



WORK INSTRUCTION

Process Name/Title:

TAPING ASSEMBLY PROCESS

Model Code/Part Number:

011B / 75L182-0031

Customer:

TRJ

Purpose:

☐ PROTOTYPE☐ PRE-LAUNCH☒ MASSPRO

Effectivity Date:

March 7, 2023

Validity Date:

n/a

Document No.:

WI-ENG-PDE-297

Revision No.:

2

Page No.:

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PARTS:		1. Connector PBVP-10V-S (W)		JIG:	1. Insertion jig		
NO.	PROCESS NAME	WORK PROCEDURE/ ILLUSTRATION		TOOLS/PPE	QUALITY POINTERS		
1	P1	<div><div>Visual reference</div><div>Guide Lock</div><div>Unlock button</div><div>Visual reference</div><div>INSERTION JIG</div><div>Guide Lock</div><div>BEFORE PRESSING</div><div>AFTER PRESSING</div><div>1. Get the connector PBVP-10V-S (W) using right hand and set to insertion jig. Note: Follow the connector orientation.</div><div>2. Press the guide lock using left index finger. You will notice the holes that needs to be inserted are only open.</div></div>		<div><div>Safety Instruction Be sure to wear prescribed personal protective equipment during operation (gloves, finger cots, etc.)</div><div>Housekeeping 1. Maintain and always practice 5's. 2. Personal things on the workplace is prohibited. Keep it in your locker.</div><div>Alert level For any trouble, inform the Assembly Assistant Supervisor or Line Leader for immediate corrective action.</div></div>	<div>1. Use the provided jig per model 2. No wrong usage of parts 3. No wrong orientation of connector 4. No damaged connector</div>		
Revision History				Prepared by	Reviewed by	Approved by	Noted by
03/07/23	2	Improve process illustration. Merged P1 and P2 due to the process improvement. Update quality pointers. Change term sunprene tube to VM tube (Sunprene). Change tube color from Light gray to N6GR. Remove marking process and transfer connector lock in Steering Electrical test Work instruction. Update by two's inspection. Inclusion of Quality pointers.		D. Castillo	J.Loterte	C. Villanueva	A. Arañes
06/15/21	1	Transfer process owner from Production (WI-PRO-ASY-017) to Engineering (WI-ENG-PDE-297A). Apply some improvements and update pictures in all process.		M. Catapang	C. Villanueva	A. Shimamura	A. Arañes
07/10/17	0	Initial issue					
Eff. Date	Rev. No	Details of Change		Revised	Checked	Approved	Noted
				Est. Date:	July 10, 2017		

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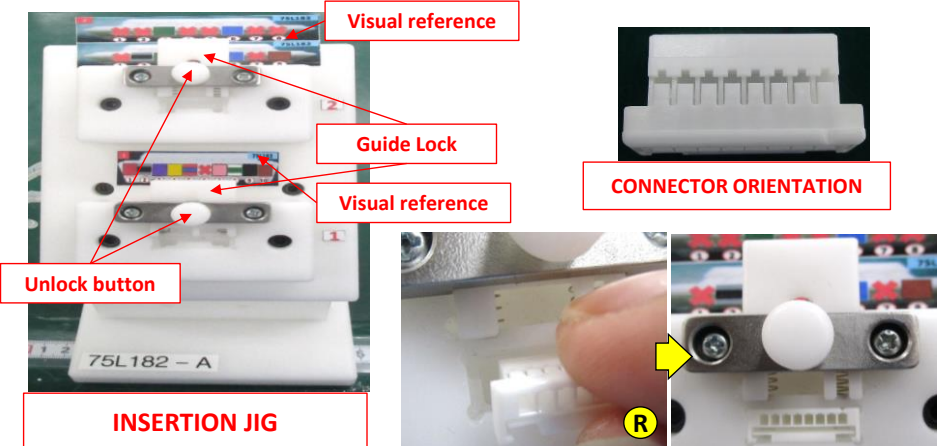
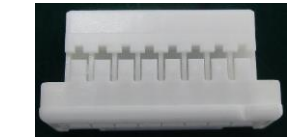
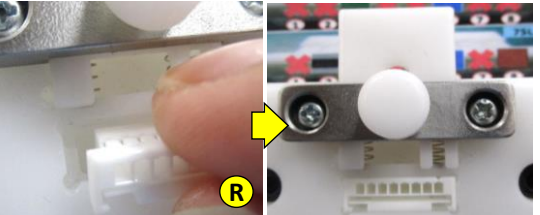
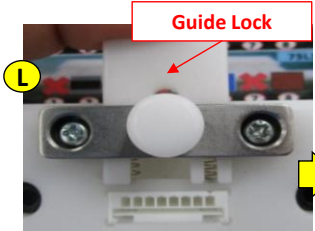

