



INSTRUCTIONS

94100540

2024-01-26



REVOLUTION MAX VVT SERVICE KIT

GENERAL INFORMATION

Table 1. General Information

Kits	Suggested Tools	Skill Level ⁽¹⁾
25701669, 25701662, 25701660, 25701659	Safety Glasses, Torque Wrench, Crimping tool	
<i>(1) Special tools or techniques required for installation</i>		

KIT CONTENTS

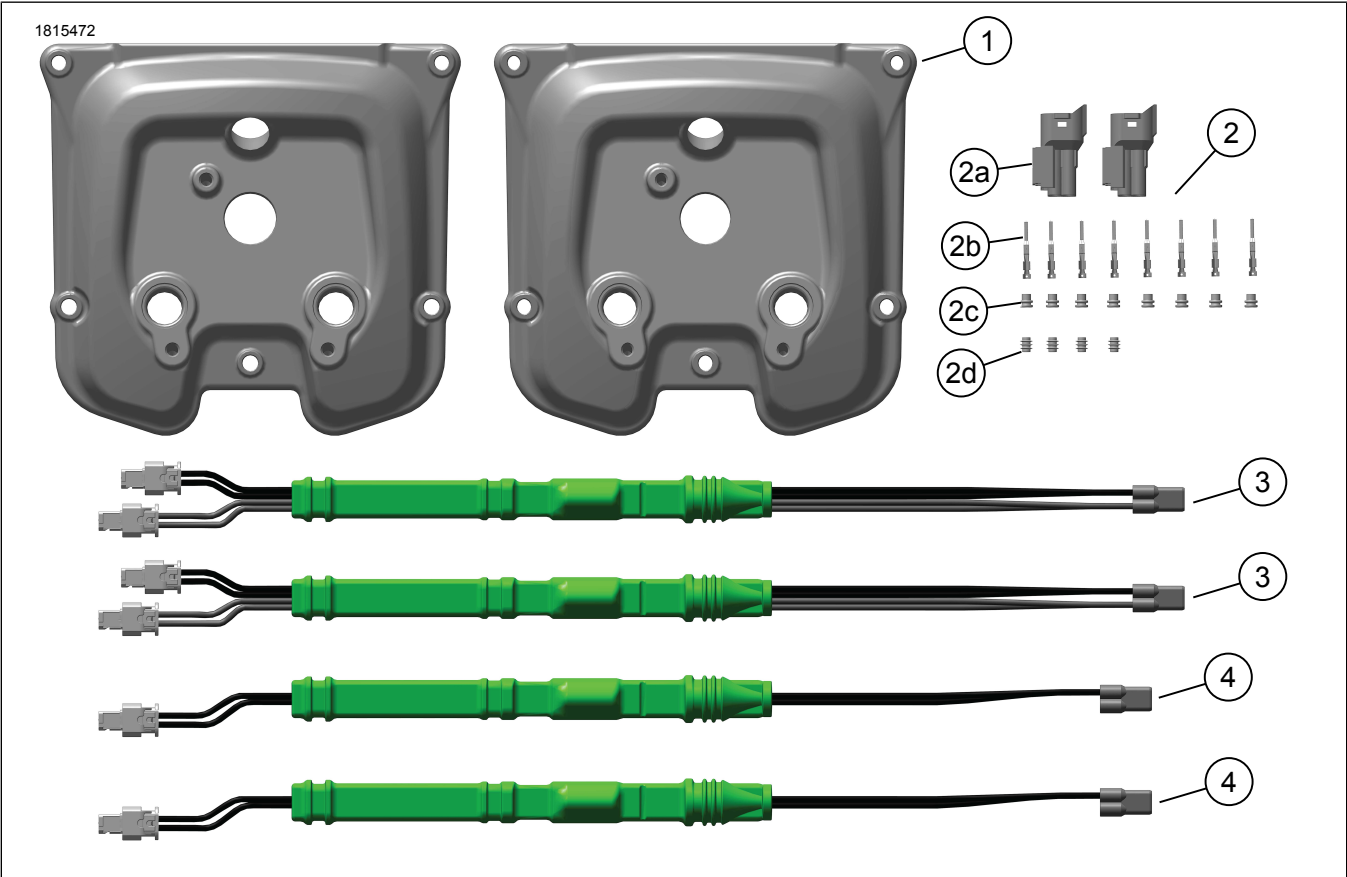


Figure 1. Kit Contents: Revolution Max VVT Service Kit

Table 2. Kit Contents: Revolution Max VVT Service Kit

Verify that all contents are present in the kit before installing or removing items from vehicle.					
<input checked="" type="checkbox"/>	Item	Qty	Description	Part No.	Notes
<input type="checkbox"/>	1	2	Valve cover, charcoal metallic	25701652	Kits: 25701660, 25701662
<input type="checkbox"/>			Valve cover, chocolate satin	25701651	Kit: 25701659
<input type="checkbox"/>	2	1	Harness connector kit	25701669	All kits include items 2a-2d
<input type="checkbox"/>	2a	2	4-Pin connector housing	69203272	All kits
<input type="checkbox"/>	2b	8	Male terminal	69200662	All kits
<input type="checkbox"/>	2c	8	Terminal seal	69200664	All kits
<input type="checkbox"/>	2d	4	Connector plug	69203288	All kits Use on RH975
<input type="checkbox"/>	3	2	Harness, 4 wire VVT solenoid	69203202	Kits: 25701659, 25701660
<input type="checkbox"/>	4	2	Harness, 2 wire VVT solenoid	69203316	Kit: 25701662

GENERAL

Models

This kit fits 2021-2023 Revolution Max powered vehicles.

Verify that the most current version of the instruction sheet is used. It is available at: h-d.com/isheets

Contact Harley-Davidson Customer Support Center at 1-800-258-2464 (U.S. only) or 1-414-343-4056.

Installation Requirements

⚠ WARNING

Rider and passenger safety depend upon the correct installation of this kit. Use the appropriate service manual procedures. If the procedure is not within your capabilities or you do not have the correct tools, have a Harley-Davidson dealer perform the installation. Improper installation of this kit could result in death or serious injury. (00333b)

