M1704: HARLEY-DAVIDSON LIVEWIRE INSTRUMENT MODULE REPLACEMENT (CUSTOMER LETTER)

UPDATED PUBLICATIONS

NOTE

The following manuals have been updated. Completed publications can be viewed electronically on Service Information Portal (SIP).

ALWAYS verify you are using the most current version.

OWNER'S MANUAL

Settings Menu

⚠ WARNING

Set volume levels and other controls on audio and electronic devices before riding. Distractions can lead to loss of control, resulting in death or serious injury. (00088b)

See Figure 1. The settings menu displays the menus used to set up ride modes, appearance, system, widgets (rectangle Instrument Module (IM)), icons (round IM) and user settings.

NOTE

To make full use of features and minimize distraction while on the road, configure the system with your personal preferences before riding.

After propulsion has been enabled the settings menu and touchscreen functions are disabled.

Table 1. Settings Main Menu

Press	Result
[Settings] ⚙	Configure instrument module settings. **Do before riding the motorcycle.**
	Available selections (round IM): General, Ride Customization, Appearance, Bluetooth, Phone Notifications, Software.

RIDE MODE

Table 2. Settings Menu: Ride Mode

Press	Result
[RIDE MODE]	Allows enable and disable of available ride modes and allows setup of custom ride modes.
	Preset ride mode selections: Preset Ride mode selections: Enable/Disable, Copy+Edit.[1]
	Custom ride mode selections: Enable/Disable, Power slider, Regen slider, Throttle slider, Traction control setting[2, 3]
(1) Copy+Edit selection will copy the selected ride mode into a selected custom ride mode option and allow the rider to build a custom ride mode using a preset selection as a starting point.	
(2) Power Slider adjusts how much overall power will be available in the custom ride mode. Regen slider adjusts how much regen will be enabled in the custom ride mode. Throttle slider adjusts the intensity of throttle response felt by the rider in the custom ride mode.	
(3) The traction control level adjusts how much rear wheel slip the system will allow. Traction control adjustment does not affect the performance of drag torque slip control or ABS functions.	

APPEARANCE

Table 3. Settings Menu: Appearance

Press	Result
[APPEARANCE]	Configure instrument module appearance.
	Available selections (round IM): Auto-Brightness (on/off), Brightness Level (adjustable slider).

ROUTING	SERVICE MANAGER	SALES MANAGER	PARTS MANAGER	WARRANTY PROCESS MANAGER	LEAD TECHNICIAN	TECHNICIAN NO. 1	TECHNICIAN NO. 2	TECHNICIAN NO. 3	RETURN THIS TO
INITIAL HERE									

Table 4. Settings Menu: General (Round IM)

Press	Result	
[General]	Configure instrument module settings. **Do before riding the motorcycle.**	
	Available selections: Trip Reset, Adjust Date, LW App Time Sync, Adjust Clock Time, Clock Format, Units, Change Security Pin, Display Language.	
	Trip Reset	Select from Trip A or B, Reset Trip
	Adjust Date	Manually set date displayed
	LW App Time Sync	Toggle On/Off
	Adjust Clock Time	Manually set time displayed
	Clock Format	Select 12 or 24 hour time display
	Units	Select Standard or Metric units of measure
	Change Security Pin	Select PIN for security system
	Display Language	Select language to display

SYSTEM

Updating Software

1. Check software version.

   a. Refer to Table 5. Settings > Software > Software Information. This menu will show the current software version on the IM.

   b. Check for latest software version. See website: www.h-d.com/infotainment-support.

2. Update software.

   a. Download the latest software version to Universal Serial Bus Type-C (USB-C) device. See website: www.h-d.com/infotainment-support.

   b. Unzip the downloaded file to extract the gpg file for rectangle IM or pv2 file for round IM. The downloaded file must be at the root directory of your USB-C drive in order for it to be detected by the IM. Only one gpg or pv2 file should be present at the root directory level.

   c. Connect USB-C drive to motorcycle. See appropriate Owner's Manual.

   d. Refer to Table 5. Settings > Software > Infotainment SW Update. Select software update file. Select check mark to start update.

   e. Allow update to complete.

   f. Remove USB-C drive.