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PARTS:

1. Connector PBVP-08V-S (W)

JIG

1. Insertion jig

NO.	PROCESS NAME	WORK PROCEDURE/ ILLUSTRATION	TOOLS/PPE	QUALITY POINTERS
2	P1 Connector setting to insertion jig PBVP-08V-S (W)	   <p>1. Get the connector PBVP-08V-S (W) using right hand and set to insertion jig. Note: Follow the connector orientation.</p>   <p>2. Press the guide lock using left index finger. You will notice the holes that needs to be inserted are only open.</p>	n/a	1. Use the provided jig per model 2. No wrong usage of parts 3. No wrong orientation of connector 4. No damaged connector

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PARTS:

1. AVSS 0.3 R L=191±2mm; GR/B L=380±2mm; V L=195±2mm; Y L=197±2mm; R/L L=382±2mm; P L=203±2mm; W/G L=386±2mm; B L=207±2mm; BR L=384±2mm

JIG

1. Insertion jig

NO.

PROCESS NAME

WORK PROCEDURE/ ILLUSTRATION

TOOLS/PPE

QUALITY POINTERS

3

P1

Wire insertion to connector
PBVP-10V-S (W)

WIRE FACING

INSERTION SEQUENCE FROM LEFT TO RIGHT

1	2	3	4	5	6	7	8	9	10
R	GR/B	V	Y	R/L	X	P	W/G	B	BR
191	380	195	197	382	X	203	386	207	384

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

STEERING NAVIGATION

CONTROLLER

2

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

Important reminders/Note/s:

1. Please hold the wire near terminal during insertion.
2. Make sure wires are properly inserted. Conduct Pull-Push-Pull-Push after insertion. Do not exert extra force.

Document References:

1. Refer to WI-ENG-PDE-044 for Steering Navigation Controller procedure.
2. Refer to WI-PRO-CNC-017 for Wire and Strip Length Tolerance
3. Refer to GL-PRO-ASY-028 for Pull-Push procedure.

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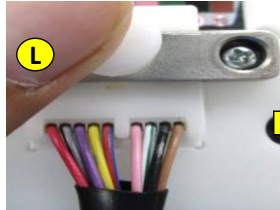






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PARTS:				JIG	1. Insertion jig
NO.	PROCESS NAME	WORK PROCEDURE/ ILLUSTRATION		TOOLS/PPE	QUALITY POINTERS
6	<div></div> <div>Wire insertion to N6GR VM tube (Sunprene) Ø6 L=163±3mm</div>	<div></div> <div>1. Hold the wires using left hand, get the N6GR VM tube (Sunprene) Ø6 L=163±3mm using right hand then insert the wires using left hand.</div>		n/a	<div></div> <div></div> <div>1. No wrong usage of parts 2. No deformed terminal</div>
7	P1 <div>Wire insertion to assy parts</div>	<div></div> <div></div> <div>BEFORE PRESSING</div> <div>AFTER PRESSING</div> <div>1. Press the unlock button using left thumb.</div> <div></div> <div>2. Gently pull out the connector from jig then check the terminal tip condition. (<i>Assy parts from Jig 1</i>)</div> <div></div> <div></div> <div>3. Hold the N6GR VM tube (Sunprene) using left hand, then insert the wires from Black VM tube (Sunprene) using right hand.</div>		n/a	<div></div> <div>1. No wrong usage of parts 2. No deformed terminal</div> <div>Document References: 1. Refer to GL-PRO-ASY-025 for Inspection Standard for Coupler Insertion.</div> <div></div> <div>Terminal tip must be visible</div>

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PARTS:

1. Assy parts

JIG

1. Insertion jig

NO.

PROCESS NAME

WORK PROCEDURE/ ILLUSTRATION

TOOLS/PPE

QUALITY POINTERS

8

P1

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

INSERTION SEQUENCE FROM LEFT TO RIGHT



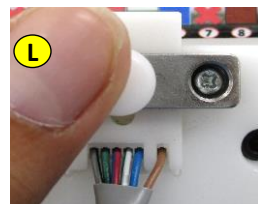
WIRE FACING

1	2	3	4	5	6	7	8
X	GR/B	G	R/L	W/G	L	X	BR
	380	209	382	386	203		384



1. Hold the **GR/B wire** using right hand and insert to connector at terminal slot **2**. Repeat the process for **R/L-W/G-BR wires**.