NOTE

This instruction sheet references service manual information. A service manual for the year and model motorcycle is required for this installation and is available from:

- A Harley-Davidson dealer.
- H-D Service Information Portal, a subscription-based access available for most 2001 and newer models. For more information see *Frequently ask questions about subscriptions*.

Dealer Technician

When installing Revolution® Max VVT Service Kit (Part No. 25701669), add labor code 3293 to the warranty claim with the listed time:

- **2021-2023:** RA1250/S and RH1250S = 0.8 hours
- **2022-2023:** RH975/S = 0.4 hours

SCENARIO 1

If the powertrain is being replaced in a 2021-2023 Revolution® Max powered vehicle, the new powertrain will come with updated Variable Valve Timing (VVT) harness, connectors and camshaft covers.

- Perform the following on engine side of harness:
 - Remove existing connectors.
 - Install **new** terminals, connectors, and seals (supplied with the powertrain).
 - Use special tools for crimping.
Special Tool: PACKARD TERMINAL CRIMP TOOL (HD-38125-6)
Special Tool: PACKARD TERMINAL CRIMPER (HD-38125-7)

SCENARIO 2

If replacing VVT harness.

- Perform following:
 - Replace front and rear camshaft covers and VVT harnesses. See service manual. Refer to Table 3.
- Perform following on engine side of harness:
 - Remove existing connectors.
 - Install new terminals, connectors, and seals (supplied with kits).
 - Use special tools for crimping.
Special Tool: PACKARD TERMINAL CRIMP TOOL (HD-38125-6)
Special Tool: PACKARD TERMINAL CRIMPER (HD-38125-7)

SCENARIO 3

If replacing a camshaft cover.

1. Perform following on engine side of harness:
 - a. Replace front and rear camshaft covers and VVT harnesses. See service manual. Refer to Table 4.
2. Perform following on engine side of harness:
 - a. Remove existing connectors.
 - b. Install **new** terminals, connectors, and seals (supplied with kits).
 - c. Use special tools for crimping.

