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Technical Information Bulletin

Excessive Engine Oil Consumption On CT13 Engines With SCR {7000, 7006}

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Excessive Engine Oil Consumption On CT13 Engines With SCR {7000, 7006}

SMCS - 7000; 7006

On Highway Truck

CT660S (S/N: TJD100-UP; TEJ100-UP; TEM100-UP; TEP100-UP; TEY100-UP; TEZ100-UP)

CT680 (S/N: TRX100-UP)

Reference: Disassembly and Assembly , UENR1837 , "CT660 Truck Exhaust System"

Reference: Systems Operation , UENR5120 , "CT681 Truck Exhaust system"

Reference: Systems Operation , UENR4926 , "CT13 SCR Engines Service Manual"

Reference: Systems Operation , UENR4927 , "CT13 SCR Engines Diagnostic Manual"

Reference: Systems Operation , UENR6902 , "2015 CT13 Enhanced SCR Engines Diagnostic Manual"

Reference: Systems Operation , UENR6903 , "2015 CT13 Enhanced SCR Engines Service Manual"

The reference documents are available on the Caterpillar Service Information System web site.

Introduction

The problem that is identified below does not have a known permanent solution. Until a permanent solution is known, use the solution that is identified below.

Problem

On certain CT13 engines with SCR, carbon can build up on the top lands of the pistons and cause the piston rings to stick, leading to loss of oil control in the power cylinders and increased oil consumption.

Solution

An updated cylinder kit is now available to address this condition. The updated liner integrates a removable "anti-polish" carbon scraping ring which sits in a machined counterbore. This Anti-Polish Ring (APR) has a smaller internal diameter than the rest of the liner that allows it to scrape carbon off the top land of the piston during normal operation. This action of continuously removing carbon buildup from the top land of the piston prevents the rings from carbon packing and losing oil control in the power cylinders.

Note: APR liners cannot be mismatched with standard liners. Ensure that all six cylinders have APR liners installed.

Special Tools / Software

Refer to Table 1 for special tools or software required.

Table 1

Tool Number	Tool Description
-	Tool, Piston Cope
5P-8665	Cylinder Liner Puller Gp
-	Socket, Head Bolt (E24 Torx)
-	Socket, External Torx (E18)
-	Tap, M18*2 Bottoming (Head)
374-6396	Bracket
373-4730	Cap

Service Parts Information

The required service parts information is described in Table 2.

Note: The following component inspections and/or replacements are not covered under warranty for this repair.

- Oil pump
- Main bearing

- Turbocharger
- Fuel injector
- Oil cooler
- Engine oil
- Engine coolant
- Cylinder head

Table 2

Qty	Part Number	Description	Notes
1	386-2550	Cylinder Head Kit	
1	504-9108	Cylinder Head Kit	2015 CT 13
1	383-7438	Cylinder Head Gasket	
1	376-2571	Oil Pan Gasket	
1	472-5753	Oil Filter Kit	
6	500-3978	Piston Kit	
6	376-2591	Bearing Kit	Torque properly
6	508-8427	Bearing Kit	2015 CT 13 - Torque properly
12	379-1532	Screw	
1	376-2475	O-Ring Seal	
1	460-7270	Tube As	
1	460-7271	Turbocharger Kit	Only Needed if turbo line has not been updated
2	442-0583	Gasket	DOC/DPF gasket
1	370-0804	Gasket	Exhaust pipe gasket

Note: The parts listed in the Table 2 are to be replaced under warranty during the warranty period. This is an update to correct the symptom of excessive oil consumption on CT13 engines with SCR and is not considered a mileage overhaul.

Note: CT13 engines with SCR have two different cylinder liners available. It is important to verify that the most up-to-date liners are being installed.

Diagnostic Steps

Refer to the above mentioned appropriate engine diagnostic manual for oil consumption diagnostics.

Repair Steps

Refer to the above mentioned appropriate engine service manual for base engine repairs.

Note: Due to the large amount of oil the engine has consumed, removal and baking of the Diesel Particulate Filter (DPF) is required to ensure that repair is complete. Refer to the above mentioned appropriate truck exhaust system manual for DPF removal and baking procedures.

Note: CT13 connecting rod bolt torque is critical. Follow the procedure exactly as written using a calibrated torque wrench.

Warranty Information

For warranty claim coding and standard repair time refer to Table 3 and Table 4 respectively.

Table 3

Warranty Claim Coding	
Group	12000 - Engine
Noun	146 - Ring, Piston

Table 4

Standard Repair Time				
Description	Code	Model	Hours	Notes
12 - CYLINDER HEAD R & R AND/OR REPLACE	TC12-1342US	ALL	18.9	
12 - PISTON AND/OR SLEEVE, REPLACE	A12-1192U	ALL	2.7	One
	A12-1192U-11	ALL	0.8	Each additional
	A12-1192U-1	ALL	0.3	Rod bearing replacement
18 - DPF CANISTER, REPLACE	A1859US-20		0.6	DPF cleaning
	A1859UT-20	2015 CT13		
18 - DOC CANISTER, REPLACE	A18-1859US		0.6	Remove to access DPF
	A18-1859UT	2015 CT13		

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