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Technical Information Bulletin**Excessive Reman Water Pump Shaft End Play May Occur on Certain C9 through C18 Engines {1361, 1389}**

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Caterpillar: Confidential Yellow

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Excessive Reman Water Pump Shaft End Play May Occur on Certain C9 through C18 Engines {1361, 1389}

SMCS - 1361; 1389

Agricultural Tractor

MT855 (S/N: BCC1-UP)

MT865 (S/N: BDS1-UP)

MTC855 (S/N: 8181-UP)

MTC865 (S/N: 8191-UP)

Articulated Truck

735 (S/N: WWC1-UP; B1N1-UP)

735B (S/N: L4D1-UP; T4P1-UP; E4R1-UP)

735C (S/N: LFJ1-UP; TFJ1-UP)

740 (S/N: WWD1-UP; B1P1-UP; DTX1-UP)

740 EJECTOR (S/N: B1R1-UP)

740 GC (S/N: 3F81-UP; 3T81-UP)

740B (S/N: L4E1-UP; GLH1-UP; T4R1-UP; E4S1-UP)

740B EJECTOR (S/N: L4F1-UP; T4S1-UP)

Cold Planer

PM-200 (S/N: P1C1-UP; P1M1-UP)

PM-201 (S/N: PNM1-UP)

PM620 (S/N: LH91-UP; 8RF1-UP)

PM622 (S/N: JCF1-UP)

PM820 (S/N: HN81-UP)

Electric Power Generation

C15 PET GEN SET (S/N: LWR1-UP)

C18 MAR GENSET (S/N: SSM1-UP; SSW1-UP)

XQP500 (S/N: XP21-UP; XP51-UP)

Engine

3508 (S/N: 5XM1-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: JZB1-UP; CJP1-UP; MDP1-UP; MEP1-UP)

C13 (S/N: LEE1-UP)

C15 (S/N: MG21-UP; XP81-UP; BS91-UP; KRA1-UP; TRB1-UP; SWE1-UP; C2F1-UP; N5F1-UP; LDN1-UP; JEP1-UP; SDP1-UP; B5R1-UP; BXS1-UP; MXS1-UP; NXS1-UP; RKS1-UP; HAZ1-UP)
C18 (S/N: TNA1-UP; GTB1-UP; ZKB1-UP; RRC1-UP; GJE1-UP; JLE1-UP; EJG1-UP; BDN1-UP; T2R1-UP; PHW1-UP; GEX1-UP)

Excavator

365C (S/N: ELC1-UP; GWC1-UP; MEM1-UP; FEN1-UP; PAR1-UP; MCS1-UP; MCY1-UP)
374 (S/N: KHH1-UP; JGP1-UP)
374D (S/N: PJA1-UP; PAP1-UP; PAS1-UP; PAX1-UP)
374F (S/N: AT21-UP; AP41-UP; DPE1-UP; EBF1-UP; NFJ1-UP; MFL1-UP; XWL1-UP; DNM1-UP)
385C (S/N: EDA1-UP; MMA1-UP; KGB1-UP; KBC1-UP; SBE1-UP; T2E1-UP; T2F1-UP; KKK1-UP; EAM1-UP; JCM1-UP; WAW1-UP; MNZ1-UP)
390D (S/N: WAG1-UP; BYP1-UP; WAP1-UP; WBT1-UP; KCZ1-UP)
390F (S/N: EXB1-UP; HJD1-UP; PYE1-UP; TYE1-UP; MGF1-UP; HNG1-UP; FEH1-UP; HSM1-UP; YHT1-UP; GAY1-UP)
395 (S/N: MZA1-UP)

Generator Set

3406E GEN SET (S/N: 9NN1-UP)
3456 GEN SET (S/N: DPG1-UP; 9BZ1-UP)
C15 GEN SET (S/N: AR21-UP; GB31-UP; T331-UP; CE51-UP; GG51-UP; LNA1-UP; LZA1-UP; T4A1-UP; ZKA1-UP; L8B1-UP; PEC1-UP; C5E1-UP; STG1-UP; C5H1-UP; LXJ1-UP; C5L1-UP; NKL1-UP; X5M1-UP; NAP1-UP; NSR1-UP; X4R1-UP; SNW1-UP; CYY1-UP)
C18 GEN SET (S/N: AN21-UP; AR31-UP; T341-UP; LNB1-UP; LZB1-UP; C6C1-UP; G4C1-UP; N1C1-UP; L8D1-UP; N1D1-UP; STD1-UP; DKE1-UP; PEE1-UP; PEJ1-UP; LXK1-UP; NKK1-UP; STM1-UP; DDS1-UP; EKW1-UP; NAW1-UP; M1Y1-UP; M1Z1-UP)
C18 LOCOMOTIVE (S/N: DCT1-UP)
C18 MARINE GS (S/N: GBM1-UP; CYN1-UP; GEN1-UP; MGS1-UP)
C9 GEN SET (S/N: C9E1-UP)

