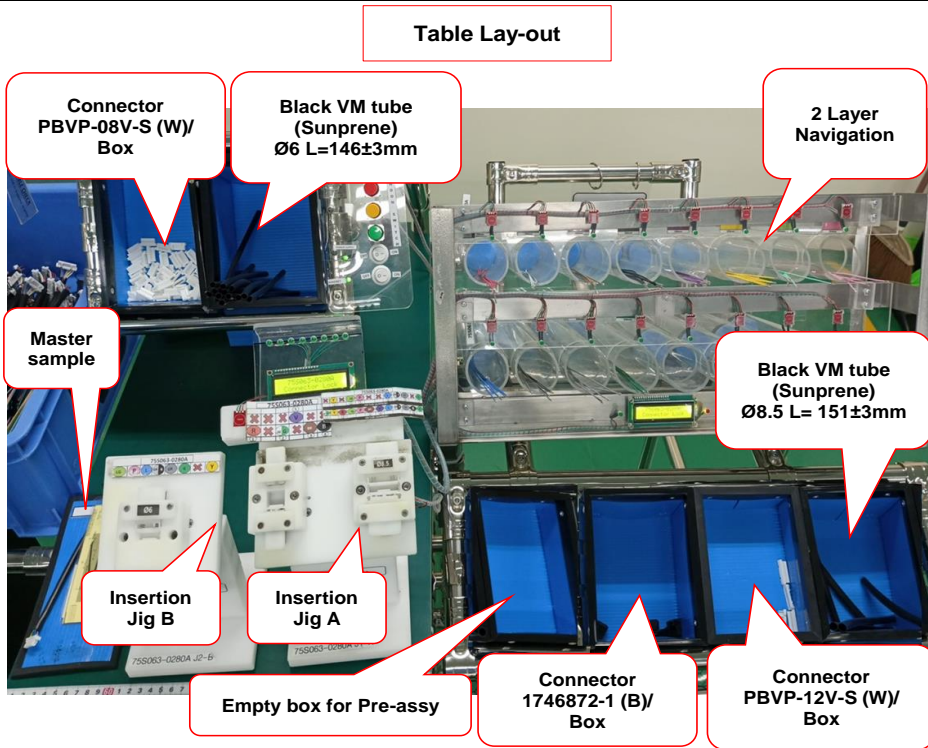

	<b>WORK INSTRUCTION</b>				Effectivity Date:	February 13, 2025		
	<b>TAPING ASSEMBLY PROCESS</b>				Validity Date:	n/a		
	Process Name/Title:		Model code/Part number: <b>970B / 75S063-0280A</b>		Customer: <b>TRJ</b>	Car Model: <b>TOYOTA-ALPHARD</b>	Document No.: <b>WI-ENG-PDE-684</b>	
	Purpose: <input type="checkbox"/> PROTOTYPE <input type="checkbox"/> PRE-LAUNCH <input checked="" type="checkbox"/> MASSPRO				Revision No.:	5	Page No.:	1 of 20

<b>PARTS:</b>	1. Connector 1746872-1 (B); PBVP-12V-S (W); Black VM tube (Sunprene) Ø8.5 L=151±3mm; Black VM tube (Sunprene) Ø6 L=146±3mm; Connector PBVP-08V-S (W); AVSS 0.3 wire R= 188±2mm; W/G L=184±2mm; BR L=194±2mm; B L=204±2mm; V L=196±2mm; AVSS 0.3 wire Y=336±2mm; LG=354±2mm; P=354±2mm; L L= 358±2mm; GR/B=358±2mm; GR=358±2mm; G=358±2mm			JIG:	1. Insertion jig 2. Steering navigator
<b>NO.</b>	<b>PROCESS NAME</b>	<b>WORK PROCEDURE/ ILLUSTRATION</b>	<b>TOOLS/PPE</b>	<b>QUALITY POINTERS</b>	
1	P1  Table lay-out		<div> <b>Safety Instruction</b>            Be sure to wear prescribed personal protective equipment during operation (gloves, finger cots, etc.)         </div> <div> <b>Housekeeping</b>            1. Maintain and always practice 5's.            2. Personal things on the workplace is prohibited. Keep it in your locker.         </div> <div> <b>Alert level</b>            For any trouble, inform the Assembly Assistant Supervisor or Line Leader for immediate corrective action.         </div>	<b>Document reference/s:</b> 1. Refer to <b>WI-PRO-CNC-017</b> for Wire and Strip Length Tolerance  1. No deformed terminal 2. No wrong usage of parts	

Revision History							Prepared by	Reviewed by	Approved by	Noted by
02/13/25	5	Improved insertion jig; Change connector (PBVP-12V-S and PBVP-08V-S) orientation, terminal orientation and color sequence as customer claim countermeasure. Additional method to wire bending as countermeasure to damage lance. Inclusion of Table lay-out. Change document number of Steering Electrical test (WI-QAD-QAC-252). Improved Measurement and Visual inspection/Quality checkpoint.				D.Castillo	C. Villanueva	A. Arañes	n/a	
12/20/23	4	Correction of Work Illustrations (position of harness) on pages 11 to 14.				M. Ariola	C. Villanueva	A. Arañes	n/a	
12/14/23	3	Improve the Work Procedure/Illustration (Way of wire folding and facing of connector); Additional Quality checkpoints due to customer feedback (pages 10 to 14).				M. Ariola	C. Villanueva	A. Arañes	n/a	
Eff. Date	Rev. No	Details of Change				Revised	Reviewed	Approved	Noted	Est. Date: May 26, 2023

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# WORK INSTRUCTION

Process Name/Title:

## TAPING ASSEMBLY PROCESS

Effectivity Date:

February 13, 2025

Validity Date:

n/a

Model code/Part number:

970B / 75S063-0280A

Customer:

TRJ

Car Model:

TOYOTA-ALPHARD

Document No.:

WI-ENG-PDE-684

Purpose:

☐ PROTOTYPE

☐ PRE-LAUNCH

☒ MASSPRO

Revision No.:

5

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PARTS:		1. Connector 1746872-1 (B) 2. PBVP-12V-S (W)		JIG:	1. Insertion jig 2. Steering navigator
NO.	PROCESS NAME	WORK PROCEDURE/ ILLUSTRATION		TOOLS/PPE	QUALITY POINTERS
2	P1	<div><div>Visual reference</div><div>Visual reference</div><div>Upper Guide Lock</div><div>Upper guide lock</div><div>Upper guide</div><div>Upper guide</div><div>Lower guide</div><div>Lower guide</div><div>Lower Guide Lock</div><div>Lower guide lock</div><div>1</div><div>2</div><div>Visual reference</div><div>Upper guide lock</div><div>Upper guide</div><div>Lower guide</div><div>Lower guide lock</div><div>1</div><div>2</div><div>Visual reference</div><div>Upper guide lock</div><div>Upper guide</div><div>Lower guide</div><div>Lower guide lock</div><div>1</div><div>2</div><div>Visual reference</div><div>Upper guide lock</div><div>Upper guide</div><div>Lower guide</div><div>Lower guide lock</div><div>1</div><div>2</div><div>Visual reference</div><div>Upper guide lock</div><div>Upper guide</div><div>Lower guide</div><div>Lower guide lock</div><div>1</div><div>2</div><div>Visual reference</div><div>Upper guide lock</div><div>Upper guide</div><div>Lower guide</div><div>Lower guide 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# WORK INSTRUCTION

Process Name/Title:

## TAPING ASSEMBLY PROCESS

Effectivity Date:

February 13, 2025

Validity Date:

n/a

Model code/Part number:

970B / 75S063-0280A

Customer: TRJ

Car Model: TOYOTA-ALPHARD

Document No.:

WI-ENG-PDE-684

Purpose:

☐ PROTOTYPE

☐ PRE-LAUNCH

☒ MASSPRO

Revision No.:

5

Page No.:

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### PARTS:

1. AVSS 0.3 wire R= 188±2mm; W/G L=184±2mm; BR L=194±2mm; B L=204±2mm; V L=196±2mm

JIG:

1. Insertion jig
2. Steering navigator

NO.

