

	WORK INSTRUCTION				Effectivity Date:		April 28, 2023	
	TAPING ASSEMBLY PROCESS				Validity Date:		n/a	
	Process Name/Title:		Model Code/Part Number: 400B / 75N242-0020		Customer: TRJ		Document No.: WI-ENG-PDE-094	
	Purpose:		<input type="checkbox"/> PROTOTYPE <input type="checkbox"/> PRE-LAUNCH <input checked="" type="checkbox"/> MASSPRO		Revision No.:		6	Page No.: 1 of 11

PARTS:		1. Connector PBVP-08V-S (W) 2. Connector PBVP-10V-S (W)		JIG:	1. Insertion jig
NO.	PROCESS NAME	WORK PROCEDURE/ ILLUSTRATION	TOOLS/PPE	QUALITY POINTERS	
1	P1 Connector setting to insertion jig PBVP-08V-S (W) PBVP-10V-S (W)	<div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> </div> <div style="text-align: center;"> </div> </div> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p>1. Get the connector PBVP-08V-S (W) using right hand set to insertion jig. Repeat the process for another connector PBVP-10V-S (W). <i>Note: Follow the connector orientation.</i></p> </div> <div style="display: flex; justify-content: space-around; margin-top: 20px;"> <div style="text-align: center;"> </div> <div style="text-align: center;"> </div> </div> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p>2. Press the guide lock button using left index finger. You will notice the holes that needs to be inserted are only open.</p> </div>	<div style="border: 1px dashed red; padding: 5px; margin-bottom: 10px;"> <p>Safety Instruction</p> <p>Be sure to wear prescribed personal protective equipment during operation (gloves, finger cots, etc.)</p> </div> <div style="border: 1px dashed red; padding: 5px; margin-bottom: 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;"> <p>Alert level</p> <p>For any trouble, inform the Assembly Assistant Supervisor or Line Leader for immediate corrective action.</p> </div>	<p>1. Use the provided jig per model</p> <p>2. No wrong usage of parts</p> <p>3. No wrong orientation of connector</p> <p>4. No damaged connector</p>	

Revision History							Prepared by:	Checked by:	Approved by:	Noted by:
04/28/23	6	Inclusion of quality checkpoints; standardize VM tube (sunprene) term	J. Loterte	C. Villanueva	A. Arañes	n/a	 J. Loterte	 C. Villanueva	 A. Arañes	n/a
10/07/22	5	Improve Work procedure/illustration on process no.11-Visual/by two's inspection.	M. Ariola	J. Loterte	C. Villanueva	A. Arañes				
08/09/22	4	Improve process illustration. Merged P1 and P2 due to the process improvement. Additional quality pointers in wire insertion refer to WI-PRO-CNC-017 for Wire and Strip Length Tolerance.	D.Castillo	J. Loterte	C. Villanueva	A. Arañes				
03/22/21	3	Change connector color in accordance with color standardization for plastic parts (Please refer to GL-COM-003 for Color Standardization for Plastic Parts). Change from 2x pulling to Pull-Push-Pull-Push insertion quality pointers. Remove cycle time. Add guidelines for Inspection Standard for Coupler Insertion (GL-PRO-ASY-025) in Quality pointers.	D.Castillo	C.Villanueva	A. Shimamura	A. Arañes				
Eff. Date	Rev. No	Details of Change	Revised	Checked	Approved	Noted	Established Date: October 9, 2019			

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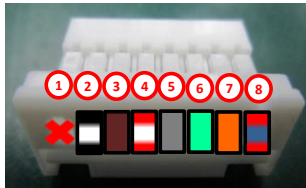




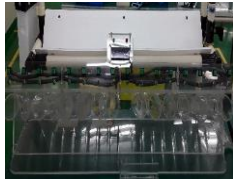




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1. AVSS 0.3 B/W L=208±2mm; BR L=130±2mm; R/W L=208; GR L=130±2mm; LG L=208±2mm; OR L=208±2mm; R/L L=208±2mm
2. Green VM tube (Sunprene) Ø6.5 L=85±2mm