Special Tool: PACKARD TERMINAL CRIMP TOOL (HD-38125-6)

Special Tool: PACKARD TERMINAL CRIMPER (HD-38125-7)

SCENARIO 4

If replacing engine harness on a 2021-2023 Revolution® Max powered vehicle with the following engine harness:

1. Perform following:
 - a. Replace front and rear camshaft covers and VVT harnesses. See service manual. Refer to Table 5.

Superseded Part Numbers

NOTE

Refer to Table 3. When replacing the phaser wire (VVT) harnesses on older 2021-2023 vehicles, the superseded kit will need to be ordered which contains the VVT wire harnesses, camshaft covers and connectors for updating the engine harness with the **new** VVT phaser wiring.

Table 3. When Replacing Phaser Wire (VVT) Harness

Original VVT Phaser Wiring Part No.	Model	Superseded Kit Part No.	Notes
69202949	RA1250/S	25701660	Order gaskets separately
69202949	RH1250S	25701659	Order gaskets separately
69202058	RH975/S	25701662	Order gaskets separately

NOTE

Refer to Table 4. When replacing the camshaft covers on older 2021-2023 vehicles, the superseded kit will need to be ordered

which contains the VVT wire harnesses, camshaft covers and connectors for updating the engine harness with the new VVT phaser wiring.

Table 4. When Replacing Camshaft Cover

Original Camshaft Cover Part No.	Model	Superseded Kit Part No.	Notes
25701104	RA1250/S	25701660	Order gaskets separately
25701110	RH1250S	25701659	Order gaskets separately
25701104	RH975/S	25701662	Order gaskets separately

NOTE

Refer to Table 5. When replacing the engine harness on a vehicle with the older style VVT connectors, order the

corresponding install kit to convert the current 2021-2023 engine to the updated 2024 engine harness connectors.

Table 5. When Replacing Engine Harness

Original Engine Harness Part No.	Model	Superseded Engine Harness Part No.	Additional Service Kit Info
69201899A	RA1250/S	69203290	Install kit (Part No. 25701660). Order gaskets separately
69202067A	RH1250S	69203334	Install kit (Part No. 25701659). Order gaskets separately
69203140	2023-RH975/S	69203343	Install kit (Part No. 25701662). Order gaskets separately
69202581	2022-RH975	69203343	Install kit (Part No. 25701662). Order gaskets separately

PREPARE

1. Remove main fuse. See service manual.
2. Remove seat. See service manual.
3. **RA1250, RA1250S, RH1250S:** Remove fuel tank. See service manual.
4. **RH975, RH975S:** Remove top cover. See service manual.
5. **RH975, RH975S, RA1250, RA1250S, RH1250S:** Remove air box. See service manual.

Front Cylinder Exhaust Phaser (1250 Models)

1. See Figure 2. Disconnect black connector [270 FEA-1] (1).
2. See Figure 3. Cutoff black connector [270 FEA-1] (2).
3. Strip off wire insulation on both wires (V/GN and Y/O).
4. See Figure 6. Install terminal seal (1) and terminal (2) onto wire.

5. Position items on wire and crimp terminal (2).

NOTE

When wire terminal is properly secured to connector, a click sound should be heard.

6. Install wires into cavities of 4-pin connector (2a). See Figure 1.
 - a. See Figure 7. Install terminal with Violet/Green wire into cavity 3.
 - b. Install terminal with Yellow/Orange wire into cavity 4.

Front Cylinder Intake Phaser (1250 Models)

1. See Figure 2. Disconnect white connector [270 FIA-1] (2).
2. See Figure 3. Cutoff white connector [270 FIA-1] (3).
3. Strip off wire insulation on both wires (V/GN and Y/GN).
4. See Figure 6. Install terminal seal (1) and terminal (2) onto wire.
5. Position items on wire and crimp terminal (2).

NOTE

When wire terminal is properly secured to connector, a click sound should be heard.