PROCESS NAME

WORK PROCEDURE/ ILLUSTRATION

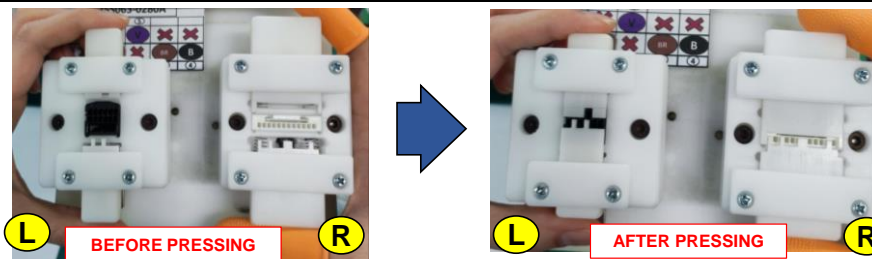
TOOLS/PPE

QUALITY POINTERS

2

5

Connector setting to  
insertion jig  
1746872-1 (B)  
PBVP-12V-S (W)  
(Continuation)



2. Press the upper and lower guide using both hands same timing. Holes that need to be insert are only open.

STEERING  
NAVIGATION(2 layer)



CONTROLLER



1. Use the provided jig per model
2. No wrong usage of parts
3. No wrong orientation of connector
4. No damaged connector

1. Use provided jig per model
2. No wrong usage of parts
3. No wrong insertion
4. No deformed terminal
5. No stuck of terminal tip
6. One by one insertion.

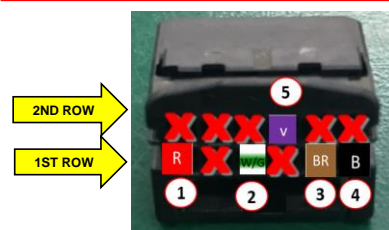
3

P1

Wire insertion to connector  
1746872-1 (B)

INSERTION SEQUENCE FROM LEFT TO RIGHT

WIRE INSERTION ILLUSTRATION

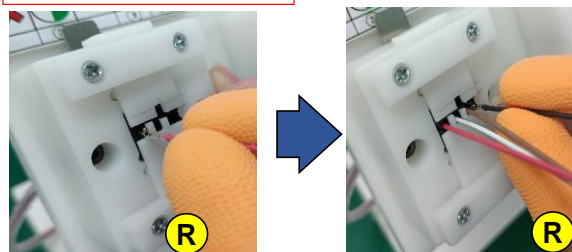


FIRST ROW (LEFT TO RIGHT)

X	X	X	5	X	X
1	X	2	V	3	4
R	X	W/G	X	BR	B
188		184		194	204



TERMINAL  
FACING




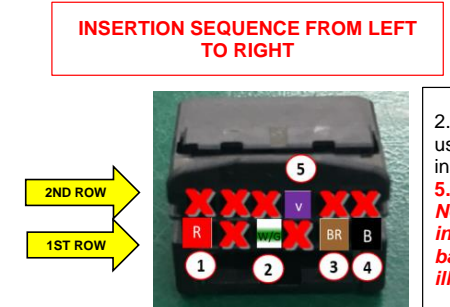
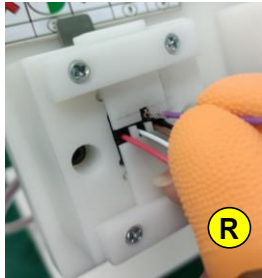
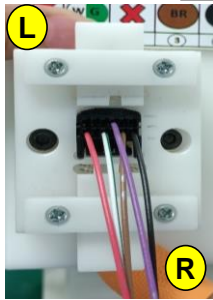
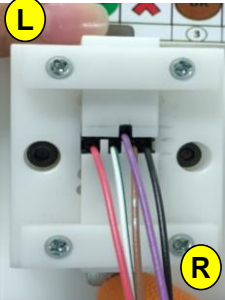
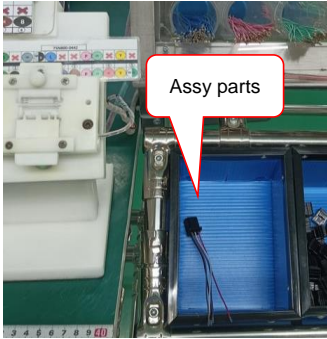


1. Get the **R wire** using right hand and insert to terminal **slot 1**. Repeat the process for **W/G-BR-B wires**.  
**Note: Follow the insertion sequence based on the illustration.**

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	<b>WORK INSTRUCTION</b>				Effectivity Date:	<b>February 13, 2025</b>				
	<b>TAPING ASSEMBLY PROCESS</b>				Validity Date:	n/a				
	Process Name/Title:		Model code/Part number: <b>970B / 75S063-0280A</b>		Customer: <b>TRJ</b>	Car Model: <b>TOYOTA-ALPHARD</b>		Document No.:	<b>WI-ENG-PDE-684</b>	
	Purpose:		<input type="checkbox"/> PROTOTYPE <input type="checkbox"/> PRE-LAUNCH <input checked="" type="checkbox"/> MASSPRO		Revision No.:		5	Page No.:	4 of 20	

<b>PARTS:</b>	1. AVSS 0.3 R L=160±2mm; W/G L=160±2mm; BR L=160±2mm; B L=160±2mm; V L=160±2mm			JIG:	1. Insertion jig 2. Steering navigator			
<b>NO.</b>	<b>PROCESS NAME</b>	<b>WORK PROCEDURE/ ILLUSTRATION</b>			<b>TOOLS/PPE</b>	<b>QUALITY POINTERS</b>		
3	P1 Wire insertion to connector 1746872-1 (B) (Continuation)	<div><div>INSERTION SEQUENCE FROM LEFT TO RIGHT</div><div></div><div>2. Get the <b>V wire</b> using right hand and insert to terminal <b>slot 5</b>. <b>Note: Follow the insertion sequence based on the illustration.</b></div><div></div><div></div><div>BEFORE PRESSING      AFTER PRESSING</div><div>3. Press the upper and lower guide lock with both hands (<b>same timing</b>). Hold the wires using right hand and gently pull out the connector from jig. <b>Note: Please see above illustration</b></div><div>4. After removal to insertion jig, put the assy parts to empty box. <b>Note: Follow the illustration.</b></div><div></div></div> <div><div>STEERING NAVIGATION(2 layer)</div><div></div><div>CONTROLLER</div><div></div></div> <div>1. Use provided jig per model 2. No wrong usage of parts 3. No wrong insertion 4. No deformed terminal 5. No stuck of terminal tip 6. One by one insertion.  <b>Important reminders/Note/s:</b> <b>1. Please hold the wire near terminal during insertion.</b> <b>2. Make sure wires are properly inserted. Conduct Pull-Push-Pull-Push after insertion. Do not exert extra force.</b> <b>3. Automatically dispose and replace the unit if once encountered bend terminal and difficulty of insertion and half locked connector.</b>  <b>Document references:</b> <b>1. Refer to GL-PRO-ASY-029 for Pull-Push procedure.</b> <b>2. Refer to WI-PRO-CNC-017 for Wire and Strip Length Tolerance</b> <b>3. Refer to WI-ENG-PDE-044 for Steering Navigation Controller procedure.</b></div>						

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**WORK INSTRUCTION**

Process Name/Title:

**TAPING ASSEMBLY PROCESS**

Effectivity Date:

**February 13, 2025**

Model code/Part number:

**970B / 75S063-0280A**

Customer:

**TRJ**

Car Model:

**TOYOTA-ALPHARD**

Document No.:

**WI-ENG-PDE-684**

Purpose:



PROTOTYPE



PRE-LAUNCH



MASSPRO

Revision No.:

5

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**PARTS:**

1. AVSS 0.3 wire Y=336±2mm; LG=354±2mm; P=354±2mm; L L= 358±2mm; GR/B=358±2mm; GR=358±2mm; G=358±2mm

JIG:

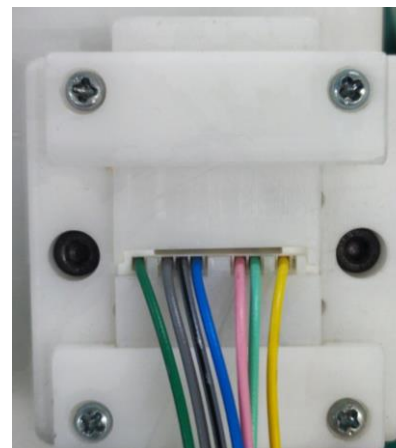
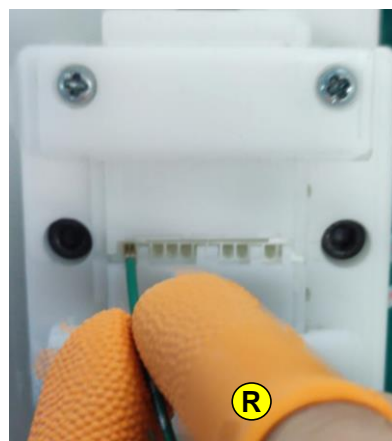
1. Insertion jig
2. Steering navigator

**NO.****PROCESS NAME****WORK PROCEDURE/ ILLUSTRATION****TOOLS/PPE****QUALITY POINTERS**

5

**INSERTION SEQUENCE FROM LEFT TO RIGHT****TERMINAL FACING****WIRE INSERTION ILLUSTRATION**

1		2	3	4			5	6		7	
G	X	GR	GR/B	L	X	X	P	LG	X	Y	X
358		358	358	358			354	354		336	



1. Get the **G wire** using right hand and insert to connector. Repeat the process for **GR, GR/B, L, P, LG and Y wires**.

**Note: Follow the insertion sequence based on above illustration.****STEERING NAVIGATION(2 layer)****CONTROLLER****Important reminders/Note/s:**

1. **Make sure wires are properly inserted. Conduct Pull-Push-Pull-Push after insertion. Do not exert extra force.**
2. **Please hold the wires near terminal during insertion.**
3. **Automatically dispose and replace the unit if once encountered bend terminal, difficulty of insertion and half-locked connector.**
4. **Insertion of wires must be from left to right.**


**Document reference/s:**

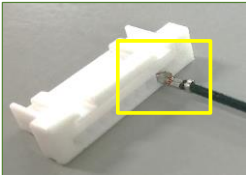

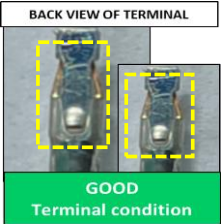
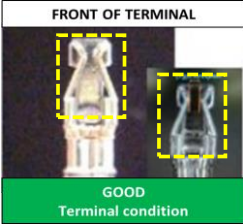
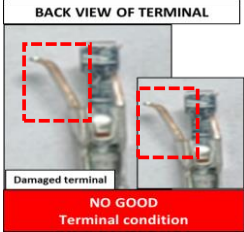
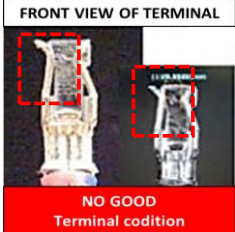
1. Refer to WI-PRO-CNC-017 for Wire and Strip Length Tolerance.
2. Refer to WI-ENG-PDE-044 for Steering Navigation Controller procedure..
3. Refer to GL-PRO-ASY-029 for Pull-Push procedure.
4. . Refer to GL-PRO-ASY-025 for Inspection Standard for connector insertion.

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	<b>WORK INSTRUCTION</b>				Effectivity Date:	<b>February 13, 2025</b>		
	Process Name/Title: <b>TAPING ASSEMBLY PROCESS</b>				Validity Date:	n/a		
	Model code/Part number: <b>970B / 75S063-0280A</b>		Customer: <b>TRJ</b>	Car Model: <b>TOYOTA-ALPHARD</b>	Document No.:	<b>WI-ENG-PDE-684</b>		
	Purpose: <input type="checkbox"/> PROTOTYPE <input type="checkbox"/> PRE-LAUNCH <input checked="" type="checkbox"/> MASSPRO				Revision No.:	5	Page No.:	6 of 20

<b>PARTS:</b>	1. AVSS 0.3 G L=291±2mm; GR L=291±2mm; GR/B L=291±2mm; L L=291±2mm; P L=291±2mm; LG L=291±2mm; Y L=291±2mm		JIG:	1. Insertion jig 2. Steering navigator
<b>NO.</b>	<b>PROCESS NAME</b>	<b>WORK PROCEDURE/ ILLUSTRATION</b>	<b>TOOLS/PPE</b>	<b>QUALITY POINTERS</b>
4	P1  Wire insertion to connector PBVP-12V-S (W) (Continuation)	<div>Proper alignment of terminal to connector</div>  <div>Improper alignment of terminal to connector</div>  <div>BACK VIEW OF TERMINAL</div>  <div>GOOD Terminal condition</div> <div>FRONT OF TERMINAL</div>  <div>GOOD Terminal condition</div> <div>BACK VIEW OF TERMINAL</div>  <div>Damaged terminal NO GOOD Terminal condition</div> <div>FRONT VIEW OF TERMINAL</div>  <div>NO GOOD Terminal condition</div> <div>Note: *Make sure the terminal was in proper alignment before insert. *Avoid hitting the terminal into the connector during wire insertion, if encountered abnormality stop the process and call the attention of Immediate superior and Automatically disposed and replace the unit.</div>		<div>1. Use provided jig per model 2. No wrong usage of parts 3. No wrong insertion 4. No deformed terminal 5. No stuck of terminal tip 6. One by one insertion</div> <div>Important reminders/Note/s:</div> <div>1. Make sure wires are properly inserted. Conduct Pull-Push-Pull-Push after insertion. Do not exert extra force. 2. Please hold the wires near terminal during insertion. 3. Automatically dispose and replace the unit if once encountered bend terminal, difficulty of insertion and half-locked connector. 4. Insertion of wires must be from left to right.</div> <div>Document reference/s:</div> <div>1. Refer to WI-PRO-CNC-017 for Wire and Strip Length Tolerance. 2. Refer to WI-ENG-PDE-044 for Steering Navigation Controller procedure.. 3. Refer to GL-PRO-ASY-029 for Pull-Push procedure. 4. Refer to GL-PRO-ASY-025 for Inspection Standard for connector insertion.</div>




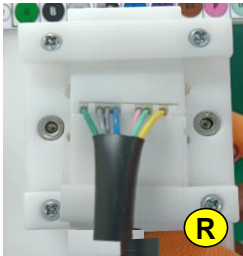
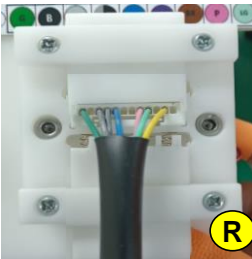