Table 5. Settings Menu: Software (Round IM)

Press	Result	
[Software]	View and update software versions.	
	Available selections: Infotainment SW Update, Regulatory Info, Software Information	
	Infotainment SW Update	Displays available updates
	Regulatory Info	Displays regional regulatory information
	Software Information	Displays software part number/revision, hardware part number/revision and hardware serial number

Loading Additional Languages

1. Check for available languages.

   a. Refer to Table 4. Settings > general > display language. If the preferred language is not selectable it must be loaded into the IM.

   b. Check for latest language file. See website: www.h-d.com/infotainment-support.

2. Load additional languages.

   a. Download the latest language file to USB-C device. See website: www.h-d.com/infotainment-support.

   b. Unzip the downloaded file to extract the asc file. The asc file must be at the root directory of your USB-C drive in order for it to be detected by the IM. Only one asc file should be present at the root directory level.

   c. Connect USB-C drive to motorcycle. See appropriate Owner's Manual.

   d. Refer to Table 4. SETTINGS > SYSTEM > ABOUT > FACTORY OPTIONS. Select LOAD ADDITIONAL LANGUGES.

   e. Allow update to complete.

   f. Remove USB-C drive.

Charge State/Range

NOTE

Actual range will vary depending on riding habits, ambient weather and equipment conditions.

See Figure 1. The charge state and range bar displays the charge state of the Rechargeable Energy Storage System (RESS) and estimated remaining range.

Speedometer

⚠ WARNING

Travel at speeds appropriate for road and conditions and never travel faster than posted speed limit. Excessive speed can cause loss of vehicle control, which could result in death or serious injury. (00008a)

See Figure 1. The IM registers miles per hour (MPH) (U.S. models default) and kilometers per hour (km/h) (international models default). The IM can be configured to register either miles per hour or kilometers per hour through the settings menu.

Instrument backlighting changes with ambient lighting differences, changes in ambient light, such as such as going through a tunnel, may change level of backlighting.

Clock

See Figure 1. The clock displays current time in 12/24 hour format. The settings menu is used to set time and select 12 or 24 hour format.

Odometer

Pressing the trip switch with the OFF/RUN switch in either position activates the odometer reading.

See Figure 1. The odometer display also provides the following selectable displays:

Round IM

- Odometer
- Trip odometer A
- Trip odometer B
- Ambient temperature (round IM)

Press and release the trip switch to cycle through the displays.

Trip Odometers A, B

To check mileage or to reset trip odometers, the OFF/RUN switch must be in the RUN position. Press and release the trip switch until the desired trip odometer is displayed. An (A or B) on the left of the odometer display identifies the trip odometer.

To reset or zero trip odometers, have desired (A or B) odometer displayed. Press the trip switch and hold for approximately one second. The trip odometer resets to zero.

Propulsion Interlocks

See Figure 2. The vehicle is equipped with propulsion interlocks. Propulsion interlocks are conditions that must be met before propulsion can be enabled. Propulsion interlock messages will be displayed on the IM when conditions are not met to enable propulsion.

Propulsion interlock messages include; CALL SERVICE, UNPLUG TO RIDE, PRESS RUN, WAIT - NOT READY, UNLOCK FORK, RAISE SIDE STAND, RELEASE TWIST GRIP and PRESS START.

Table 6. Settings Menu: Bluetooth (Round IM)

Press	Result	
[Bluetooth]	Configure connections with bluetooth devices.	
	Available selections: Phone List, Add New Phone, Headset List, Add New Headset	
	Phone List	Shows paired phones
	Add New Phone	Use to pair new phone to vehicle
	Headset List	Shows paired headsets
	Add New Headset	Use to pair new headset to vehicle

Table 7. Settings Menu: Phone Notifications (Round IM)

Press	Result
[Phone Notifications]	Configure which phone notifications are displayed.
	Available selections: Call notifications (on/off) and text notifications (on/off).

