



# Service Repair Manual

## **Models**

# 657 WHEEL SCRAPER

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Product: WHEEL SCRAPER  
Model: 657 WHEEL SCRAPER 53K  
Configuration: 657 SCRAPERS 53K00001-00637 (MACHINE)

## Disassembly and Assembly

### 3406E and 3456 Engines for Caterpillar Built Machines

Media Number -REN1364-06

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i07498909

## Cylinder Head - Install

SMCS - 1100-012

## Installation Procedure

Table 1

Required Tools			
Tool	Part Number	Part Description	Qty
A	-	Loctite Graphite 50 Anti-Seize	-
B	8T-2998	Lubricant	1
C	9S-3263	Thread Lock Compound	1

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### NOTICE

**Keep all parts clean from contaminants.**

**Contaminants may cause rapid wear and shortened component life.**

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**Note:** Thoroughly clean the spacer plate and the bottom surface of the cylinder head. A new spacer plate gasket must be installed when the cylinder head is removed.

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Illustration 1

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1. Apply a thin film of clean engine oil to O-ring seal (26). Install O-ring seal (26).



Illustration 2

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2. Install a new spacer plate gasket (25).
3. Install the spacer plate on the engine.

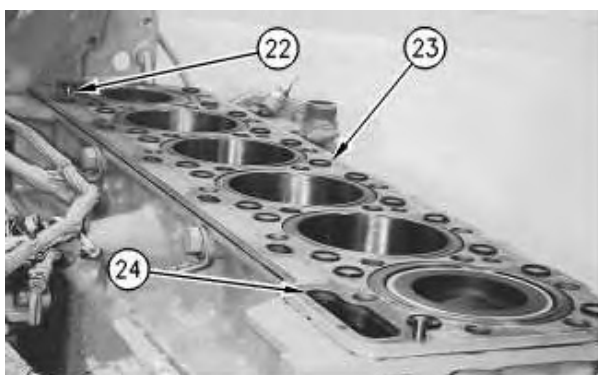


Illustration 3

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4. Apply a thin film of clean engine oil to O-ring seal (22). Install O-ring seal (22).
5. Install water seals (23) dry.
6. Install seal (24) in the spacer plate.



Illustration 4

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7. Install a new cylinder head gasket (21).

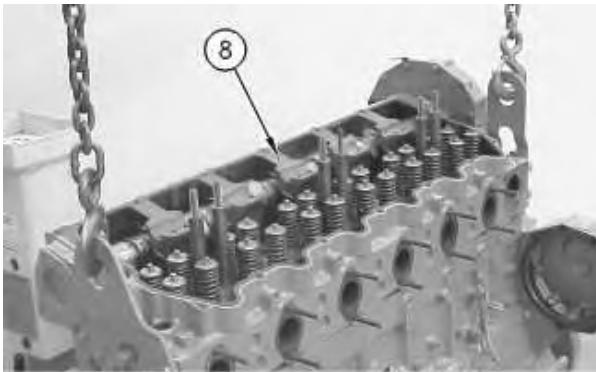


Illustration 5

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8. Attach a suitable lifting device to cylinder head (8). Carefully position cylinder head (8) on the spacer plate. The weight of the cylinder head is approximately 235 kg (518 lb).

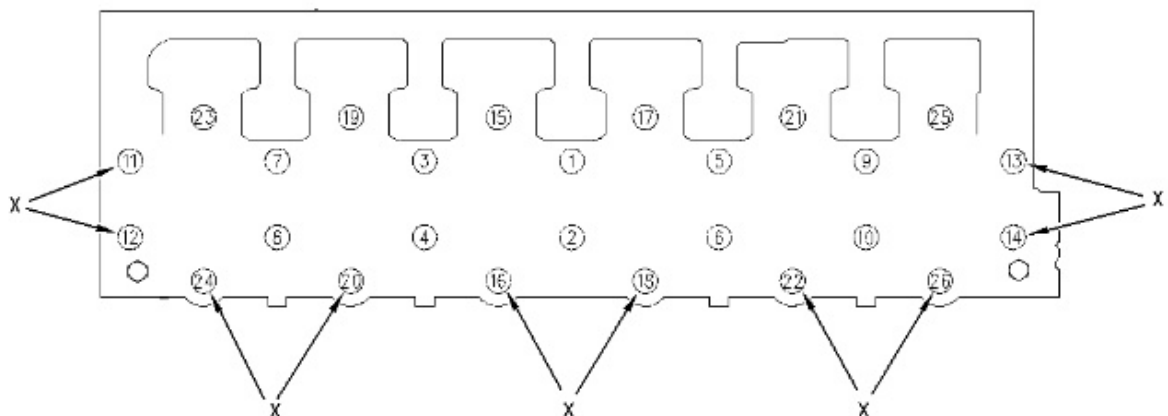
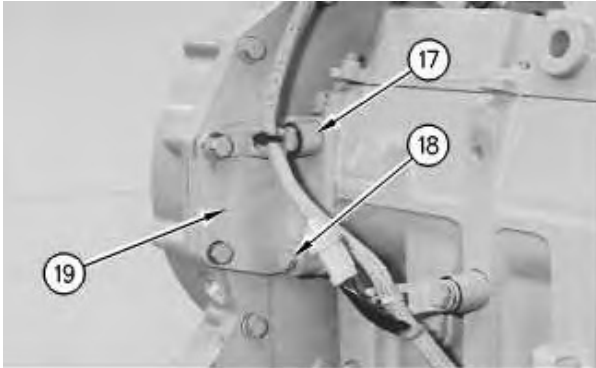


Illustration 6

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**Note:** The bolts that are Marked "X" are 216 mm (8.5 inch) long. The remainders of the bolts are 194 mm (7.6 inch) in length.

9. Apply a small amount of Tooling (A) to the bolt threads and both sides of the washers. Install the cylinder head bolts. Tighten the cylinder head bolts, as follows.
  - a. In a numerical sequence, tighten bolts 1 through 26 to a torque of  $270 \pm 15 \text{ N}\cdot\text{m}$  ( $200 \pm 11 \text{ lb ft}$ ).
  - b. In a numerical sequence, tighten bolts 1 through 26 to a torque of  $450 \pm 15 \text{ N}\cdot\text{m}$  ( $330 \pm 11 \text{ lb ft}$ ).
  - c. In a numerical sequence, again tighten bolts 1 through 26 to a torque of  $450 \pm 15 \text{ N}\cdot\text{m}$  ( $330 \pm 11 \text{ lb ft}$ ).

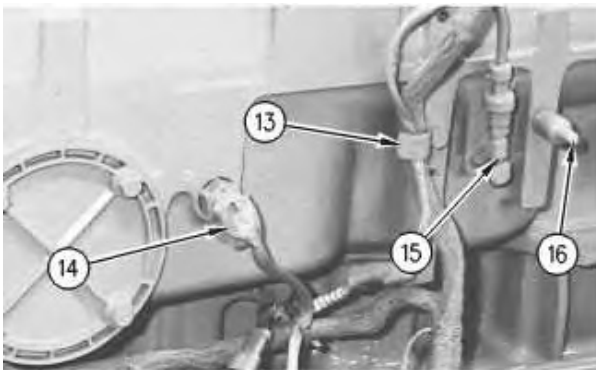


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Illustration 7

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10. Install spacers (17) and bolts (18) that fasten bracket (19) to the cylinder head.



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Illustration 8

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11. Connect the harness assembly to sensor (14), sensor (15), and ground stud (16).
  12. Install the bolt and support clip (13) for the harness assembly.
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