



Shutdown SIS

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Reuse And Salvage Guidelines

Measure Procedures and Salvage Procedures for Cylinder Head Assemblies and Related Components{1100, 1101, 1103, 1104, 1105, 1106, 1108, 1109, 1115, 1117, 1121, 1124, 1125}

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Measure Procedures and Salvage Procedures for Cylinder Head Assemblies and Related Components{1100, 1101, 1103, 1104, 1105, 1106, 1108, 1109, 1115, 1117, 1121, 1124, 1125}

SMCS - 1100; 1101; 1103; 1104; 1105; 1106; 1108; 1109; 1115; 1117; 1121; 1124; 1125

Engine:Commercial All

C-10 (S/N: AKB1-UP; MBJ1-UP; 2PN1-UP; 3CS1-UP; 8YS1-UP; BCX1-UP)
 C-12 (S/N: CPD1-UP; TME1-UP; BDL1-UP; MBL1-UP; 9SM1-UP; 1YN1-UP; ALS1-UP; 2KS1-UP; 9NS1-UP; BCY1-UP)
 C-15 (S/N: EGH1-UP; MBN1-UP; 6NZ1-UP; 9NZ1-UP)
 C-16 (S/N: W1A1-UP; 7CZ1-UP)
 C-18 (S/N: CJP1-UP; MDP1-UP; MEP1-UP)
 C-9 (S/N: CLJ1-UP)
 C11 (S/N: KCA1-UP)
 C13 (S/N: KCB1-UP; LEE1-UP; JAM1-UP)
 C15 (S/N: C5E1-UP; C5L1-UP; MHP1-UP; SDP1-UP; B5R1-UP; BXS1-UP; MXS1-UP; NXS1-UP)
 C18 (S/N: DKE1-UP; EJG1-UP; WJH1-UP)
 C7 (S/N: JRA1-UP; JTF1-UP; FML1-UP; KAL1-UP; FMM1-UP; SAP1-UP; C7S1-UP; WAX1-UP)
 C9 (S/N: MTB1-UP; SRB1-UP; 9DG1-UP; CKP1-UP; X3R1-UP; C9S1-UP)

Engine:Truck All

Industrial Engine:with Turbochargers All

C-10 PETROLEUM (S/N: Z2B1-UP)
 C-15 IND (S/N: BEM1-UP)
 C-16 IND (S/N: BFM1-UP)
 C11 INDUSTRIAL (S/N: GLS1-UP)
 C13 INDUSTRIAL (S/N: LGK1-UP)
 C15 IND (S/N: JRE1-UP)
 C15 INDUSTRIAL (S/N: JAS1-UP)
 C27 INDUSTRIAL (S/N: TWM1-UP)
 C32 INDUSTRIAL (S/N: TLD1-UP)
 C9 INDUSTRIAL (S/N: JSC1-UP; MBD1-UP; JLW1-UP)

Machine Engines: All

Marine Engine:with Turbochargers All

C-12 MARINE (S/N: 9HP1-UP)
 C12 MARINE (S/N: C1Z1-UP)

C15 MARINE (S/N: RLA1-UP)
C18 MARINE (S/N: CKH1-UP; C1J1-UP; NAX1-UP; NAY1-UP)
C30 MARINE (S/N: CLX1-UP)
C32 MARINE (S/N: RXB1-UP; RNC1-UP)
C7 MARINE (S/N: C7B1-UP; C7D1-UP; C7X1-UP; C7Z1-UP)
C9 MARINE (S/N: C9B1-UP; CSN1-UP; X9X1-UP; Z9X1-UP)

Pumper:All Utility Mounted

Agricultural Tractor:

MT855 (S/N: A3A1-UP)
MT865 (S/N: GDA1-UP)
MTC845 (S/N: JAC1-UP)

Articulated Truck:

730 (S/N: 5ED1-UP)

Asphalt Paver:

AP-755 (S/N: C7C1-UP)

Generator Set:

C15 GEN SET (S/N: C5H1-UP; X4R1-UP)
C18 GEN SET (S/N: C6C1-UP; G4C1-UP; STD1-UP; STM1-UP; EKW1-UP; STH1-UP)
C18 MARINE GS (S/N: CYN1-UP; MGS1-UP)
C27 GEN SET (S/N: DWB1-UP; STR1-UP)
C32 GEN SET (S/N: SXC1-UP; WDR1-UP)
C9 GEN SET (S/N: C9E1-UP)
C9 MARINE GS (S/N: C9A1-UP; SJB1-UP)

Petroleum Engine:

C-15 PETROLEUM (S/N: Z2C1-UP)
C32 PETROLEUM (S/N: SMP1-UP)

Truck Engines:

C7 TRUCK ENGINE (S/N: NPH1-UP; LBM1-UP)
C7 TRUCK/BUS (S/N: YPG1-UP)
C9 ON-HIGHWAY (S/N: ETK1-UP)

Excavator:

325D (S/N: KHX1-UP)
330D (S/N: THX1-UP)
345C (S/N: MHX1-UP)
365C (S/N: LHX1-UP)
385C (S/N: RHX1-UP)

Track Feller Buncher:

TK752 (S/N: 4ZF1-UP)

Load Haul Dump:

R1700G (S/N: RSX1-UP)

Mobile Hydraulic Power Unit:

330 MHPUC (S/N: SAN1-UP)

Transmission:

TH31-E61 (S/N: SKY1-UP)

Off-Highway Truck/Tractor:

773F (S/N: EHX1-UP)

Quarry Truck:

775F (S/N: LJX1-UP)

Power Module:

C18 POWER MODUL (S/N: X6X1-UP)
C32 POWER MODUL (S/N: MED1-UP)

Track-Type Loader:

973C (S/N: THY1-UP)

Introduction

This Reuse and Salvage Guideline contains the necessary information in order to allow a dealer to establish a parts reusability program. Reuse and salvage information enables Caterpillar dealers and customers to benefit from cost reductions. Every effort has been made in order to provide the most current information that is known to Caterpillar. Continuing improvement and advancement of product design might have caused changes to your product which are not included in this publication. This Reuse and Salvage Guideline must be used with the latest technical information that is available from Caterpillar.

For additional information about this guideline, consult Repair Process Engineering of the Marketing & Product Support Division at 1 (309) 675-5434.

Summary

This guideline gives the measurements and salvage specifications for the inspection of a used or reconditioned cylinder head that can be used again.

If a cylinder head meets the specifications in this guideline and other applicable guidelines the head assembly can be expected to give normal performance until the next overhaul, that is used in the same application.

Before reusing a cylinder head, check for leaks, cracks, and flatness. All cylinder head components must meet the recommended specifications in the guideline before being reused.

This guideline should be used in conjunction with the specific guidelines that are listed in the Reference section.

When the cylinder head will not be inspected for one hour or less the cylinder head should be coated with a rust or corrosion inhibitor or coated with clean engine oil.

References

Use the references that are listed below to help complete the rebuild of your cylinder head.

Reference Reuse and Salvage Guideline, SEBF2000, "Metal Spray Guide"

Reference Reuse and Salvage Guideline, SEBF9006, "Specifications for Cylinder Head Assemblies on C-Series Engines"

Reference Reuse and Salvage Guideline, SEBF8002, "Valves, Valve Springs, Valve Rotators and Locks"

Reference Reuse and Salvage Guideline, SEBF8034, "Valve and Valve Spring Specifications"

Reference Reuse and Salvage Guideline, SEBF8061, "Engine Precombustion Chamber and 3400 Series Engine Direct Injection Nozzle Adapters"

Reference Reuse and Salvage Guideline, SEBF8076, "Specifications to Salvage Cylinder Block Contact Surfaces"