JIG

1. Insertion jig

NO.	PROCESS NAME		WORK PROCEDURE/ ILLUSTRATION	TOOLS/PPE	QUALITY POINTERS																								
2	P1	Wire insertion to Connector PBVP-08V-S (W)	<div>INSERTION SEQUENCE FROM LEFT TO RIGHT</div> <div></div> <div><div>Wire facing</div></div> <div><div>Note: Please hold the wire near terminal during insertion.</div></div> <table><tr><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td></tr><tr><td>X</td><td>B/W</td><td>BR</td><td>R/W</td><td>GR</td><td>LG</td><td>OR</td><td>R/L</td></tr><tr><td></td><td>208</td><td>130</td><td>208</td><td>130</td><td>208</td><td>208</td><td>208</td></tr></table> <div></div> <div>1. Get the BLACK/WHITE wire using right hand and insert to connector. Repeat the process for BR-R/W-GR-LG-OR-R/L. <i>Note: Follow the insertion sequence based on the illustration.</i></div>	1	2	3	4	5	6	7	8	X	B/W	BR	R/W	GR	LG	OR	R/L		208	130	208	130	208	208	208	<div>STEERING NAVIGATION</div> <div></div> <div>CONTROLLER</div> <div></div>	<div>1. Use provided jig per model</div> <div>2. No wrong usage of parts</div> <div>3. One by one insertion</div> <div>4. No wrong insertion</div> <div>5. No deformed terminal</div> <div>6. No stuck of terminal tip</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>Document References:</div> <div>1. Refer to WI-ENG-PDE-044 for Steering Navigation Controller procedure.</div> <div>2. Refer to GL-PRO-ASY-028 for Pull-Push procedure.</div> <div>3. Refer to WI-PRO-CNC-017 for Wire and Strip Length Tolerance</div>
		1	2	3	4	5	6	7	8																				
X	B/W	BR	R/W	GR	LG	OR	R/L																						
	208	130	208	130	208	208	208																						
3	<div>6</div> Wire insertion to Green VM tube (Sunprene) Ø6.5 L=85±2mm	<div></div> <div>1. Hold the wires using left hand, get the Green Sunprene tube Ø6.5 L=85±2mm using right hand then insert the wires.</div>	N/A	<div>1. No wrong usage of parts</div> <div>2. No deformed terminal</div> <div>3. No tangled wires</div>																									

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WORK INSTRUCTION

TAPING ASSEMBLY PROCESS

Process Name/Title:

Model Code/Part Number:

400B

/

75N242-0020

Customer:

TRJ

Purpose:

☐ PROTOTYPE☐ PRE-LAUNCH☒ MASSPRO

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PARTS:		1. AVSS 0.3 V L=130±2mm; B L=130±2mm; Y L=130±2mm; GR/B L=130±2mm; R L=130±2mm			JIG	1. Insertion jig
NO.	PROCESS NAME	WORK PROCEDURE/ ILLUSTRATION			TOOLS/PPE	QUALITY POINTERS
4	P1	<div>Wire insertion to Connector PBVP-10V-S (W)</div> <div><div>INSERTION SEQUENCE FROM LEFT TO RIGHT</div><div></div><div><div>Wire facing</div><div></div></div><div></div><div></div><div>1. Get the VIOLET wire using right hand and insert to connector. Repeat the process for B-Y-GR/B-R. Check the wire after insertion. <i>Note: Follow the insertion sequence based on above illustration.</i></div></div>			<div>STEERING NAVIGATION</div> <div></div> <div>CONTROLLER</div> <div></div>	<div>1. Use provided jig per model 2. No wrong usage of parts 3. One by one insertion 4. No wrong insertion 5. No deformed terminal 6. No stuck of terminal tip</div> <div>Important reminders/Note/s: <i>1. Please hold the wire near terminal during insertion.</i> <i>2. Make sure wires are properly inserted. Conduct <u>Pull-Push-Pull-Push</u> after insertion. Do not exert extra force.</i></div> <div>Document References: <i>1. Refer to WI-ENG-PDE-044 for Steering Navigation Controller procedure.</i> <i>2. Refer to GL-PRO-ASY-028 for Pull-Push procedure.</i> <i>3. Refer to WI-PRO-CNC-017 for Wire and Strip Length Tolerance</i></div>