Note: Follow the insertion sequence based on the illustration.



BEFORE PRESSING



AFTER PRESSING

2. Press the unlock button using left thumb.



3. Gently pull out the connector from jig then check the terminal tip condition.

STEERING
NAVIGATION



CONTROLLER



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

Important reminders/Note/s:

1. Please hold the wire near terminal during insertion.
2. Make sure wires are properly inserted. Conduct Pull-Push-Pull-Push after insertion. Do not exert extra force.

Document References:

1. Refer to WI-ENG-PDE-044 for Steering Navigation Controller procedure.
2. Refer to WI-PRO-CNC-017 for Wire and Strip Length Tolerance
3. Refer to GL-PRO-ASY-028 for Pull-Push procedure.
3. Refer to GL-PRO-ASY-025 for Inspection Standard for Coupler Insertion.



Terminal tip must be visible

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PARTS:

1. Assy parts

JIG

n/a

NO.

PROCESS NAME

WORK PROCEDURE/ ILLUSTRATION

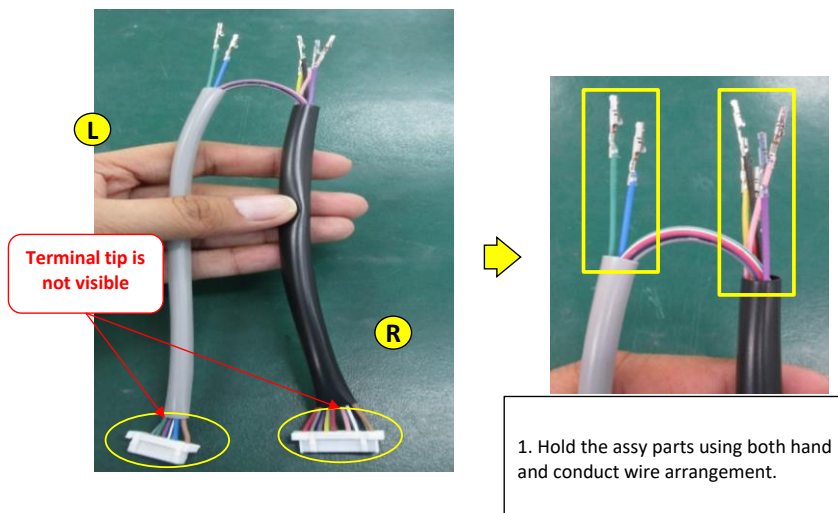
TOOLS/PPE

QUALITY POINTERS

9

P1

Wire arrangement



n/a

1. No deformed terminals
2. No tangled wires
3. No wrong facing

2

Important reminders/Note/s:

1. Make sure all 7 wires with terminal are visible and not folded inside the tube.

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PARTS:

1. Connector 1746872-1 (B)

JIG

1. Insertion jig

NO.