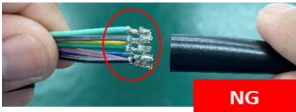

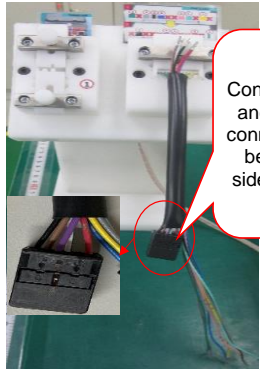
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	<b>TAPING ASSEMBLY PROCESS</b>				Validity Date:	<b>n/a</b>			
	Process Name/Title:		Model code/Part number: <b>970B / 75S063-0280A</b>	Customer: <b>TRJ</b>	Car Model: <b>TOYOTA-ALPHARD</b>	Document No.:	<b>WI-ENG-PDE-684</b>		
	Purpose:		<input type="checkbox"/> PROTOTYPE	<input type="checkbox"/> PRE-LAUNCH	<input checked="" type="checkbox"/> MASSPRO	Revision No.:	5	Page No.:	7 of 20

<b>PARTS:</b>		1. Assy parts 2. Black VM tube (Sunprene) Ø8.5 L=151±3mm		<b>JIG:</b>	1. Insertion jig 2. Steering navigator
<b>NO.</b>	<b>PROCESS NAME</b>	<div style="text-align: center;">  <b>5</b> </div> <b>WORK PROCEDURE/ ILLUSTRATION</b>	<b>TOOLS/PPE</b>	<b>QUALITY POINTERS</b>	
5	Wire insertion to Black VM tube (Sunprene) Ø8.5 L=151±3mm  P1	<div style="display: flex; align-items: center;">  <div style="border: 1px solid black; padding: 5px; margin: 5px;">         1. Hold the wires using left hand, get the <b>Black VM tube (Sunprene) Ø8.5 L=151±3mm</b> using right hand then insert the wires using left hand.       </div>  </div> <div style="display: flex; align-items: center;">  <div style="border: 1px solid black; padding: 5px; margin: 5px;">         2. Press the lower guide lock using right hand. Holes that need to be insert are only open.       </div>  </div>		1. No wrong usage of parts 2. No deformed terminal  <i>Important reminders/Note/s:</i> <b>1. Wires must be offset with each other.</b>  <div style="display: flex; justify-content: space-around;">   </div>	
6	Wire insertion to Black VM tube (Sunprene) Ø8.5 L=151±3mm (Assy Parts)	<div style="display: flex; align-items: center;">  <div style="border: 1px solid black; padding: 5px; margin: 5px;">         1. Hold the Black VM tube (Sunprene) using left hand and get the assy part then insert the wires using right hand.       </div>  <div style="border: 1px solid red; border-radius: 15px; padding: 5px; margin: 5px;">         Connector facing and position of connector should be on the left side of harness.       </div> </div>	n/a	1. No wrong usage of parts 2. No deformed terminal	

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## WORK INSTRUCTION

Process Name/Title:

## TAPING ASSEMBLY PROCESS

Effectivity Date:

February 13, 2025

Model code/Part number:

970B / 75S063-0280A

Customer:

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Car Model:

TOYOTA-ALPHARD

Document No.:

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Purpose:



PROTOTYPE



PRE-LAUNCH



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## PARTS:

1. Assy parts

JIG:

1. Insertion jig
2. Steering navigator

NO.

PROCESS NAME

WORK PROCEDURE/ ILLUSTRATION

TOOLS/PPE

QUALITY POINTERS

7

P1

Wire insertion to  
connector  
PBVP-12V-S (W)

INSERTION SEQUENCE FROM LEFT TO RIGHT

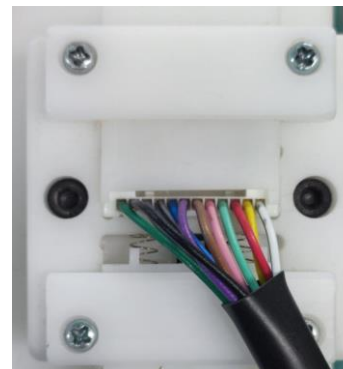
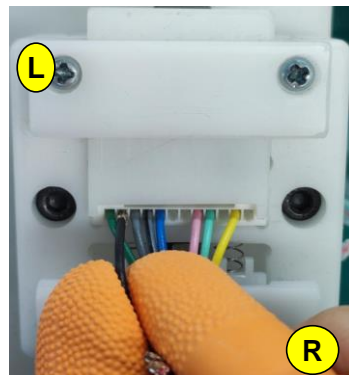


WIRE FACING



WIRE INSERTION ILLUSTRATION

	1				2	3			4		5
G	B	GR	GR/B	L	V	BR	P	LG	R	Y	W/G
358	204	358	358	358	196	194	354	354	188	366	184



1. Hold the **W/G** wire using right hand and support the wire by the left index finger then insert to connector at slot **1** using right hand. Repeat the process for **R\_BR-V-B** wires
- Note: Follow the insertion sequence based on the illustration.**

STEERING  
NAVIGATION(2 layer)

CONTROLLER

**Important reminders/Note/s:**

1. Make sure wires are properly inserted. Conduct **Pull-Push-Pull-Push** after insertion. Do not exert extra force.
2. Please hold the wires near terminal during insertion.
3. Automatically dispose and replace the unit if once encountered bend terminal, difficulty of insertion and half-locked connector.
4. Insertion of wires must be from left to right.

**Document reference/s:**

1. Refer to WI-PRO-CNC-017 for Wire and Strip Length Tolerance.
2. Refer to WI-ENG-PDE-044 for Steering Navigation Controller procedure..
3. Refer to GL-PRO-ASY-029 for Pull-Push procedure.
4. . Refer to GL-PRO-ASY-025 for Inspection Standard for connector insertion.

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WI-ENG-PDE-684

Purpose:

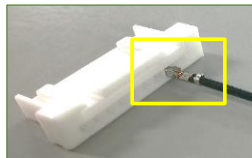
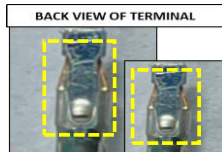
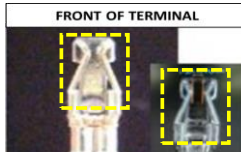

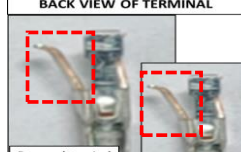
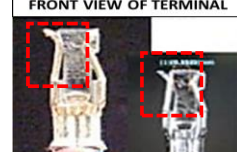
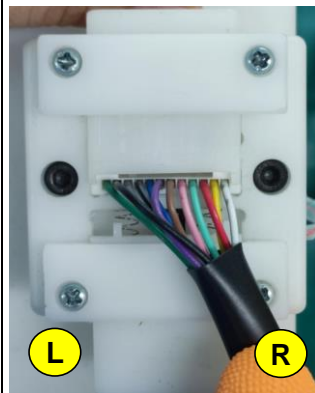
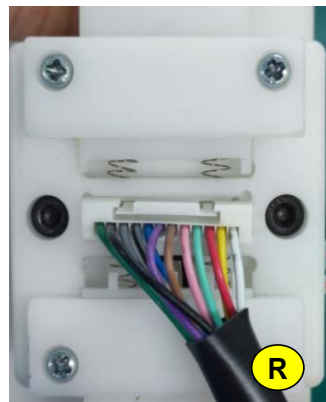