Hydraulic Shovel

6015 (S/N: DHB1-UP)
6015 FS (S/N: DHF1-UP)
6018 (S/N: DHT1-UP)
6018 FS (S/N: DHD1-UP)

Industrial Engine

C-15 IND (S/N: BEM1-UP)
C-16 IND (S/N: BFM1-UP)
C15 IND (S/N: JRE1-UP; MCW1-UP)
C15 INDUSTRIAL (S/N: JKG1-UP; JAS1-UP)
C18 INDUSTRIAL (S/N: JDA1-UP; MMB1-UP; NBB1-UP; WJB1-UP; WJH1-UP; WRH1-UP)

Landfill Compactor

826C (S/N: 87X1-UP)
826G Series II (S/N: AYH1-UP)
826H (S/N: AWF1-UP)
826K (S/N: 2321-UP; 2L31-UP; 2T61-UP; SET1-UP)
836G (S/N: BRL1-UP)
836H (S/N: BXD1-UP)

Load Haul Dump

R2900 (S/N: ZLK1-UP)
R2900G (S/N: GLK1-UP; JLK1-UP; NLK1-UP)
R3000H (S/N: RCM1-UP; RCY1-UP)

Locomotive

SD 50 (S/N: HJM1-UP)

Marine Engine

3406E MARINE (S/N: 9WR1-UP)
C15 MARINE (S/N: RLA1-UP)

**C18 MARINE (S/N: WKB1-UP; PLE1-UP; CKH1-UP; C1J1-UP; JHL1-UP; DTP1-UP; GES1-UP;
KJT1-UP; JKX1-UP; NAX1-UP; NAY1-UP)**

C18 MARINE ENG (S/N: J2K1-UP; T2P1-UP)

Material Handler

MH3295 (S/N: PA91-UP)

Mobile Hydraulic Power Unit

365C MHPU (S/N: GSZ1-UP)

374D MHPU (S/N: JNZ1-UP)

374F MHPU (S/N: DP41-UP; H251-UP)

385C MHPU (S/N: M4E1-UP; MSF1-UP; M3P1-UP; M3W1-UP; E1Y1-UP)

390D MHPU (S/N: M1M1-UP)

390F MHPU (S/N: B371-UP; H271-UP; GMR1-UP)

Motor Grader

24M (S/N: B931-UP; B9K1-UP)

OEM Excavator Based Specialty Solution

374F OEM (S/N: FH91-UP; P4L1-UP)

390F OEM (S/N: N641-UP; PT71-UP; P4J1-UP)

Off-Highway **Truck/Tractor**

770 (S/N: M7W1-UP; BZZ1-UP)

770G (S/N: KD21-UP; RMA1-UP; TWA1-UP; KDH1-UP; ECM1-UP; ECX1-UP)

772 (S/N: RLB1-UP; J2M1-UP)

772G (S/N: KE31-UP; RME1-UP; LTS1-UP; KEX1-UP; LTX1-UP)

773F (S/N: EED1-UP; EXD1-UP)

773GC (S/N: RJZ1-UP)

785D (S/N: DMC1-UP; MSY1-UP)

On-Highway Transmission

CX35 (S/N: JWH1-UP)

Petroleum Engine

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

C15 PET GS ENG (S/N: PET1-UP)

C15 PETROLEUM (S/N: JDK1-UP; JDY1-UP)

C18 PETROLEUM (S/N: MPE1-UP; WJW1-UP; WJY1-UP)

Petroleum Power Train Package

C15 KNOCKDOWN K (S/N: 1151-UP)

C15P (S/N: PGN1-UP)

C18 KNOCKDOWN K (S/N: 1881-UP)

CX31-P600-C15I (S/N: PDM1-UP)

CX31-P600-C18I (S/N: PDL1-UP)

CX35-P800-C18I (S/N: PCZ1-UP)

