331
331E
334

Bobcat®

Service Manual

331 - S/N AACS11001 & Above
S/N A9K511001 & Above
331E - S/N A9K911001 & Above
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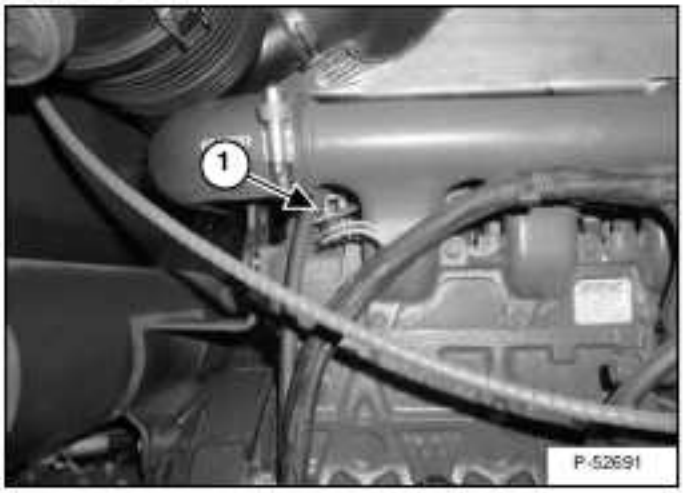
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Glow Plugs Removal And Installation

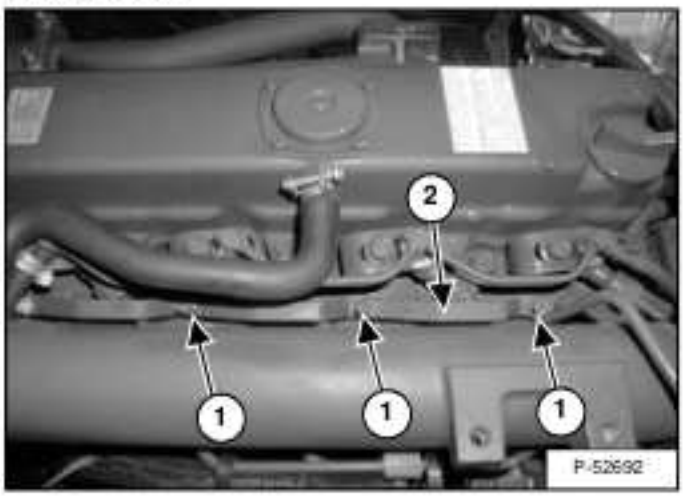
Disconnect the negative (-) cable from the battery.

Figure 60-50-2



Remove the nut and wire harness (Item 1) **[Figure 60-50-2]**.

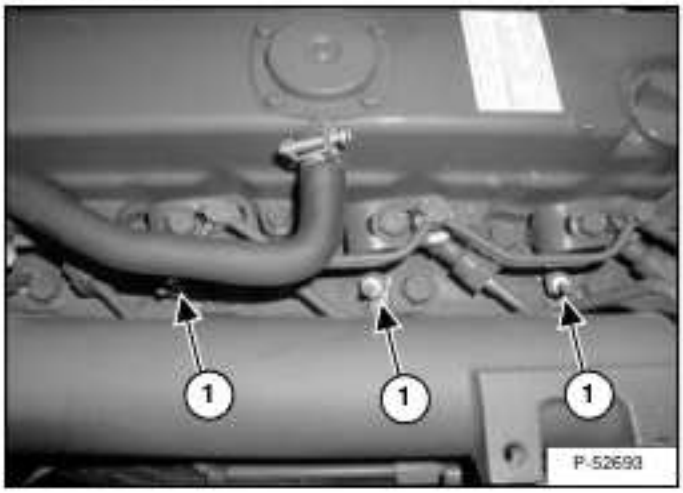
Figure 60-50-3



Remove the nuts (Item 1) **[Figure 60-50-3]** from the three remaining glow plugs.

Remove the connecting strap (Item 2) **[Figure 60-50-3]** from the glow plugs.