6. Install wires into cavities of 4-pin connector (2a). See Figure 1.
 - a. See Figure 7. Install terminal with Violet/Green wire into cavity 1.
 - b. Install terminal with Yellow/Green wire into cavity 2.

Rear Cylinder Exhaust Phaser (1250 Models)

1. See Figure 4. Disconnect white connector [270 REA-1] (2).
2. See Figure 5. Cutoff white connector [270 REA-1] (3).
3. Strip off wire insulation on both wires (V/GN and Y/W).
4. See Figure 6. Install terminal seal (1) and terminal (2) onto wire.
5. Position items on wire and crimp terminal (2).

NOTE

When wire terminal is properly secured to connector, a click sound should be heard.

6. Install wires into cavities of 4-pin connector (2a). See Figure 1.
 - a. See Figure 7. Install terminal with Violet/Green wire into cavity 1.
 - b. Install terminal with Yellow/White wire into cavity 2.

Rear Cylinder Intake Phaser (1250 Models)

1. See Figure 4. Disconnect black connector [270 RIA-1] (1).
2. See Figure 5. Cutoff black connector [270 RIA-1] (1).
3. Strip off wire insulation on both wires (V/GN and Y/V).
4. See Figure 6. Install terminal seal (1) and terminal (2) onto wire.
5. Position items on wire and crimp terminal (2).

NOTE

When wire terminal is properly secured to connector, a click sound should be heard.

6. Install wires into cavities of 4-pin connector (2a). See Figure 1.
 - a. See Figure 7. Install terminal with Violet/Green wire into cavity 3.
 - b. Install terminal with Yellow/Violet wire into cavity 4.

Front Cylinder Intake Phaser (RH975/S)

1. See Figure 2. Disconnect white connector [270 FIA-1] (2).
2. See Figure 3. Cutoff white connector [270 FIA-1] (3).
3. Strip off wire insulation on both wires (V/GN and Y/GY).
4. See Figure 6. Install terminal seal (1) and terminal (2) onto wire.
5. Position items on wire and crimp terminal (2).

NOTE

When wire terminal is properly secured to connector, a click sound should be heard.

6. Install wires into cavities of 4-pin connector (2a). See Figure 1.
 - a. See Figure 7. Install terminal with Violet/Green wire into cavity 3.
 - b. Install terminal with Yellow/Gray wire into cavity 4.
7. See Figure 1. Install connector plugs (2d) into cavities 1 and 2 of connector (2a).

Rear Cylinder Intake Phaser (RH975/S)

1. See Figure 4. Disconnect black connector [270 RIA-1] (1).
2. See Figure 5. Cutoff black connector [270 RIA-1] (1).
3. Strip off wire insulation on both wires (V/GN and Y/V).
4. See Figure 6. Install terminal seal (1) and terminal (2) onto wire.

5. Position items on wire and crimp terminal (2).

NOTE

When wire terminal is properly secured to connector, a click sound should be heard.

6. Install wires into cavities of 4-pin connector (2a). See Figure 1.
 - a. See Figure 7. Install terminal with Violet/Green wire into cavity 3.
 - b. Install terminal with Yellow/Violet wire into cavity 4.
7. See Figure 1. Install connector plugs (2d) into cavities 1 and 2 of connector (2a).