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☐ PRE-LAUNCH


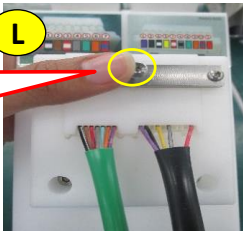

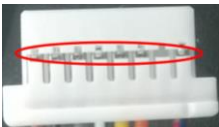


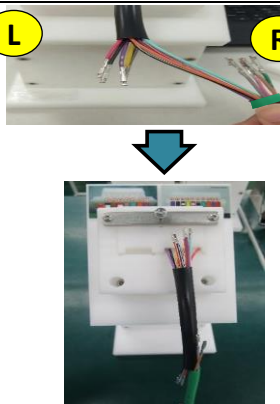

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PARTS: <div>6</div>		1. Black VM tube (Sunprene) Ø8 L=85±2mm		JIG	1. Insertion jig
NO.	PROCESS NAME	WORK PROCEDURE/ ILLUSTRATION		TOOLS/PPE	QUALITY POINTERS
5	<div>6</div> Wire insertion to Black VM tube (Sunprene) Ø8 L=85±2mm	<div><div><div><div><div>L</div><div>R</div></div><div></div><div><div>1. Hold the wires using left hand, get the Black tube (Sunprene) Ø8 L=85±2mm using right hand then insert the wires using left hand.</div></div></div></div><div><div><div><div>L</div><div>R</div></div><div></div><div><div>2. Press the unlock button using left thumb.</div></div></div></div><div><div><div><div>L</div><div>R</div></div><div></div><div><div>3. Remove the 1st connector with inserted wires (With Green VM tube (Sunprene)). Check the wire insertion condition. Second connector with inserted wire is still on the jig.</div></div></div></div></div>		N/A	<div></div> <div>Terminal tip must be visible</div> <div>1. No wrong usage of parts 2. No deformed terminal 3. No tangled wires</div> <div>Document References: 1. Refer to GL-PRO-ASY-025 for Inspection Standard for Coupler Insertion.</div>
6	Wire insertion to assy parts	<div><div><div><div><div>L</div><div>L</div></div><div></div><div><div>BEFORE PRESSING</div></div></div></div><div><div><div><div>L</div><div>L</div></div><div></div><div><div>AFTER PRESSING</div></div></div></div><div><div><div><div>L</div><div>R</div></div><div></div><div><div>2. Hold the Black Sunprene tube using left hand, and insert the wires from Green Sunprene tube using right hand.</div></div></div></div><div><div><div><div>L</div><div>L</div></div><div></div><div><div>1. Press the guide lock button using left thumb.</div></div></div></div></div>		N/A	<div>1. No wrong use of parts 2. No deformed terminal 3. No tangled wires</div>

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TRJ

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5 of 11**PARTS:**

1. Assy parts

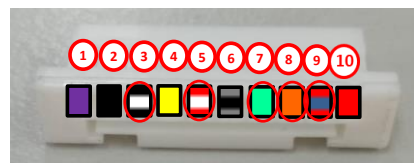
JIG

1. Insertion jig

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

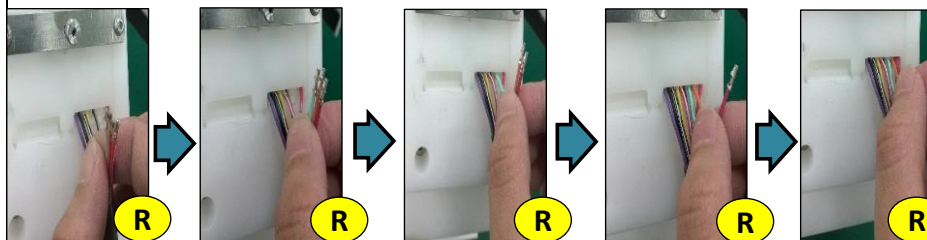
7

P1

Wire insertion to
Connector
PBVP-10V-S (W)**INSERTION SEQUENCE FROM LEFT TO RIGHT**

