

DETROIT DIESEL



Installation Instructions

18SP563 — Install Cylinder Head Gasket Kit on Series 50[®] or Series 60[®] Engine

Introduction

The improved gasket in this kit *must* be used with improved cylinder head mounting bolts (P/N 23530768) when replacing the cylinder head on a Series 50[®] or Series 60[®] engine built after September

of 2002. The improved gasket and bolts may also be used on engines built prior to this date. The new gasket and bolts *must* be used together. Kit components are listed in Table 1.

Part No.	Quantity		Description
	A	B	
23532297	1		Kit, Series 50 Cylinder Head Gasket (Includes items in column A.)
23532298		1	Kit, Series 60 Cylinder Head Gasket (Includes items in column B.)
23531306	1		– Gasket, Cylinder Head (Series 50)
23530421		1	– Gasket, Cylinder Head (Series 60)
18SP563	1	1	– Installation Instructions

Table 1. Gasket Kit Components

Installation

Install the cylinder head gasket kit as follows:

	CAUTION:
To avoid injury from hot surfaces, allow engine to cool before removing any component. Wear protective gloves.	

	CAUTION:
To avoid injury from accidental engine startup while servicing the engine, disconnect/disable the starting system.	

1. With the engine at ambient temperature and cool to the touch, refer to the current *Series 50 Service Manual* (6SE50 0006 dated June 2000) or *Series 60 Service Manual* (6SE483 0204 dated April 2002) and remove the cylinder head and gasket. Follow all steps to clean, inspect and prepare the cylinder head for reinstallation.

NOTICE:
Cylinder head mounting bolts are considered single-use items and must not be reused. Failure to install new bolts when replacing a cylinder head may result in improper bolt clamp load, which could cause gasket failure and severe engine damage.

Discard the former cylinder head mounting bolts. Former bolts and current bolts must not be mixed, since this can result in incorrect application of clamp load. New bolts are identified by the white paint stripe on the head and the groove across the top of the head. See Figure 1.

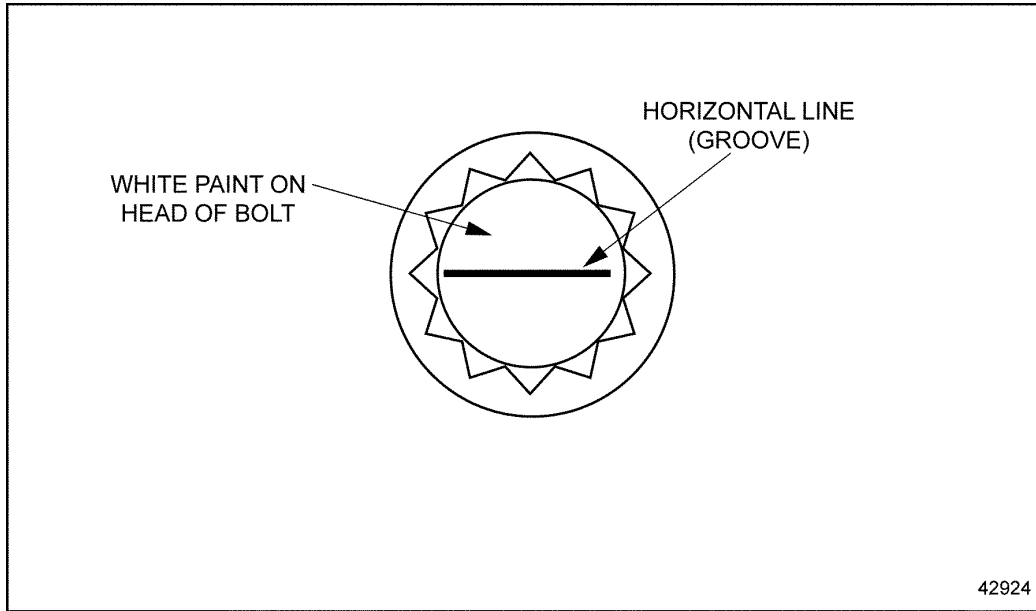


Figure 1. Current Cylinder Head Bolt Identification (Effective October 2002)

2. Refer to service manual section titled, "Installation of Cylinder Head."

A. If attachment pages from Service Information Bulletin 5-50-02 or 16-60-02 have been inserted into the current *Series 50 Service Manual* or the current *Series 60 Service Manual* respectively, follow all steps on the attachment pages to install the new cylinder head gaskets and mounting bolts.

B. If attachment pages from Service Information Bulletin 5-50-02 or 16-60-02 have not been inserted into the current *Series 50 Service Manual* or *Series 60 Service Manual*, use the following steps to install the new cylinder head gaskets and mounting bolts:

With guide studs in place, install the cylinder head gasket and cylinder head onto the cylinder block.

1) Use 26 new bolts (P/N 23530768) for Series 50 heads and 38 bolts for Series 60 heads. Lubricate the threads and bolt head contact area of all new bolts with a small amount of International Compound #2®. Wipe off excess and install into the cylinder head.