VVT CONTENT

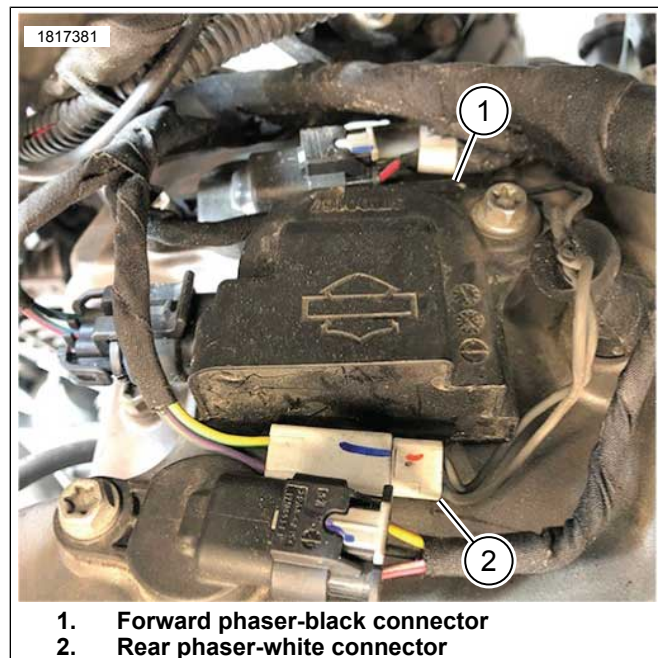


Figure 2. Front Cylinder VVT Harness Connectors (Typical)

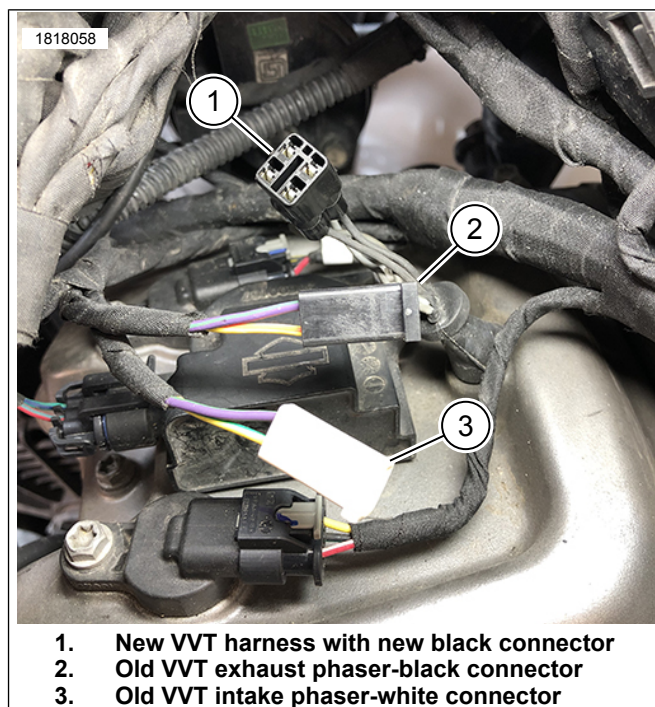


Figure 3. Front Cylinder (Typical)