PROCESS NAME

WORK PROCEDURE/ ILLUSTRATION

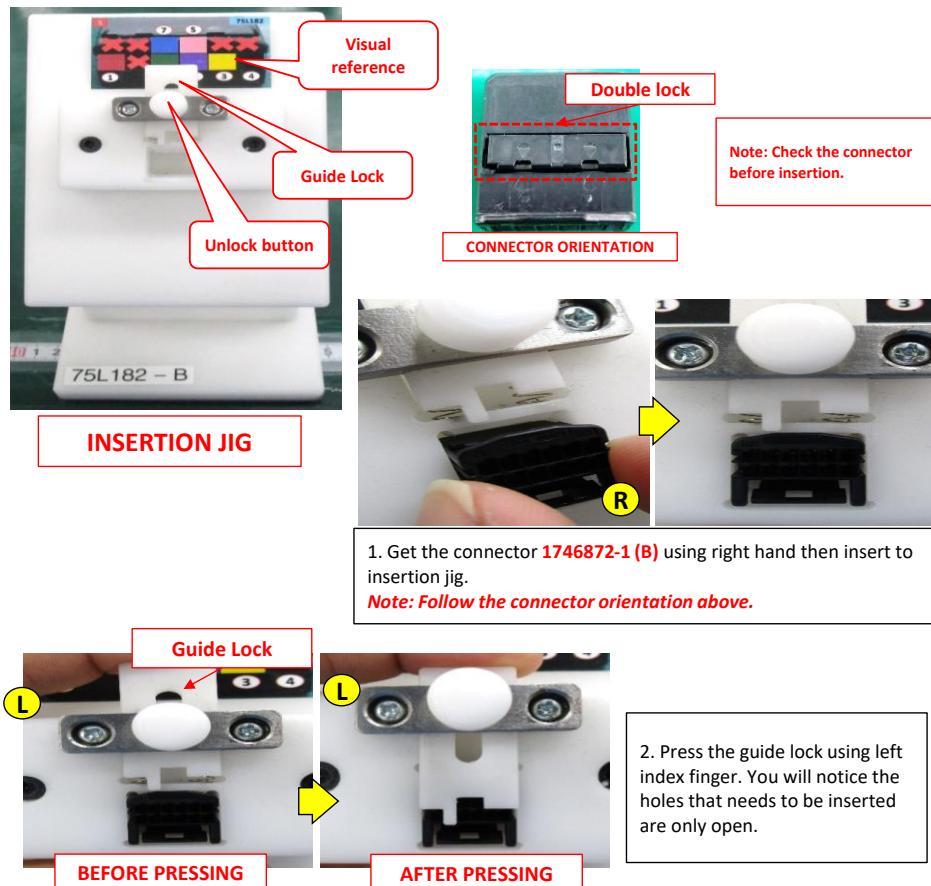
TOOLS/PPE

QUALITY POINTERS

10

P1

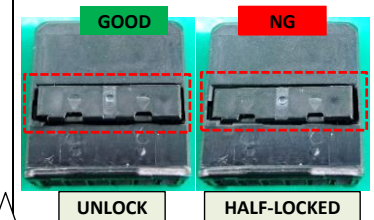
Connector setting to
insertion jig
1746872-1 (B)



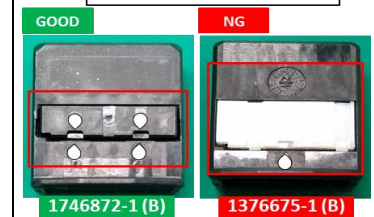
n/a

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

CONNECTOR LOCK APPEARANCE CHECK



CONNECTOR ILLUSTRATION



Important reminders/Note/s:

1. Automatically dispose and replace the unit if once encountered bend terminal, difficulty of insertion and half-locked connector.

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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
1746872-1 (B)

Wire facing

BLACK VM TUBE (SUNPRENE)

75L182

X	X	7	5		
L	P			X	X
203	203				
1		6	2	3	4
R	X	G	V	Y	B
191		209	195	197	207

FIRST ROW (LEFT TO RIGHT)

SECOND ROW

1. Insert the wires from **Black VM tube (Sunprene)**. Hold the **R wire** and insert to terminal **slot 1** using right hand. Repeat the process for **V-Y-B wires**
Note: Follow the insertion sequence based on the illustration stated above.

2. Hold the **P wire** and insert to terminal **slot 5** using right hand.
Note: Follow the insertion sequence based on the illustration stated above.

n/a

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

2

Important reminders/Note/s:

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

Document References:

1. Refer to GL-PRO-ASY-028 for Pull-Push procedure.
2. Refer to WI-PRO-CNC-017 for Wire and Strip Length Tolerance

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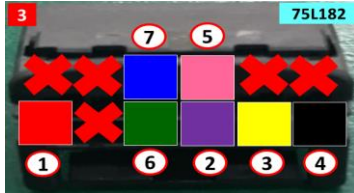