TH35-C15I (S/N: PBN1-UP)

TH35-C15T (S/N: PBL1-UP)

Pipelayer

583T (S/N: CMX1-UP)

587T (S/N: FAT1-UP)

PL72 (S/N: P731-UP)

PL83 (S/N: CB21-UP; KSD1-UP; DLW1-UP)

PL87 (S/N: TEC1-UP; ZAC1-UP; KKJ1-UP)

Power Train

C15 POWER TRAIN (S/N: BP21-UP; LM31-UP)

C18 POWER TRAIN (S/N: LKX1-UP)

Reclaimer Mixer

RM500B (S/N: MB91-UP; TAS1-UP)

RM600 (S/N: AB91-UP)

RM800 (S/N: RTJ1-UP)

Road Reclaimer/Soil Stabilizer

RM-500 (S/N: ASW1-UP)**Rotary Drill****MD6240 (S/N: SEL1-UP)****MD6290 (S/N: DR31-UP; DT81-UP)****Soil Compactor****825C (S/N: 86X1-UP)****825G Series II (S/N: AXB1-UP)****825H (S/N: AZW1-UP)****825K (S/N: 2331-UP; 2L91-UP; 2T91-UP; SEE1-UP)****Track-Type Tractor****D8R (S/N: JR81-UP; DWJ1-UP; 7XM1-UP)****D8T (S/N: AW41-UP; JJ51-UP; MB81-UP; J8B1-UP; FMC1-UP; MLN1-UP; FCT1-UP; JET1-UP; KPZ1-UP)****D9 (S/N: JC21-UP; J3D1-UP)****D9T (S/N: TWG1-UP; NJH1-UP; RJS1-UP)****Underground Articulated **Truck******AD30 (S/N: CXR1-UP; DXR1-UP; GXR1-UP)****AD45B (S/N: CXM1-UP; GXM1-UP)****AD55 (S/N: ANW1-UP; DNW1-UP)****Wheel Dozer****824C (S/N: 85X1-UP)****824G Series II (S/N: AWW1-UP)****824H (S/N: ASX1-UP)****824K (S/N: 2T21-UP; 2L41-UP; 2341-UP; RWB1-UP)****834G (S/N: BPC1-UP)****834H (S/N: BTX1-UP)****Wheel Loader****980G (S/N: 2KR1-UP; 2SR1-UP)****980H (S/N: PF81-UP; P8B1-UP; MHG1-UP; A8J1-UP; KZL1-UP; JMS1-UP)****980H Series 2 (S/N: MKP1-UP)****986H (S/N: 9861-UP; L8S1-UP)****986K (S/N: MH81-UP; NL81-UP; SWH1-UP)****988G (S/N: BNH1-UP)****988H (S/N: A7A1-UP; BXY1-UP)****Wheel Tractor-Scraper****621B (S/N: 2GB1-UP; 45P1-UP)****621E (S/N: 6AB1-UP)****621F (S/N: 4SK1-UP)****621G (S/N: DBB1-UP; DXB1-UP; MSE1-UP; KKK1-UP; NEL1-UP; KJW1-UP; DBX1-UP; MEX1-UP)****621H (S/N: DBK1-UP)****623B (S/N: 46P1-UP)****623E (S/N: 6CB1-UP; 6YF1-UP)****623F (S/N: 6BK1-UP; 5EW1-UP)****623G (S/N: DBC1-UP; DBY1-UP)****623H (S/N: DBF1-UP)****627E (S/N: 7CG1-UP)****627F (S/N: 1DL1-UP)****627G (S/N: DBD1-UP; DBZ1-UP)****627H (S/N: DBW1-UP)****631D (S/N: 24W1-UP)****631E (S/N: 1AB1-UP)****631E Series II (S/N: 1NB1-UP; 3ND1-UP)****631G (S/N: DFA1-UP; DXE1-UP; DEM1-UP; M1W1-UP)****631K (S/N: WT61-UP; WTW1-UP)**