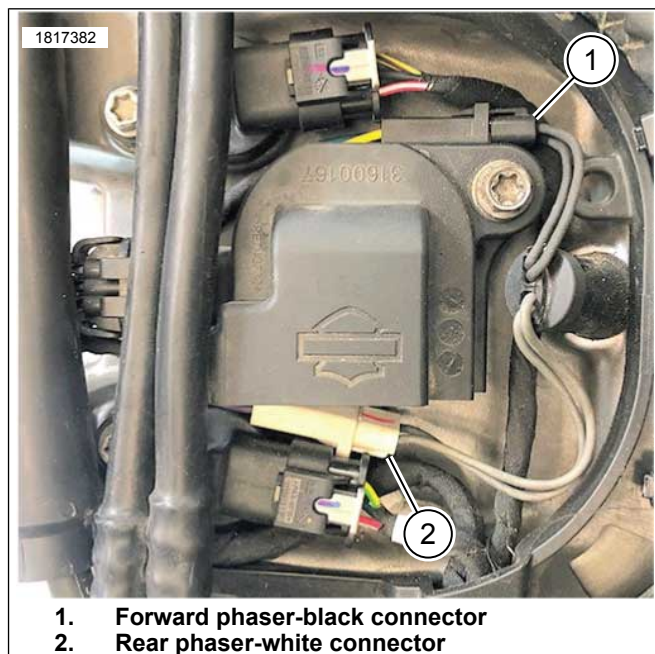
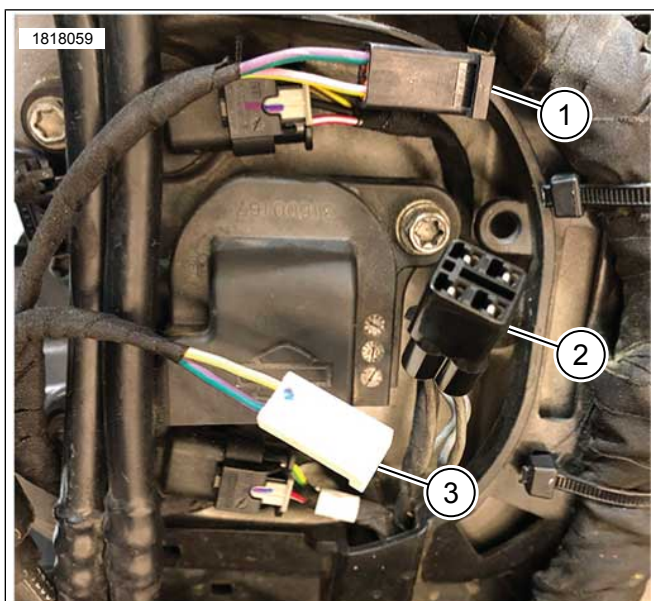
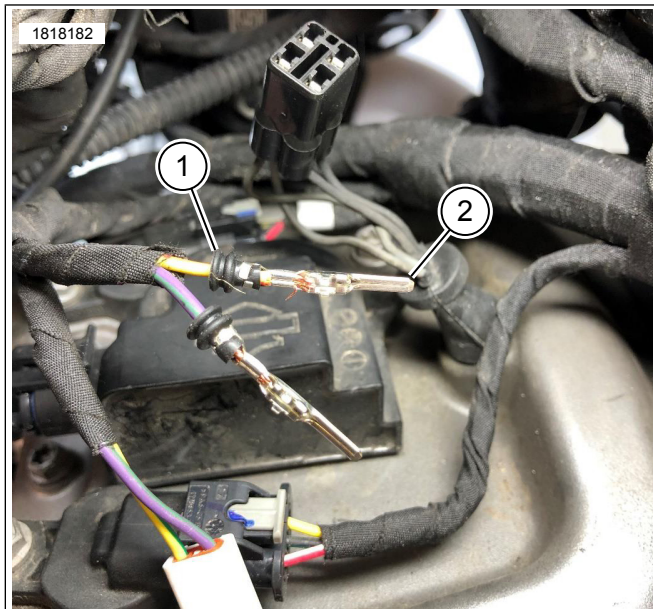


Figure 4. Rear Cylinder VVT Harness Connectors (Typical)



1. Old VVT intake phaser-black connector
2. New VVT harness with new black connector
3. Old VVT exhaust phaser-white connector

Figure 5. Rear Cylinder (Typical)



1. Terminal seal
2. Terminal

Figure 6. Terminal Installation (Typical)

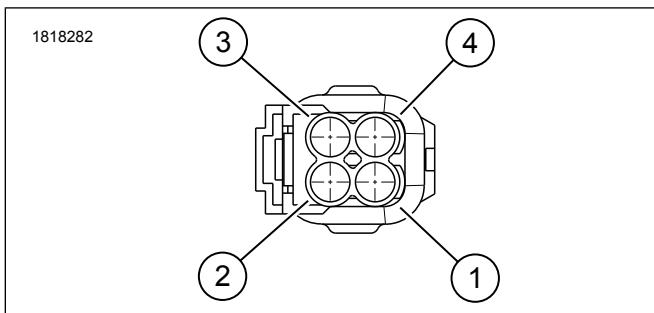


Figure 7. Connector Cavity Locations (Typical)

COMPLETE

1. **RH975, RH975S, RA1250, RA1250S, RH1250S:** Install air box. See service manual.
2. **RH975, RH975S:** Install top cover. See service manual.
3. **RA1250, RA1250S, RH1250S:** Install fuel tank. See service manual.
4. Install seat. Pull up on seat to confirm that it is secured to vehicle. See service manual.
5. Install main fuse. See service manual.