Figure 1. Instrument Module Displays and Selections (Round IM)
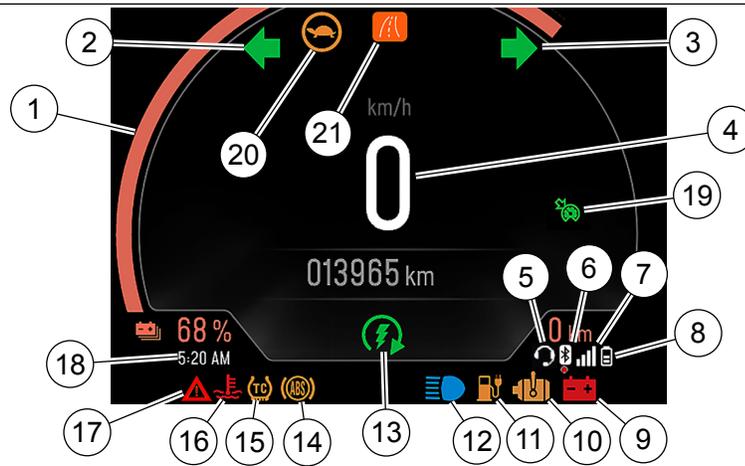
1. Charge state/Range bar
2. Left turn signal
3. Right turn signal
4. Speedometer
5. Headset connection
6. Bluetooth
7. Device signal
8. Device battery
9. 12V battery discharge
10. MIL/OBD fault
11. Low state of charge
12. Headlamp high beam
13. Propulsion enabled
14. Anti-lock Braking System (ABS)
15. Traction control
16. Coolant temperature
17. EV alert
18. Clock
19. Cruise control
20. Propulsion limited
21. Ride mode

1. Propulsion enabled
2. Propulsion limited
3. Cruise control enabled

Figure 2. Propulsion States

SERVICE MANUAL

Prepare

1. Deactivate electrical system. See service manual.

2. Remove fairing. See service manual.

Remove

1. See Figure 3. Remove two button head screws (5).

2. Remove two flat head screws (4).

3. Remove IM (1) from mounting bracket (3).

4. Disconnect wire harness connector (6).

5. Remove gasket (2). Replace if needed.

NOTE
Mark position of handlebar (1) before loosening.

6. See Figure 4. Remove four screw (3).

7. Remove upper clamp (2).

Install

1. See Figure 4. Install upper handlebar clamp.

   a. Install upper clamp (2).

   b. Install four screws (3) loosely.

   c. Position handlebar (1) as marked during disassembly.

   d. Secure rear clamp screws (3) first and front clamp screws second (3). Tighten.
   Torque: 15–18 ft-lbs (20–24 N·m)

2. See Figure 3. Assemble IM, gasket and mounting bracket.

   a. Install gasket (2) on IM (1).

   b. Route wire harness connector (6) through back of mounting bracket (3).

   c. Connect wire harness connector (6) to IM.

   d. Install IM (1) assembly into mounting bracket (3).

   e. Install two flat head screws (4). Tighten.
   Torque: 12–17 **in-lbs** (1.4–1.9 N·m)

3. Install IM assembly onto upper handlebar clamp.

4. Install two button head screws (5). Tighten.
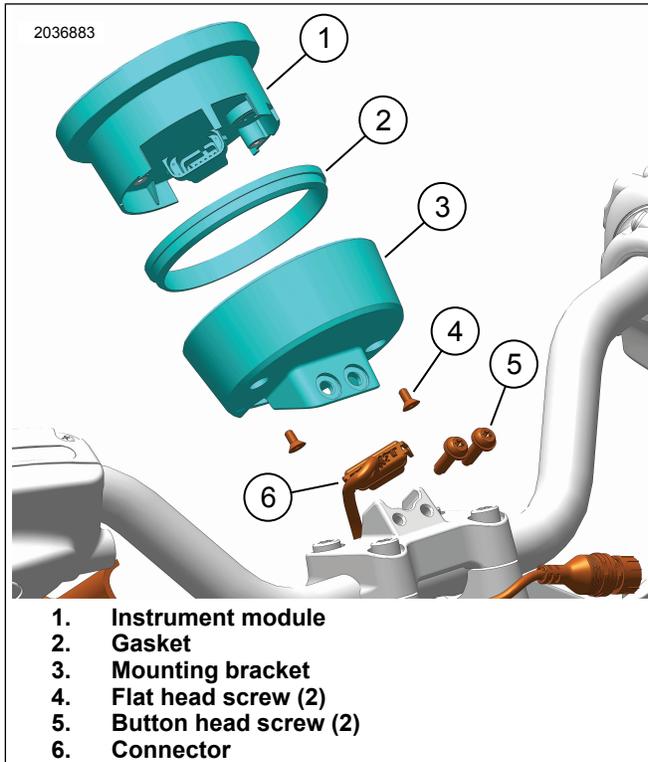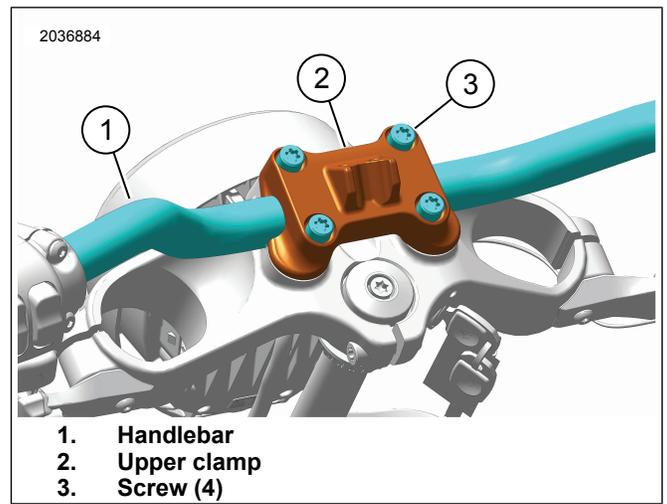
   Torque: 9–10 ft-lbs (12–14 N·m)