Figure 60-50-4



Remove the four glow plugs (Item 1) **[Figure 60-50-4]**.

Installation: Tighten the glow plugs to 11 - 15 ft.-lb. (15 - 20 N•m) torque.

Checking The Glow Plug

Disconnect the glow plug wire harness and connecting strap.

Figure 60-50-5



Use an ohmmeter to check the glow plugs **[Figure 60-50-5]**.

Touch one probe to the end of the glow plug and the other probe to the body of the glow plug.

The reading should be approximately 1.0 ohm. If the resistance is infinite, the coil of the glow plug is broken. If the resistance is 0 the glow plug is short circuited.

Repeat the procedure for each glow plug.

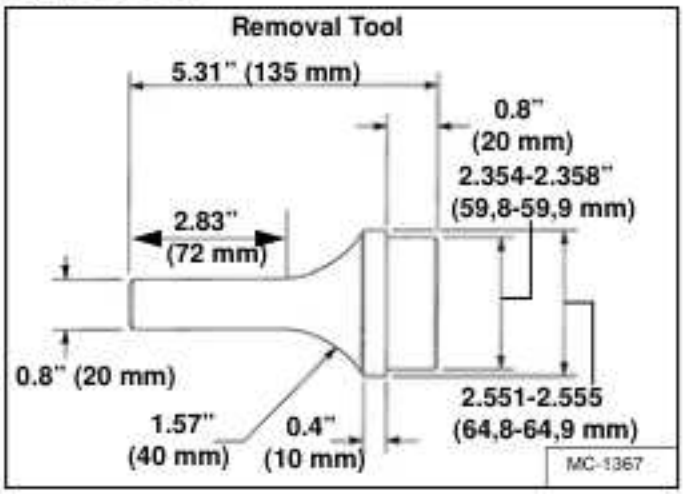
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Crankshaft And Bearings Servicing (Cont'd)

If the clearance exceeds the allowable limit, replace the crankshaft bearing.

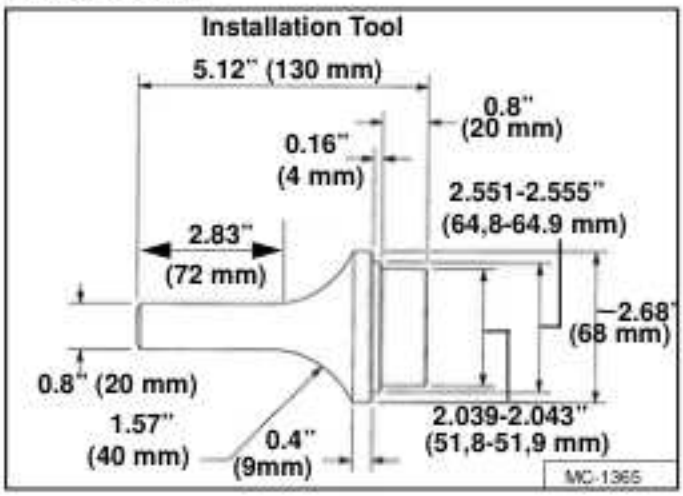
Bearing I.D.	2.0465 - 2.0488 in. (51,98 - 52,04 mm)
Crankshaft Journal O.D.	2.3591 - 2.3598 in. (59,921 - 59,940 mm)
Oil Clearance	0.0016 - 0.0041 in. (0.04 - 0.104 mm)
Allowable Limit	0.008 in. (0.2 mm)