NOTE: Use of an assembly compound other than International Compound # 2 may result in incorrect clamp load.

2) Torque all bolts in the required sequence to 298 N•m (220 lb-ft). See Figure 2 for the Series 50 cylinder head torque sequence or see Figure 3 for the Series 60 cylinder head torque sequence.

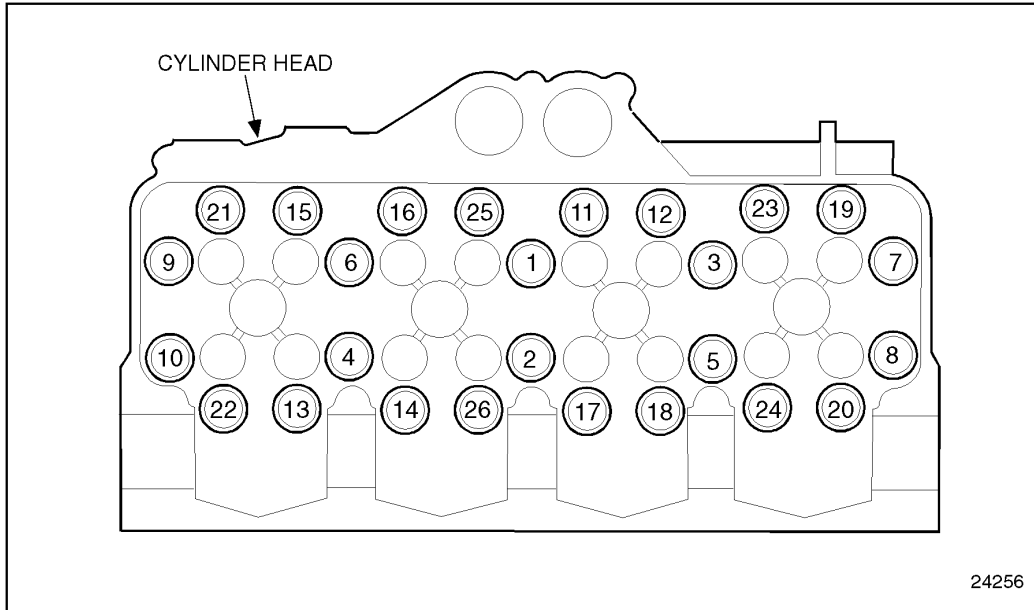


Figure 2. Series 50 Cylinder Head Bolt Tightening Sequence

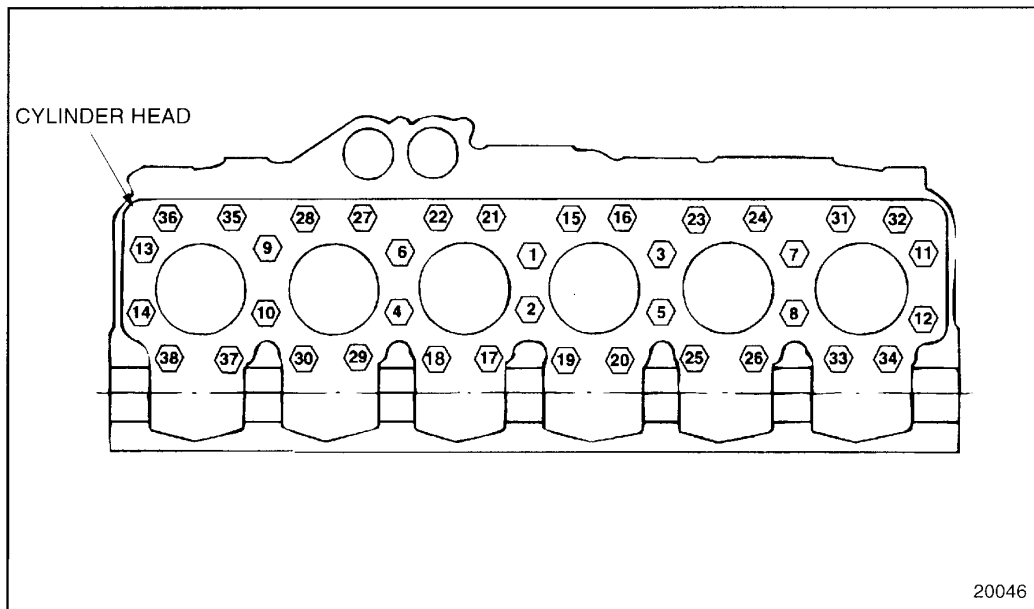


Figure 3. Series 60 Cylinder Head Bolt Tightening Sequence

NOTICE:
 Failure to repeat the cylinder head bolt torque sequence may result in some head bolts losing their torque when others are tightened, resulting in insufficient clamp load and cylinder head gasket leakage, which may cause engine damage.

3. After all bolts are torqued to 298 N•m (220 lb-ft), repeat the torque sequence to verify all of the head bolts are torqued to specification.

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