Wire facing

1	2	3	4	5	6	7	8	9	10
V	B	B/W	Y	R/W	GR/B	LG	OR	R/L	R
130	130	208	130	208	130	208	208	208	130



1. Hold the **B/W wire** and insert to connector between **B and Y wire** using right hand. Repeat the process on **R/W-LG-OR-R/L..** Check the wire after insertion

Note: Follow the insertion sequence based on the above illustration.

**STEERING
NAVIGATION****CONTROLLER**

1. Use provided jig per model
2. No wrong usage of parts
3. One by one insertion
4. No wrong insertion
5. No deformed terminal
6. No stuck 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 GL-PRO-ASY-028 for Pull-Push procedure.
3. Refer to GL-PRO-ASY-025 for Inspection Standard for connector insertion
4. Refer to WI-PRO-CNC-017 for Wire and Strip Length Tolerance

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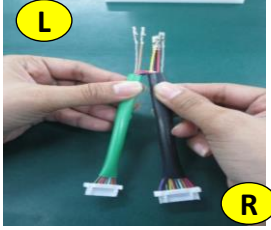
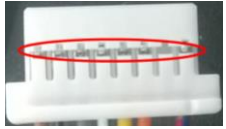
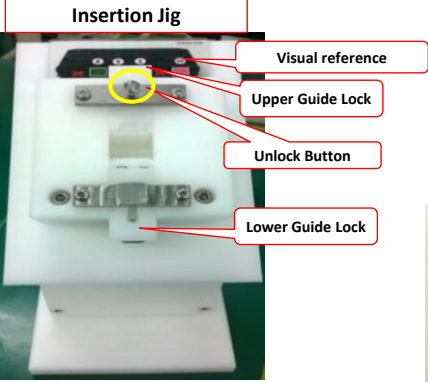
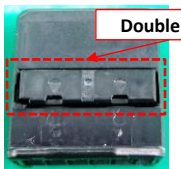

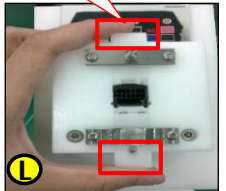

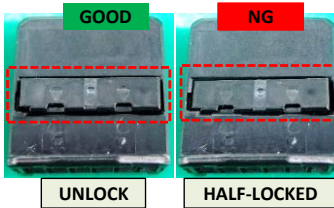
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PARTS:		1. Connector 1746872-1 (B)		JIG	1. Insertion jig
NO.	PROCESS NAME	WORK PROCEDURE/ ILLUSTRATION		TOOLS/PPE	QUALITY POINTERS
7	Wire insertion to Connector PBVP-10V-S (W) (Continuation)	<p>2. Press the unlock button using left hand and remove the harness from jig.</p>  <p>3. Hold the Assy parts using both hands and fold slowly. Check the wire insertion condition.</p> 		N/A	 <p>Terminal tip must be visible</p>
8	P1 Connector setting to insertion jig 1746872-1 (B)	<p>Insertion Jig</p>  <p>Double lock</p>  <p>CONNECTOR ORIENTATION</p>  <p>Note: Check the connector before insertion.</p> <p>1. Get the connector 1746872-1 (B) using left hand then insert to insertion jig. Note: Follow the connector orientation</p> <p>2. Press the upper and lower guide lock using left thumb and index finger. You will notice the holes that needs to be inserted are only open.</p> <p>BEFORE PRESSING</p>  <p>AFTER PRESSING</p> 		N/A	<p>1. Use the provided jig per model 2. No wrong orientation of connector 3. No wrong use of connector 4. No damaged connector</p> <p>CONNECTOR LOCK APPEARANCE CHECK</p>  <p>UNLOCK HALF-LOCKED</p> <p>Important reminders/Note/s: 1. Automatically dispose and replace the unit if once encountered bend terminal, difficulty of insertion and half-locked connector.</p>