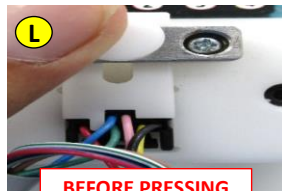


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NO.	PROCESS NAME	WORK PROCEDURE/ ILLUSTRATION		TOOLS/PPE	QUALITY POINTERS
11	P1 Wire insertion to connector 1746872-1 (B) (Continuation)	<div><div>2</div><div>N6GR VM TUBE (SUNPRENE)</div><div>FIRST ROW (RIGHT TO LEFT)</div><div></div><div>3. Insert the wires from Black VM tube (Sunprene). Hold the G wire and insert to terminal slot 6. <i>Note: Follow the insertion sequence based on the illustration stated above.</i></div><div></div><div></div><div>4. Hold the L wire and insert to terminal slot 7. <i>Note: Follow the insertion sequence based on the illustration stated above.</i></div><div><div></div><div>BEFORE PRESSING</div><div></div><div>AFTER PRESSING</div><div>1. Press the unlock button using left thumb.</div><div></div><div>6. Hold the wires using right hand and gently pull-out the connector from jig.</div></div></div>		n/a	<div>1. Use the provided jig per model</div> <div>2. No wrong use of parts</div> <div>3. No wrong insertion of wires</div> <div>4. No deformed terminal</div> <div>5. One by one insertion</div> <div>6 No stuck-in of terminal tin</div> <div>2</div> <div>Important reminders/Note/s:</div> <div>1. Please hold the wire near terminal during insertion.</div> <div>2. Make sure wires are properly inserted. Conduct <u>Pull-Push-Pull-Push</u> after insertion. Do not exert extra force.</div> <div>3. Automatically dispose and replace the unit if once encountered bend terminal, difficulty of insertion and half-locked connector.</div> <div>Document References:</div> <div>1. Refer to GL-PRO-ASY-028 for Pull-Push procedure.</div> <div>2. Refer to WI-PRO-CNC-017 for Wire and Strip Length Tolerance</div>

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PARTS:

1. Assy parts

JIG

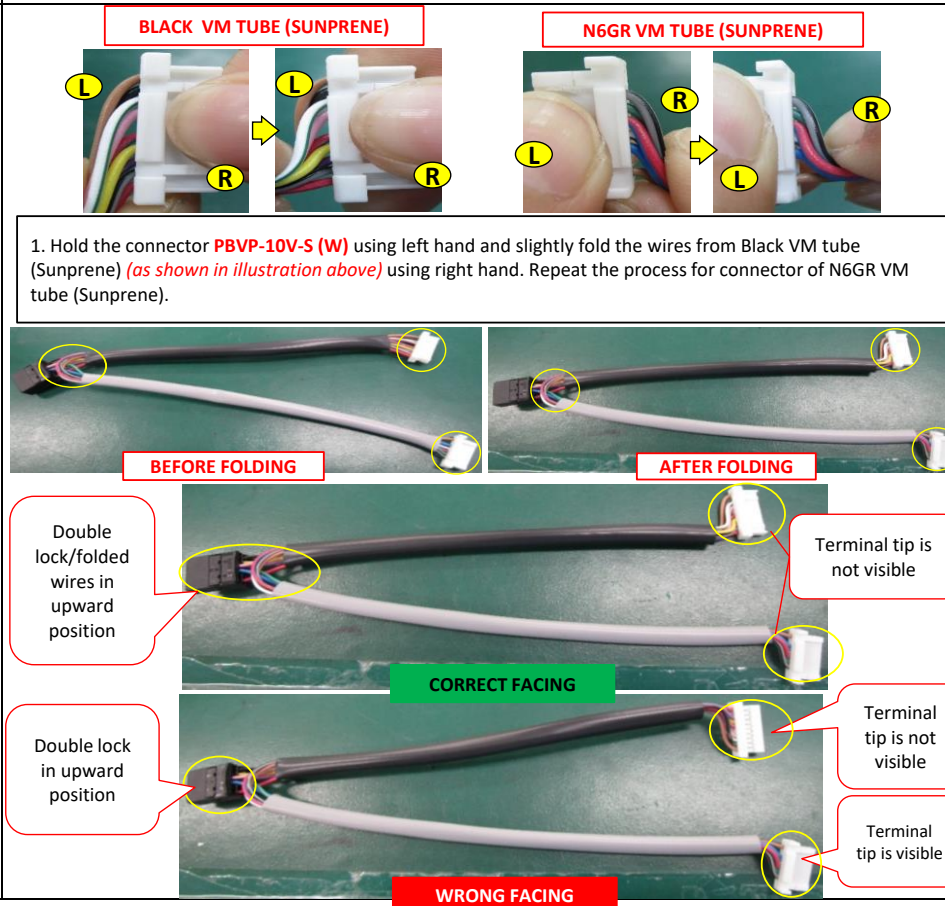
1. Locking jig

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

12

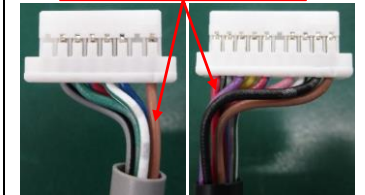
P1

Wire folding



n/a

1. No wrong orientation of connector
2. No tangled wires
3. No terminal backing out

BR and R wire must be straight

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PARTS:

n/a

JIG:

n/a

NO.

