

94100586

EXHAUST OXYGEN SENSOR (WIDE BAND O2) BUNG DRILL KIT

Table 1 Constal Information

2024-02-29

GENERAL INFORMATION

Kits	Required Tools	Skill Level ⁽¹⁾			
14900150	Safety glasses, Drill press with ½ inch chuck, Drill press vise, Clean shop rags, Cutting flu- id/oil, Grease	FFFF			
(1) DTU and dealer installation required					

(1) DTII and dealer installation required

KIT CONTENTS



Figure 1. Kit Contents: Exhaust Oxygen Sensor (Wide Band O2) Bung Drill Kit

Table 2. Kit Contents: Exhaust Oxygen Sensor (Wide Band O2) Bung Drill Kit

Verify that all contents are present in the kit before installing or removing items from vehicle.						
Item	Qty	Description	Part No.	Notes		
1	1	Drill collar	Not sold separately			
2	1	Drill sleeve	Not sold separately			
3	2	Bung block	Not sold separately			
4	1	Set screw	Not sold separately			
5	1	Bung clamp	Not sold separately			
6	1	Screw	Not sold separately			
7	1	Drill bit, spot face	14900153			

GENERAL

Models

For model fitment information, see the Parts and Accessories (P&A) Retail Catalog or the Parts and Accessories section of www.harley-davidson.com.

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

A WARNING

Rider and passenger safety depend upon the correct installation of this kit. 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. (00308b)

This item is available at a Harley-Davidson dealership.

• Separate purchase: M18 Oxygen Sensor Installation Tool (Part No. 14900105) is required.

Mandatory Tool Requirements

If the procedure is not within your capabilities or you do not have the correct tools, have a properly equipped Harley-Davidson dealer perform the drilling procedure.

Improper drilling procedure can have issues with:

- · Poor sensor readings
- Erratic engine operation
- · Improper exhaust emissions

For drilling the 10° offset in rear oxygen sensor bung:

- Must use a drill press with ½ inch chuck. DO NOT USE A HAND DRILL.
- Drill press vise, drill press fixture(s) and right angle fixture plate(s).
- An array of clamps to secure fixture(s).

REAR EXHAUST BUNG DRILL SETUP

A WARNING

Wear safety glasses or goggles while drilling. Flying debris could result in serious eye injury. (00565b)

- PERFORM THIS PROCEDURE ON REAR OXYGEN SENSOR BUNG ONLY.
- DO NOT perform this procedure on front oxygen sensor bung.
- Drilling material may cause damage to catalyst system if proper precaution is not taken to prevent debris from entering exhaust system.

NOTE

The use of mechanical fingers, coat hanger or welding rod tied to shop rag will ease insertion and removal of rag.

- Insert clean shop rag into both ends of exhaust pipe past oxygen sensor bungs. This will help stop and catch all drilling debris.
- 2. Figure 1 Assemble drill pilot bung block.
 - a. Install drill sleeve (2) into bung block (3).
 - b. Install set screw (4) into bung block (3) and tighten.
- 3. Figure 2 Install pilot fixture to rear header pipe.
 - a. Install bung block (1) over exhaust bung.
 - b. Install bung clamp (2).
 - c. Install screws (3) and tighten.
 - d. Make sure drill pilot fixture is tight enough on header pipe that it will not slip.



Figure 2. Install Pilot Fixture

NOTE

Test fit drill block around bung, grind any excessive weld material. Make sure fit is snug.

Figure 3 Make sure hole in drill sleeve (3) is contacting the header pipe exhaust bung (4) in the indicated area on pilot fixture (2).

- a. Make sure arc marked on fixture block is aligned with oxygen sensor bung.
- b. Adjust if needed.

4.

- c. If fixture block does not seat correctly after adjustment, there is weld material in the way.
- d. Remove pilot fixture.
- e. Remove excess weld material.
- f. Install pilot fixture.



5. NOTE A 10° offset is being drilled into the rear exhaust bung. A sturdy drilling setup is required.

Over tightening clamping devices may cause damage to header pipe.

Figure 4 Prepare header pipe (4) for drill press (1) operation.

a. A properly supported drilling assembly is shown in Figure 4.



Figure 4. Drill Setup

Perform Bung Drilling

NOTE

Drilling and spot facing procedure must be done without taking down fixture setup. This ensures alignment of 41/64 in. drilled hole to spot face.

- 1. Figure 5 Install drill collar (1) into pilot fixture drill sleeve (2).
- 2. Install 41/64 in. piloted drill bit from kit (Part No. 14900105) into drill press chuck. Installation Requirements
- 3. Set drill speed to **SLOWEST** setting (approximately 200 Revolutions Per Minute (rpm)).
- 4. Align drilling fixture top face perpendicular to the drilling axis.
- 5. With drill running:
 - a. Apply cutting fluid to drill bit and hole as necessary.
 - b. Drill through oxygen sensor bung.
- 6. Wipe off excessive drilling debris. Leave shop rags in exhaust pipe.

- 7. Remove drill collar (1) from pilot fixture drive sleeve (2).
- 8. Remove drill bit from drill press.



Figure 5. Install Drill Collar

Perform Spot Face

NOTE

Drilling and spot facing procedure must be done without taking down fixture setup. This ensures alignment of spot face to 41/64 in. drilled hole.

- Figure 1 Install drill bit (7) into drill press chuck. 1.
- Set drill speed to SLOWEST setting (approximately 200 2. rpm).
- 3. Align drilling fixture top face perpendicular to the drilling axis.
- 4. Figure 6

With the drill NOT running:

- Install drill bit (3) into pilot fixture (2). a.
- With drill running: 5.
 - Apply cutting fluid to the drill bit and hole as a. necessary.
 - Spot face oxygen sensor bung. b.
 - Make sure underside of spot face drill bit flange (3) C. touches top of drill sleeve (4).
- 6. Thoroughly clean any metal chips from drilling process.



- 3.
- 4. Top of drill sleeve

Figure 6. Drill Bit to Surface Contact

Drill Press Tear Down

- 1. Remove exhaust header from drill press operation.
- Remove fixture block from exhaust header. 2.
- 3. Inspect bung surface. If it feels rough after spot facing and drilling, clean area by hand using a course-to-medium grit paper and then med-to-fine grit paper.
- Wipe off excessive drilling debris. Leave shop rags in 4. exhaust pipe.

FRONT EXHAUST BUNG DRILL SETUP

- 1. Use M18 Oxygen Sensor Installation Tool (Part No. 14900105) to drill front exhaust header bung. Installation Requirements
 - Follow instructions in that kit. a.

TAP EXHAUST BUNG

- 1. Use M18 Oxygen Sensor Installation Tool (Part No. 14900105) to tap both exhaust header bungs. Installation Requirements
 - Follow instructions in that kit. а

COMPLETE

- 1. Remove and clean off any excessive drilling debris.
- Remove shop rags from exhaust pipe. Be extremely careful 2. as not to get debris into the catalyst system.