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1. **Instrument module**
2. **Gasket**
3. **Mounting bracket**
4. **Flat head screw (2)**
5. **Button head screw (2)**
6. **Connector**

Figure 3. Round Gauge

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1. **Handlebar**
2. **Upper clamp**
3. **Screw (4)**

Figure 4. Upper Handlebar Clamp

Complete

1. Install fairing. See service manual.

2. Activate electrical system. See manual.

3. Perform module replacement procedure using Digital Technician II.

   Special Tool: DIGITAL TECHNICIAN II (HD-48650)

ELECTRONIC DIAGNOSTIC MANUAL
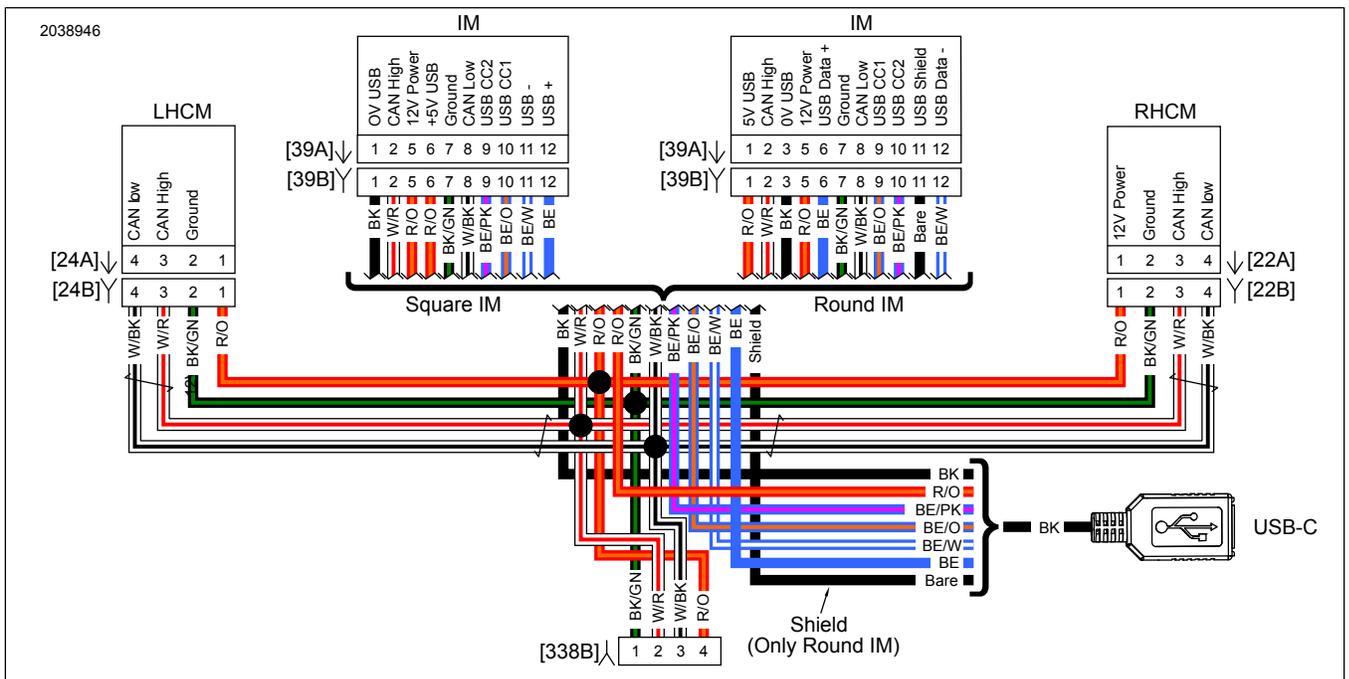
Figure 5. IM Circuit