☐ PROTOTYPE☐ PRE-LAUNCH☒ MASSPRO

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PARTS:	1. Assy parts		JIG:	1. Insertion jig 2. Steering navigator
NO.	PROCESS NAME	WORK PROCEDURE/ ILLUSTRATION	TOOLS/PPE	QUALITY POINTERS
7	P1  Wire insertion to connector PBVP-12V-S (W) (Continuation)	<div><div>Proper alignment of terminal to connector</div><div></div><div><div>BACK VIEW OF TERMINAL</div><div></div><div>GOOD Terminal condition</div></div><div><div>FRONT OF TERMINAL</div><div></div><div>GOOD Terminal condition</div></div></div> <div><div>Improper alignment of terminal to connector</div><div></div><div><div>BACK VIEW OF TERMINAL</div><div></div><div>Damaged terminal NO GOOD Terminal condition</div></div><div><div>FRONT VIEW OF TERMINAL</div><div></div><div>NO GOOD Terminal condition</div></div></div> <div><div>Note:</div><div><div>*Make sure the terminal was in proper alignment before insert.</div><div>*Avoid hitting the terminal into the connector during wire insertion, if encountered abnormality stop the process and call the attention of Immediate superior and Automatically disposed and replace the unit.</div></div></div> <div><div></div><div>2. Hold the wires using right hand and then press the unlock button using left thumb.</div></div> <div><div></div><div>3. Gently pull out the connector from jig then check the terminal tip condition.</div></div>		<div>1. Use provided jig per model 2. No wrong usage of parts 3. No wrong insertion 4. No deformed terminal 5. No stuck of terminal tip 6. One by one insertion</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. Please hold the wires near terminal during insertion.</div><div>3. Automatically dispose and replace the unit if once encountered bend terminal, difficulty of insertion and half-locked connector.</div><div>4. Insertion of wires must be from left to right.</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 WI-ENG-PDE-044 for Steering Navigation Controller procedure..</div><div>3. Refer to GL-PRO-ASY-029 for Pull-Push procedure.</div><div>4. Refer to GL-PRO-ASY-025 for Inspection Standard for connector insertion.</div></div> <div><div></div><div>Terminal tip must be visible.</div></div>

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**WORK INSTRUCTION**

Process Name/Title:

**TAPING ASSEMBLY PROCESS**

Effectivity Date:

**February 13, 2025**

Model code/Part number:

**970B / 75S063-0280A**

Customer:

**TRJ**

Car Model:

**TOYOTA-ALPHARD**

Document No.:

**WI-ENG-PDE-684**

Purpose:



PROTOTYPE



PRE-LAUNCH




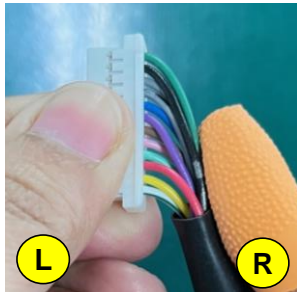


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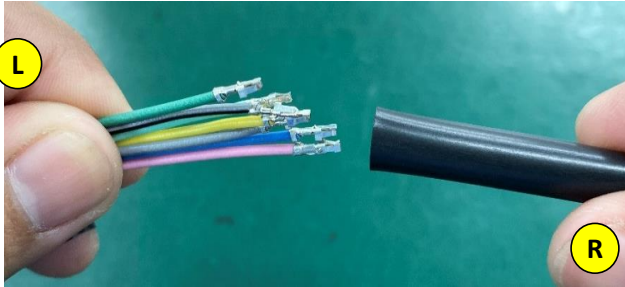


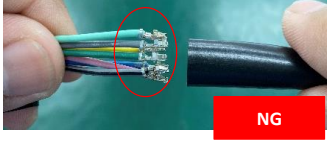
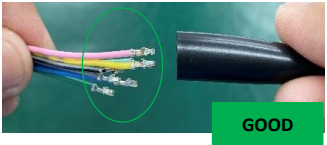
<b>PARTS:</b>	1. Assy parts			JIG:	n/a
<b>NO.</b>	<b>PROCESS NAME</b>	<b>WORK PROCEDURE/ ILLUSTRATION</b>		<b>TOOLS/PPE</b>	<b>QUALITY POINTERS</b>
8	P1	<div>5</div> <div>Wire bending 1</div> <div><p>BEFORE BENDING</p><p>1. Hold the 2 connectors by both hand and arrange the wire.</p><p>2. Hold the assy part by left hand and place the index finger of right hand to wire then slightly bend the wire. <i>Note: Follow the illustration.</i></p><p>AFTER BENDING</p><p>3. Check the terminal tip condition.</p></div>		n/a	<div>1. No damage lance</div> <div>2. No deformed terminal</div> <div>3. No tangled wires</div> <div>4. No wrong folding of position</div>

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	<b>Process Name/Title: TAPING ASSEMBLY PROCESS</b>				Validity Date:	n/a		
	Model code/Part number: <b>970B / 75S063-0280A</b>		Customer: <b>TRJ</b>	Car Model: <b>TOYOTA-ALPHARD</b>	Document No.:	<b>WI-ENG-PDE-684</b>		
	Purpose: <input type="checkbox"/> PROTOTYPE <input type="checkbox"/> PRE-LAUNCH <input checked="" type="checkbox"/> MASSPRO				Revision No.:	5	Page No.:	11 of 20



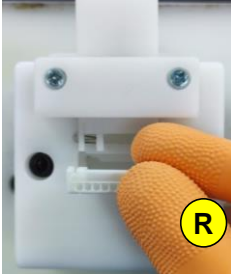
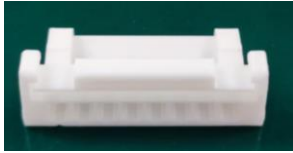
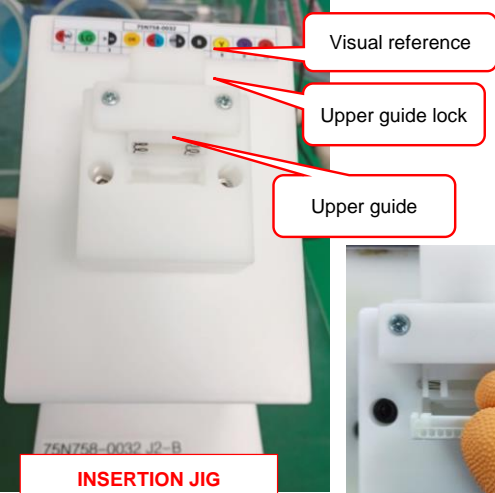
<b>PARTS:</b>		1. Assy parts 2. Black VM tube (Sunprene) Ø6 L=146±3mm		JIG:	n/a
<b>NO.</b>	<b>PROCESS NAME</b>	<b>WORK PROCEDURE/ ILLUSTRATION</b>		<b>TOOLS/PPE</b>	<b>QUALITY POINTERS</b>
9	P1 Wire insertion to Black VM tube (Sunprene) Ø6 L=146±3mm	<div><div>1. Get the <b>Black VM tube (Sunprene) Ø6 L=146±3mm</b> using right hand then insert the wires using left hand.</div><div>2. After insertion, check the terminal appearance and then set aside the assy parts.</div></div>		n/a	<div>1. No wrong usage of parts 2. No deformed terminal 3. No tangled wires</div> <div><b>Important reminders/Note/s:</b> <b>1. Wires must be offset with each other.</b></div> <div></div>

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	<b>TAPING ASSEMBLY PROCESS</b>			Validity Date:	n/a							
	Process Name/Title:			Model code/Part number:	<b>970B / 75S063-0280A</b>	Customer:	<b>TRJ</b>	Car Model:	<b>TOYOTA-ALPHARD</b>	Document No.:	<b>WI-ENG-PDE-684</b>	
	Purpose:		<input type="checkbox"/> PROTOTYPE	<input type="checkbox"/> PRE-LAUNCH	<input checked="" type="checkbox"/> MASSPRO	Revision No.:	5	Page No.:	12 of 20			