PROCESS NAME

2

WORK PROCEDURE/ ILLUSTRATION

TOOLS/PPE

QUALITY POINTERS

13

P1

Visual/By two's inspection

1. Check the connector lock, locking of connector is included in Steering electrical test.

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

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

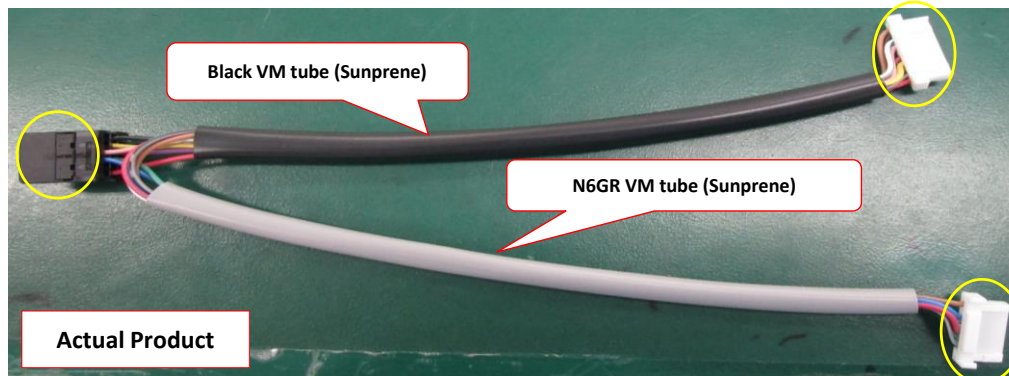
4. Check the orientation of harness.

2

Document References:

1. Refer to WI-ENG-PDE-431 for Steering Electrical Test after assembly.

Actual Product



5. Compare to **Master Sample** by tapping.

Master Sample



Assembly product



MASTER SAMPLE



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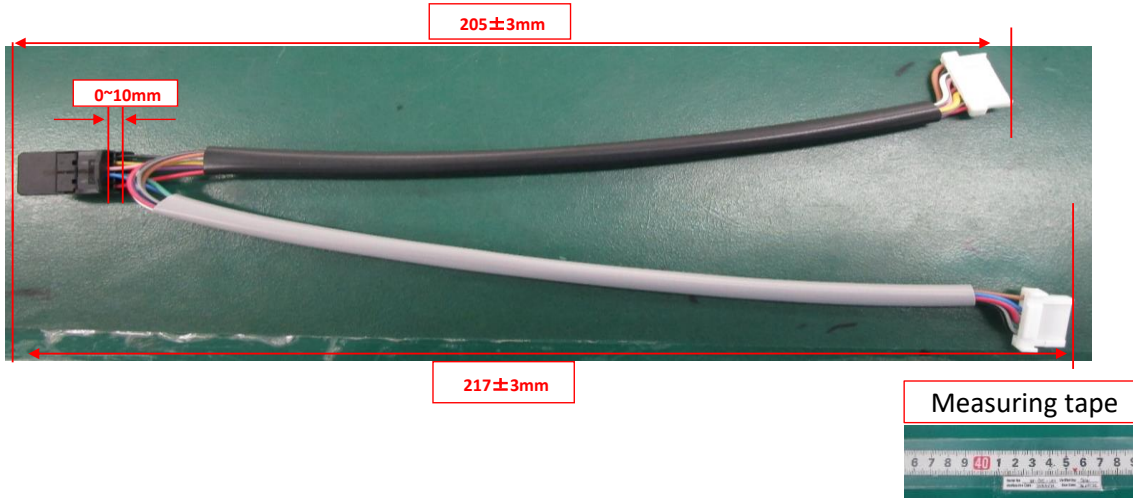
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PARTS:		n/a			JIG:	n/a	
NO.	PROCESS NAME		WORK PROCEDURE/ ILLUSTRATION			TOOLS/PPE	QUALITY POINTERS
14	P1	Measurement					1. No wrong dimension 2 Important Reminder/Note/s: 1. Please use calibrated/verified measuring tape when getting the measurement. 2. For Hatsumuno and Owarimono

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PARTS:

n/a

JIG

n/a



QUALITY CHECKPOINTS

75L182-0031

1. Check the connector lock, should be unlock.

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

Black VM Tube (Sunprene)

N6GR VM Tube (Sunprene)

3. Check the orientation of harness.

4. Check if no missing parts.

5. Check the terminal if with backing out (no fully inserted) or deformed terminal

6. Compare to master sample.

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