633D (S/N: 25W1-UP)
633E Series II (S/N: 2PS1-UP)
637D (S/N: 26W1-UP; 27W1-UP; 71W1-UP)
637E (S/N: 1FB1-UP; 1JB1-UP)
637G (S/N: DFJ1-UP; DEX1-UP)
637K (S/N: WTX1-UP; WTY1-UP)
641B (S/N: 65K1-UP)
650B (S/N: 58K1-UP)
651B (S/N: 67K1-UP)
657 (S/N: WSJ1-UP)
657B (S/N: 53K1-UP; 68K1-UP; 47M1-UP)
657E (S/N: 6MB1-UP; 5YR1-UP; 6PR1-UP; 6TR1-UP; 7KR1-UP; 86Z1-UP; 87Z1-UP; 90Z1-UP; 91Z1-UP)
657G (S/N: W1B1-UP; W1C1-UP; W1E1-UP; W1F1-UP; A4G1-UP; DXG1-UP; GER1-UP; GRS1-UP)
666B (S/N: 66K1-UP)

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

Incorrect gear placement on the shaft may lead to excessive axial end play resulting in leaks.

Solution



Do not operate or work on this product unless you have read and understood the instruction and warnings in the relevant Operation and Maintenance Manuals and relevant service literature. Failure to follow the instructions or heed the warnings could result in injury or death. Proper care is your responsibility.

Following the procedure below to inspect the water pump end play.



Illustration 1

g06515042

1. Inspect the area shown in Illustration 1 where the gear was installed on the shaft.

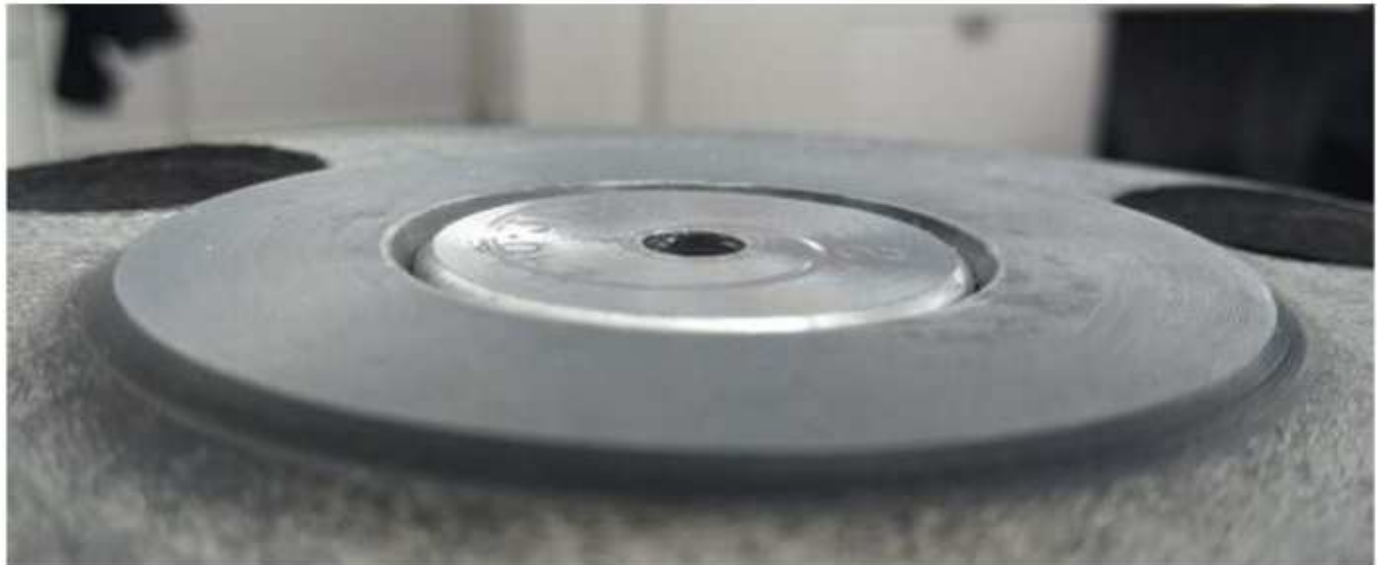


Illustration 2

g06515045

2. If the gear and shaft are flush as shown in Illustration 2, the water pump is acceptable for use.



Illustration 3

g06515047

3. If the shaft for the water pump is recessed more than 1 mm (0.04 inch) as shown above, test the movement of the gear and shaft.



Illustration 4

g06515050

4. Stand up the water pump. Pull on the gear while pressing the housing as shown in Illustration 4. If there is greater than 1 mm (0.04 inch) of movement the part is not acceptable for use.



Illustration 5

g06515054

5. All suspected reman water pumps in Caterpillar parts inventory are being inspected and reworked if necessary. Parts that are inspected and found to be acceptable will be marked with a label as shown above or similar markings.