<b>PARTS:</b>		1. Connector PVBVP-08V-S (W)		JIG:	1. Insertion jig	
<b>NO.</b>	<b>PROCESS NAME</b>	<b>WORK PROCEDURE/ ILLUSTRATION</b>			<b>TOOLS/PPE</b>	<b>QUALITY POINTERS</b>
10	P1 <div>5</div> Connector setting to insertion jig PVBVP-08V-S (W)	<div><p>1. Get the connector <b>PBVP-08V-S (W)</b> and insert to insertion jig using right hand. <i>Note: Follow the connector orientation.</i></p><p>2. Press the upper guide using left hand. You will notice the holes that needs to be inserted are only open.</p></div>			N/A	1. Use provided jig per model 2. No wrong usage of parts 3. No wrong insertion 4. No deformed terminal 5. No stuck of terminal tip 6. One by one insertion

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## WORK INSTRUCTION

Process Name/Title:

## TAPING ASSEMBLY PROCESS

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Customer:

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Car Model: TOYOTA-ALPHARD

Document No.:

WI-ENG-PDE-684

Purpose:

☐ PROTOTYPE☐ PRE-LAUNCH☒ MASSPRO

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## PARTS:

1. Assy parts

JIG:

1. Insertion jig

NO.

PROCESS NAME

WORK PROCEDURE/ ILLUSTRATION

TOOLS/PPE

QUALITY POINTERS

11

P1

Wire insertion to  
connector  
PBVP-08V-S (W)

INSERTION SEQUENCE FROM LEFT TO RIGHT

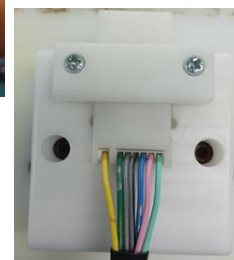
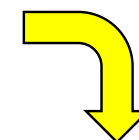
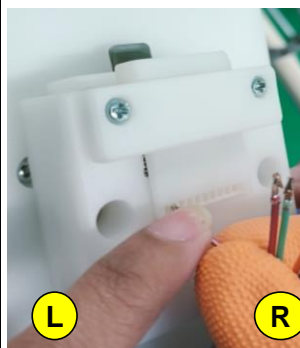


WIRE FACING



WIRE INSERTION ILLUSTRATION

1		2	3	4	5	6	7
Y	X	G	GR	GR/B	L	P	LG
336		358	358	358	358	354	354



1. Hold the **Y** wire using right hand and support the wire by the left index finger then insert to connector at slot **1** using right hand. Repeat the process for **G-GR-GR/B-L-P-LG** wires  
**Note: Follow the insertion sequence based on the illustration.**

N/A

1. Use provided jig per model
2. No wrong usage of parts
3. No wrong insertion
4. No deformed terminal
5. No stuck of terminal tip
6. One by one insertion

## Important reminders/Note/s:

1. Make sure wires are properly inserted. Conduct **Pull-Push-Pull-Push** after insertion. Do not exert extra force.
2. Please hold the wires near terminal during insertion.
3. Automatically dispose and replace the unit if once encountered bend terminal, difficulty of insertion and half-locked connector.
4. Insertion of wires must be from left to right.

## Document reference/s:

1. Refer to WI-PRO-CNC-017 for Wire and Strip Length Tolerance.
2. Refer to WI-ENG-PDE-044 for Steering Navigation Controller procedure..
3. Refer to GL-PRO-ASY-029 for Pull-Push procedure.
4. . Refer to GL-PRO-ASY-025 for Inspection Standard for connector insertion.

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# WORK INSTRUCTION

Process Name/Title:

## TAPING ASSEMBLY PROCESS

Effectivity Date:

February 13, 2025

Validity Date:

n/a

Model code/Part number:

970B / 75S063-0280A

Customer: TRJ

Car Model: TOYOTA-ALPHARD

Document No.:

WI-ENG-PDE-684

Purpose:

☐ PROTOTYPE

☐ PRE-LAUNCH

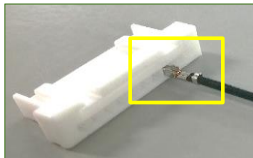
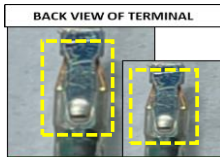
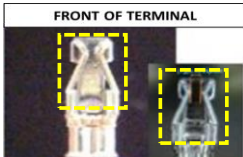

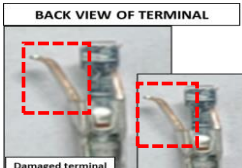
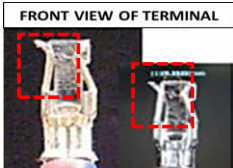
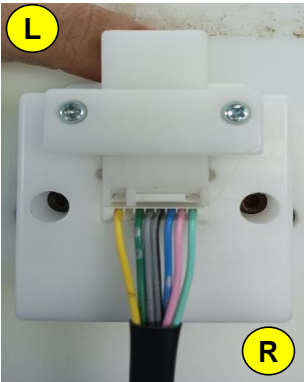


☒ MASSPRO

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PARTS:		1. Assy parts		JIG:	1. Insertion jig	
NO.	PROCESS NAME	WORK PROCEDURE/ ILLUSTRATION		TOOLS/PPE	QUALITY POINTERS	
11	P1	<div>Proper alignment of terminal to connector</div> <div></div> <div><div>BACK VIEW OF TERMINAL</div><div></div><div>GOOD Terminal condition</div></div> <div><div>FRONT OF TERMINAL</div><div></div><div>GOOD Terminal condition</div></div>		<div>Improper alignment of terminal to connector</div> <div></div> <div><div>BACK VIEW OF TERMINAL</div><div></div><div>Damaged terminal NO GOOD Terminal condition</div></div> <div><div>FRONT VIEW OF TERMINAL</div><div></div><div>NO GOOD Terminal condition</div></div>		<div>1. Use provided jig per model</div> <div>2. No wrong usage of parts</div> <div>3. No wrong insertion</div> <div>4. No deformed terminal</div> <div>5. No stuck of terminal tip</div> <div>6. One by one insertion</div> <div>Important reminders/Note/s:</div> <div>1. Make sure wires are properly inserted. Conduct Pull-Push-Pull-Push after insertion. Do not exert extra force.</div> <div>2. Please hold the wires near terminal during insertion.</div> <div>3. Automatically dispose and replace the unit if once encountered bend terminal, difficulty of insertion and half-locked connector.</div> <div>4. Insertion of wires must be from left to right.</div> <div>Document reference/s:</div> <div>1. Refer to WI-PRO-CNC-017 for Wire and Strip Length Tolerance.</div> <div>2. Refer to WI-ENG-PDE-044 for Steering Navigation Controller procedure..</div> <div>3. Refer to GL-PRO-ASY-029 for Pull-Push procedure.</div> <div>4. Refer to GL-PRO-ASY-025 for Inspection Standard for connector insertion.</div>
		<div>5</div> <div>Wire insertion to connector PBVP-08V-S (W) (Continuation)</div>	<div><div>L</div><div></div><div>R</div></div> <div>2. Hold the wires using right hand and then press the unlock button using left thumb.</div> <div><div></div><div>R</div></div> <div>3. Gently pull out the connector from jig then check the terminal tip condition.</div> <div><div></div><div>Terminal tip must be visible.</div></div>			

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	<b>WORK INSTRUCTION</b>				Effectivity Date:	<b>February 13, 2025</b>		
	<b>Process Name/Title: TAPING ASSEMBLY PROCESS</b>				Validity Date:	n/a		
	Model code/Part number: <b>970B / 75S063-0280A</b>		Customer: <b>TRJ</b>	Car Model: <b>TOYOTA-ALPHARD</b>	Document No.:	<b>WI-ENG-PDE-684</b>		
	Purpose: <input type="checkbox"/> PROTOTYPE <input type="checkbox"/> PRE-LAUNCH <input checked="" type="checkbox"/> MASSPRO		Revision No.:		5	Page No.:	15 of 20	