1. IM Shape

1. Verify the shape of the IM on this vehicle.

2. What is the shape of the IM?

   a. **Square.**

   b. **Round.**

2. USB-C Voltage Test

1. Connect good known device.

2. Turn run/stop switch to STOP and wait 5 minutes.

3. Inspect instrument connections.

4. Connect instrument Breakout Box (BOB), with IM [39] connected.

5. Turn to Accessory position on ignition switch (ACC) or run/stop switch to RUN.

6. Using TEST CONNECTOR KIT (PART NUMBER: HD-41404), test voltage between BOB terminal 1 and terminal 6.
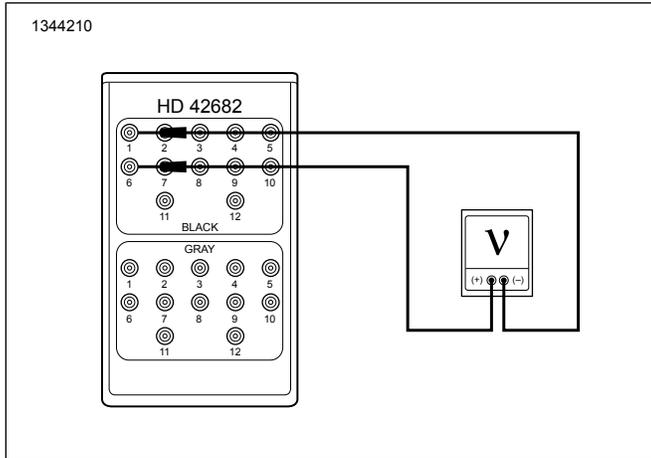

Figure 6.

7. Is voltage approximately 5 V?

    a. **Yes.** Voltage is good.

    b. **No.** Call tech service for further instructions.

3. USB-C Voltage Test

1. Connect good known device.

2. Turn run/stop switch to STOP and wait 5 minutes.

3. Inspect instrument connections.

4. Connect instrument BOB, with IM [39] connected.

5. Turn to ACC or run/stop switch to RUN.

6. Using TEST CONNECTOR KIT (PART NUMBER: HD-41404), test voltage between BOB terminal 1 and terminal 3.
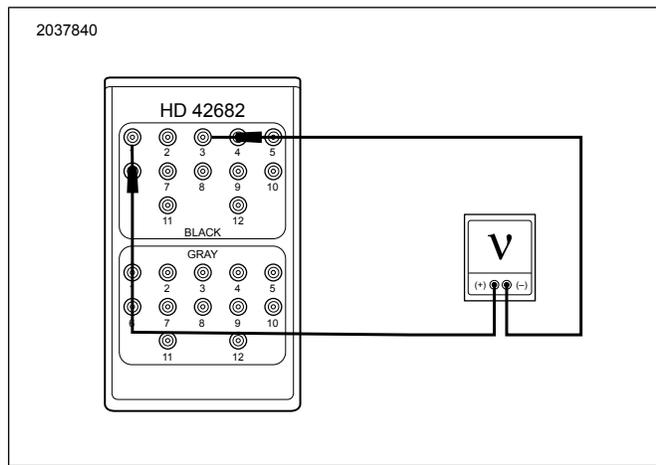

Figure 7.

7. Is voltage approximately 5 V?

    a. **Yes.** Voltage is good.

    b. **No.** Call tech service for further instructions.