Reference Reuse and Salvage Guideline, SEBF8106, "Specifications for Cylinder Head Assemblies 3600 Engines"

Reference Reuse and Salvage Guideline, SEBF8129, "Procedure to Salvage Cylinder Head"

Assemblies for 3600 and G3600 Engines"

ReferenceReuse and Salvage Guideline, SEBF8155, "Specifications for Cylinder Head Assemblies for 3500 Series Engines"

ReferenceReuse and Salvage Guideline, SEBF8162, "Procedure to Measure and Salvage Cylinder Head Assemblies and Related Components"

ReferenceReuse and Salvage Guideline, SEBF8882, "Using Lock-N-Stitch Procedures for Casting Repair"

ReferenceReuse and Salvage Guideline, SEBF8167, "Reconditioning Procedures 3114 and 3116 Engines"

ReferenceReuse and Salvage Guideline, SEBF8218, "Specifications for Cylinder Head Assemblies 3114, 3116, 3126, and C7 Engines"

ReferenceReuse and Salvage Guideline, SEBF8229, "Specifications for Cylinder Head Assembly 3176, 3176B, 3196, C10 and C12 Engines"

ReferenceReuse and Salvage Guideline, SEBF8262, "Reuse of Cylinder Heads On 3176 Engines with Injector Tip Damage"

ReferenceReuse and Salvage Guideline, SEBF8270, "Specifications for Cylinder Head Assembly 3400, 3406E, C15, and C18 Engines"

ReferenceReuse and Salvage Guideline, SEBF8283, "Reworking Cylinder Head Bolt Holes on 3500 Engines"

ReferenceReuse and Salvage Guideline, SEBF8302, "Reuse Specifications for 3600 Combustion Gaskets"

ReferenceReuse and Salvage Guideline, SEBF8373, "Specifications for Cylinder Head Assembly 3400 / C16 Engines"

ReferenceReuse and Salvage Guideline, SEBF8374, "Specifications for Cylinder Head Assemblies 3200 Engines"

ReferenceReuse and Salvage Guideline, SEBF8375, "Specifications for Cylinder Head Assemblies 3300 Engines"

ReferenceReuse and Salvage Guideline, SEBF8376, "Specifications for Cylinder Head Assemblies 1404 and D Model Engines"

ReferenceReuse and Salvage Guideline, SEBF8382, "Cylinder Head Rebuild Process "

ReferenceReuse and Salvage Guideline, SEBF8736, "Specifications for Cylinder Head Assembly C9 Engine"

ReferenceReuse and Salvage Guideline, SEBF8737, "Reuse of Cylinder Heads On C9 Engines with Injector Tip Damage"

ReferenceReuse and Salvage Guideline, SEBF8819, "Specifications for Cylinder Head Assemblies 3054 and 3056 Engines"

Reference Reuse and Salvage Guideline, SEBF8820, "Reuse of Cylinder Heads on 3054 and 3056 Engines with Injector Tip Damage"

Equipment and Tooling

Table 1

Required Tools	
Part Number	Part Description
-	Straight Edge
4C-4804	Penetrant
4C-4805	Developer
4C-4736	Kit
8H-8581	Feeler Gauge
5P-7324	Plug
5P-7333	Tool Group
4C-4086	Repair Kit
1U-5566	Ultraviolet Lamp Gp
222-3071	Grinder Angle
6V-0186	Holder 127 mm (5.0 inch)
6V-0185	Abrasive Disc 127 mm (5.0 inch)
or	
5P-9718	Holder 178 mm (7.0 inch)
5P-9709	Abrasive Disc 178 mm (7.0 inch)

Table 2

Valve Guides	
-	Measuring and checking devices ⁽¹⁾
6V-2012	Micrometer Depth Gauge Group
or	
-	Dial Caliper 150 mm (6.0 inch)
5P-3536	Valve Guide Gauge Group