<b>PARTS:</b>		1. Assy parts		JIG:	n/a
<b>NO.</b>	<b>PROCESS NAME</b>	<b>WORK PROCEDURE/ ILLUSTRATION</b>	<b>TOOLS/PPE</b>	<b>QUALITY POINTERS</b>	
12	P1 <div>5</div> Wire bending 2	<div><div>BEFORE BENDING</div><div><div>1. Hold the assy part by right hand and place the index finger of left hand to wire then slightly bend the wire. <i>Note: Follow the illustration.</i></div></div><div><div>AFTER BENDING</div><div>2. Check the terminal tip condition.</div></div></div>	n/a	1. No damage lance 2. No deformed terminal 3. No tangled wires 4. No wrong folding of position	


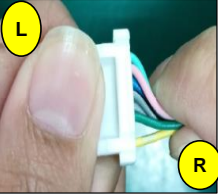
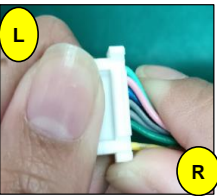
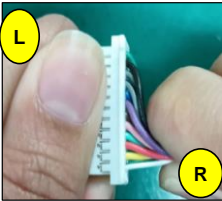
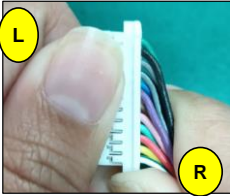
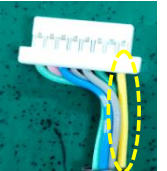
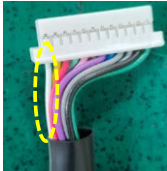
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	Model code/Part number: <b>970B / 75S063-0280A</b>		Customer: <b>TRJ</b>	Car Model: <b>TOYOTA-ALPHARD</b>	Document No.:	<b>WI-ENG-PDE-684</b>		
	Purpose: <input type="checkbox"/> PROTOTYPE <input type="checkbox"/> PRE-LAUNCH <input checked="" type="checkbox"/> MASSPRO				Revision No.:	5	Page No.:	16 of 20

<b>PARTS:</b>	1. Assy parts			JIG:	n/a
<b>NO.</b>	<b>PROCESS NAME</b>	<b>WORK PROCEDURE/ ILLUSTRATION</b>	<b>TOOLS/PPE</b>	<b>QUALITY POINTERS</b>	
13	P1 Wire folding/ Wire arrangement	<div><div>1. Hold the harness using both hands and gently fold it.</div><div><div>1. Hold the <b>Connector PBVP-12V-S</b> using right hand and slightly fold the wire from <b>Black VM tube (Sunprene) ø8.5 L=151±3mm (as illustrated above)</b> using right hand.</div><div>2. Hold the <b>Connector PBVP-8V-S</b> using right hand and slightly fold the wire from <b>Black VM tube (Sunprene) ø6 L=146±3mm (as illustrated above)</b> using right hand.</div></div></div>	n/a	<div><b>WIRE FOLDING ILLUSTRATION</b></div> <div><div><b>W/G wire must be straight</b></div><div><b>Y wire must be straight</b></div></div> <div>1. No damage lance 2. No deformed terminal 3. No tangled wires 4. No wrong folding of position 5. No wrong orientation of connectors 6. No wrong terminal facing</div> <div><b>Important reminders/Note/s:</b> <b>1. DON'T apply extra force, as like pulling, Bending on the connector</b> <b>2. Extra Force will be the cause of "Damaged Connector Lance" and "Terminal Backing Out"</b></div>	

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**WORK INSTRUCTION**

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**TAPING ASSEMBLY PROCESS**

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**970B / 75S063-0280A**Customer: **TRJ**Car Model: **TOYOTA-ALPHARD**

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**WI-ENG-PDE-684**

Purpose:


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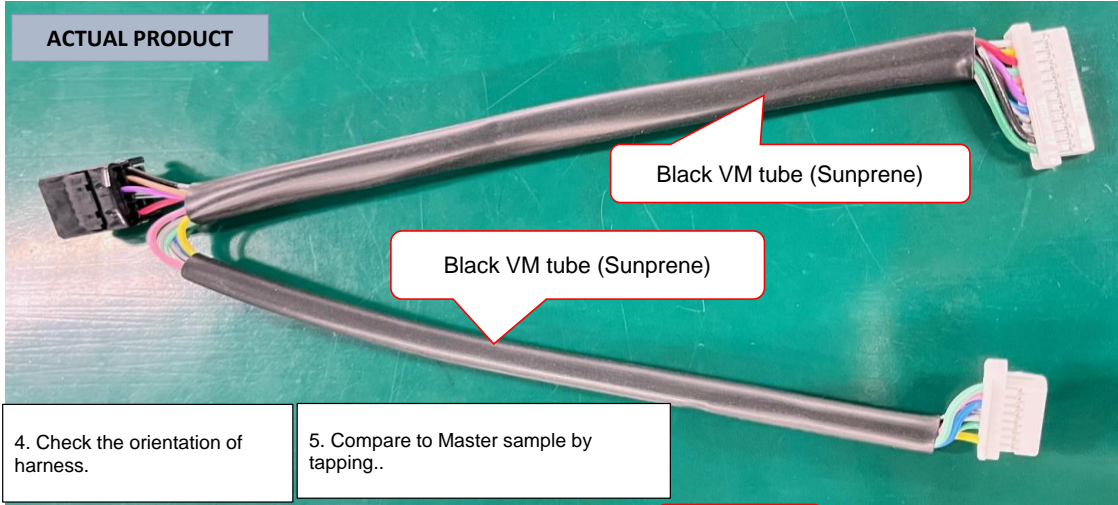
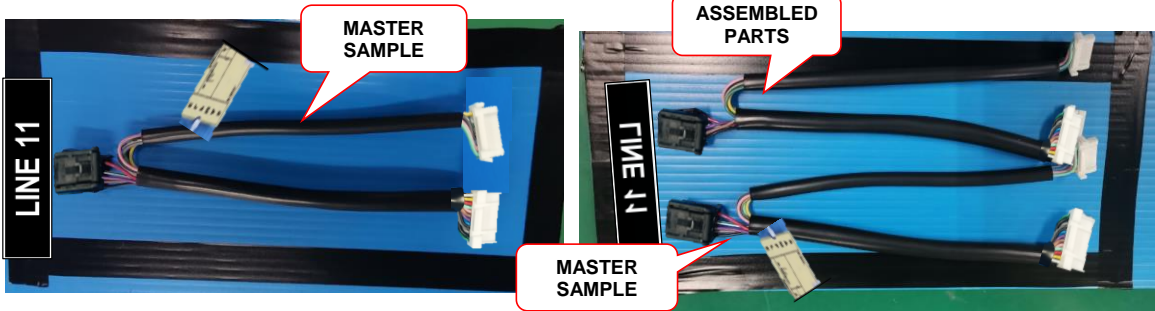

<b>PARTS:</b>		1. Assy parts		JIG:	n/a
<b>NO.</b>	<b>PROCESS NAME</b>	<b>WORK PROCEDURE/ ILLUSTRATION</b>		<b>TOOLS/PPE</b>	<b>QUALITY POINTERS</b>
13	P1 Wire folding/ Wire arrangement (Continuation)			n/a	<ol style="list-style-type: none"><li>1. No damage lance</li><li>2. No deformed terminal</li><li>3. No tangled wires</li><li>4. No wrong folding of position</li><li>5. No wrong orientation of connectors</li><li>6. No wrong terminal facing</li></ol>

