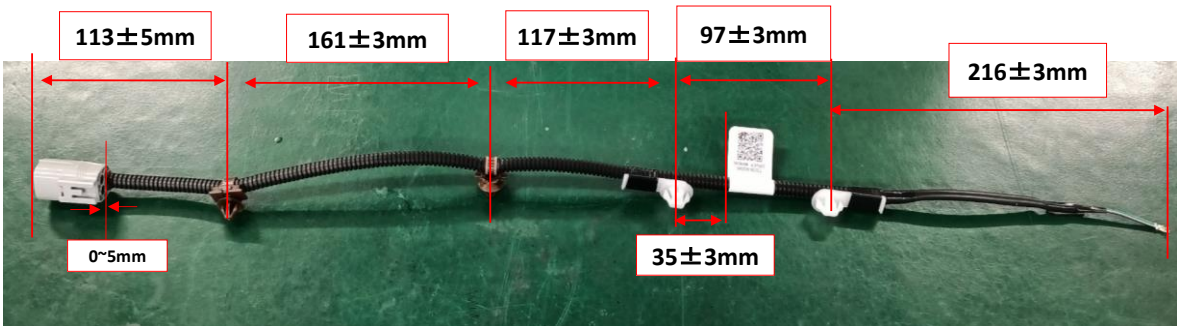
☐ PROTOTYPE☒ PRE-LAUNCH☐ MASSPRO

Revision No.:

0

Page No.:

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PARTS:		1. Assy parts			JIG	n/a	
NO.	PROCESS NAME		WORK PROCEDURE/ ILLUSTRATION		TOOLS/PPE	QUALITY POINTERS	
11	n/a	Measurement	<div><div>MEASURING TAPE</div><p><i>Note:</i> Please use calibrated/verified measuring tape when getting the measurement.</p></div> <div></div>				<p><i>Important reminders/Note/s:</i> 1. FOR HATSUMONO AND OWARIMONO</p> <p>1. No wrong dimension</p>

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☐ PROTOTYPE

☒ PRE-LAUNCH

☐ MASSPRO

Revision No.:

0

Page No.:

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PARTS:

1. Assy parts

JIG

n/a

QUALITY CHECKPOINTS

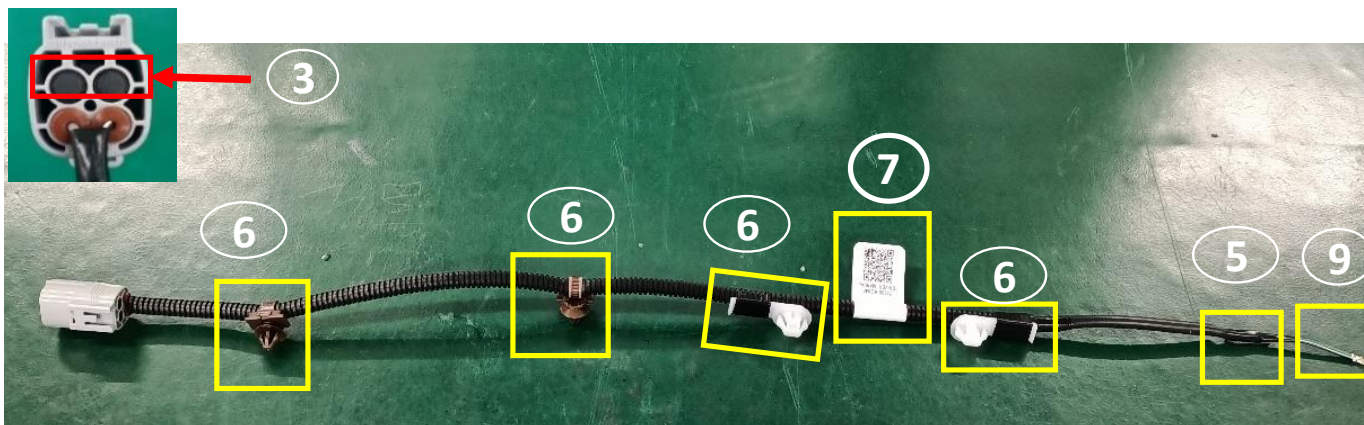
7L0139-7020



NO GOOD



GOOD



GOOD



GOOD



NO GOOD



NO GOOD

1 No Unlock/ Half Lock Connector

4 No Terminal Backing out

7 No QR code label

2 No Wrong Insert

5 No Missing Tape

8 Checking of Clamp Alignment

3 No Missing Dummy Seal

6 No Missing Clamp (4pcs)

9 No Deformed Terminal

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