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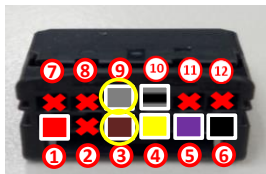
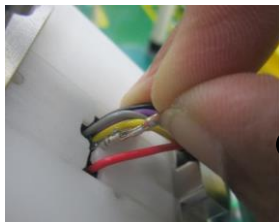


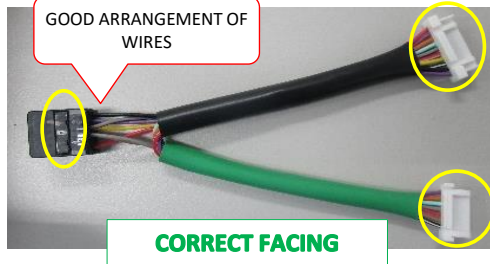
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PARTS:	N/A			JIG	1. Insertion jig 2. Locking jig
NO.	PROCESS NAME	WORK PROCEDURE/ ILLUSTRATION		TOOLS/PPE	QUALITY POINTERS
9	P1 Wire insertion to insertion jig 1746872-1 (B) (Continuation)	<div><div>GREEN VM TUBE</div><div></div><div></div><div></div><div><div>3. Insert the wires from Green VM tube (Sunprene). Hold the Brown wire and insert to terminal slot 3 using right hand. <i>Note: Follow the insertion sequence based on the illustration stated above.</i></div><div><div>6</div><div>4. Hold the Gray wire and insert to terminal slot 9. <i>Note: Follow the insertion sequence based on the illustration stated above.</i></div></div></div></div>		n/a	1. Use provided jig per model 2. No wrong usage of parts 3. One by one insertion 4. No wrong insertion 5. No deformed terminal 6. No stuck of terminal tip
10		Wire Arrangement	<div><div></div><div><div>1. Hold the harness using both hands. Arrange the wire properly to avoid tangled wires. <i>Refer to below illustration for Good wire arrangement and facing.</i></div><div><div>GOOD ARRANGEMENT OF WIRES</div><div></div><div><div>CORRECT FACING</div></div></div></div></div>		n/a

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PARTS:

N/A

JIG:

N/A

NO.

PROCESS NAME

WORK PROCEDURE/ ILLUSTRATION

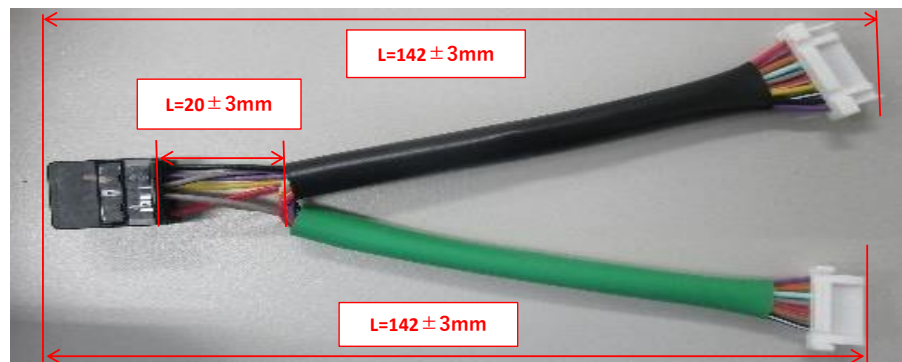
TOOLS/PPE

QUALITY POINTERS

12

Measurement

P1



Measuring tape



1. No wrong dimension.

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:

1. Assy parts

JIG:

N/A



QUALITY CHECKPOINTS

75N242-0020

1. Check the connector lock.

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

4. Check if no missing parts.

Black VM tube (Sunprene)

Green VM tube (Sunprene)

CORRECT FACING

3. Check the orientation of harness.

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

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