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	Purpose: <input type="checkbox"/> PROTOTYPE <input type="checkbox"/> PRE-LAUNCH <input checked="" type="checkbox"/> MASSPRO				Revision No.:		5	Page No.: 18 of 20

<b>PARTS:</b>		1. Assy parst		JIG:		n/a	
<b>NO.</b>	<b>PROCESS NAME</b>	<b>WORK PROCEDURE/ ILLUSTRATION</b>			<b>TOOLS/PPE</b>	<b>QUALITY POINTERS</b>	
12	P1	<div>1. Check the connector lock, locking of connector is included in Steering electrical test.</div> <div>2. Check the wire alignment. Make sure no tangled wires.</div> <div>3. Check the terminal if with backing out (not fully inserted) or deformed terminal.</div> <div></div> <div>4. Check the orientation of harness.</div> <div>5. Compare to Master sample by tapping..</div> <div></div>				<div><b>MASTER SAMPLE</b></div>  <div><b>Document reference/s:</b> 1. Refer to <b>WI-QAD-QAC-252</b> Steering Electrical Test</div> <div>1. No wrong facing of harness 2. No Tangled wires 3. No missing parts</div>	

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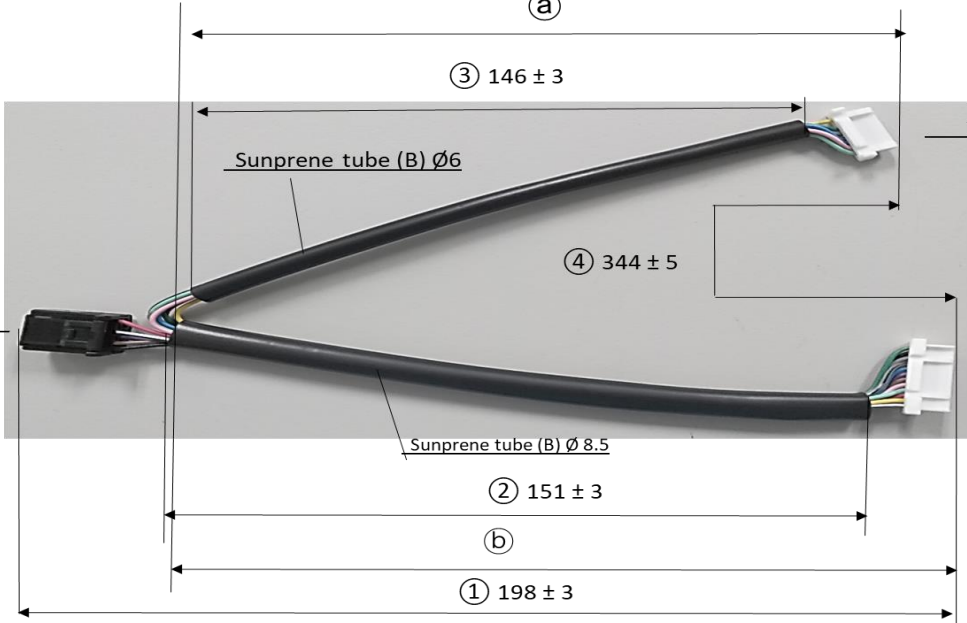

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PARTS:	1. Assy parts		JIG:	n/a
NO.	PROCESS NAME	WORK PROCEDURE/ ILLUSTRATION	TOOLS/PPE	QUALITY POINTERS
13	P1 <div>5</div> Measurement	<div><div>MEASURING TAPE</div><p><b>Note:</b> To get the dimension ④ , Measure the length of ③ then add the length of ②. ③ - End of yellow wire to End of connector 8V-S ② - End of yellow wire to End of connector 12 V-S</p></div>	<div></div>	<div><b>Important reminders and note/s:</b> 1. Please use calibrated/verified measuring tape when getting the measurement. 2. For Hatsumono, Nakamono and Owarimono.</div> <div><b>Document reference/s:</b> 1. Refer to <b>WI-PRO-ASY-056</b> for Sub-assembly Hatsumono Nakamono Owarimono Inspection</div> <div>1. No wrong dimension.</div>

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☐ PROTOTYPE☐ PRE-LAUNCH☒ MASSPRO

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1. Assy parts

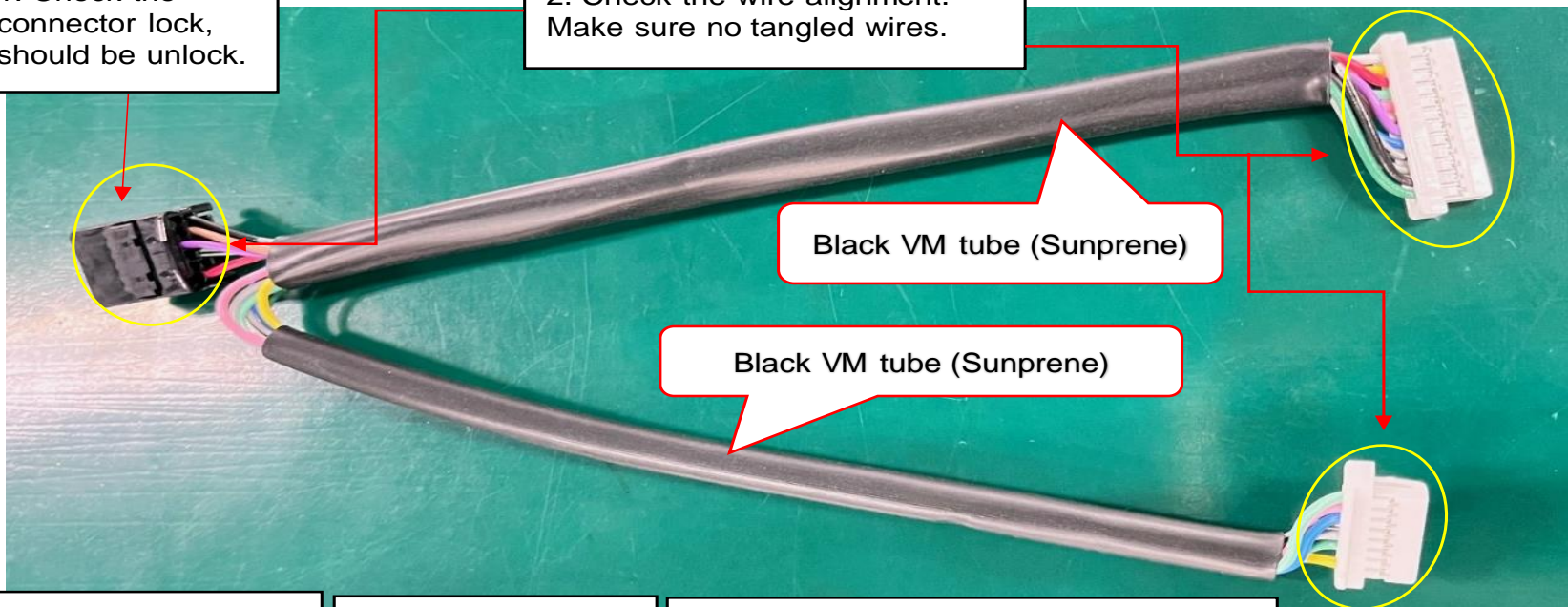
JIG:

n/a

**VISUAL INSPECTION/ QUALITY CHECKPOINTS****STEERING****75S063-0280A**

1. Check the connector lock, should be unlock.

2. Check the wire alignment. Make sure no tangled wires.



Black VM tube (Sunprene)

Black VM tube (Sunprene)

3. Check the orientation of harness.

4. Check if no missing parts.

5. Check the terminal if with backing out (not fully inserted) or deformed terminal.

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