Figure 60-80-90



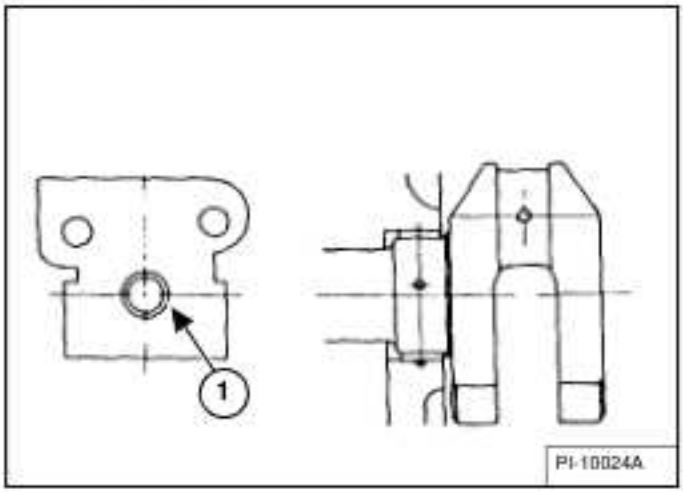
To remove the front bearing make the tool as shown in **[Figure 60-80-90]**.

Figure 60-80-91



To install the front bearing make the tool as shown in **[Figure 60-80-91]**.

Figure 60-80-92



Remove the front bearing with the special removal tool **[Figure 60-80-92]**.

Installation: Clean the new bearing and bore, apply oil to the bearing and bore. Install the new bearing with the seam (Item 1) **[Figure 60-80-92]** towards the exhaust manifold side, using the installation driver tool.

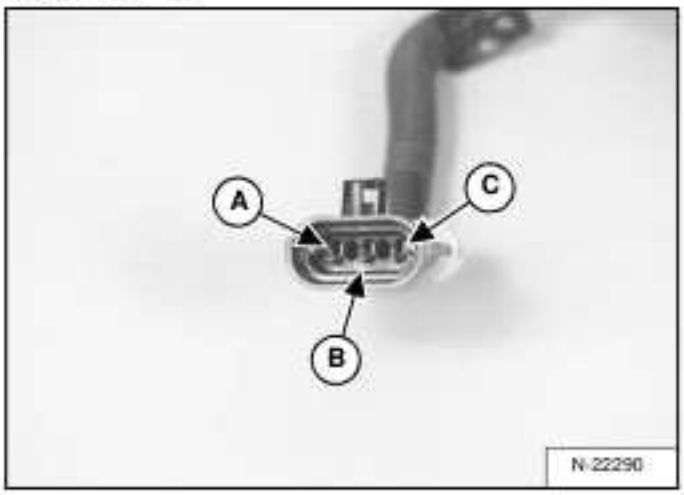
Clean the crankshaft journal and bearing. Put a strip of press gauge on the center journal.Install the main bearing case halves and tighten the bolts. Remove the bearing case halves.

NOTE: DO NOT turn the crankshaft with the press gauge installed. Incorrect measurements will be obtained.

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Checking The Electrical System (Cont'd)

Figure 70-80-36

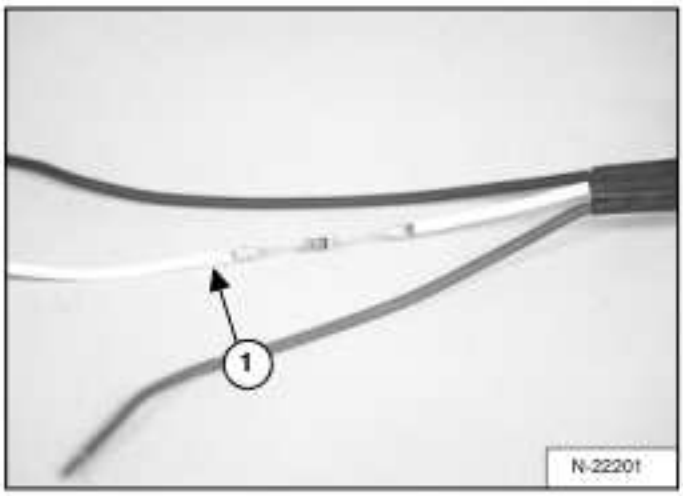


If there is voltage at the wiring harness, check the potentiometer **[Figure 70-80-36]** for resistance.

The resistance should be 10K Ohm's between wire terminal **A** and wire terminal **C** frame **[Figure 70-80-36]**.

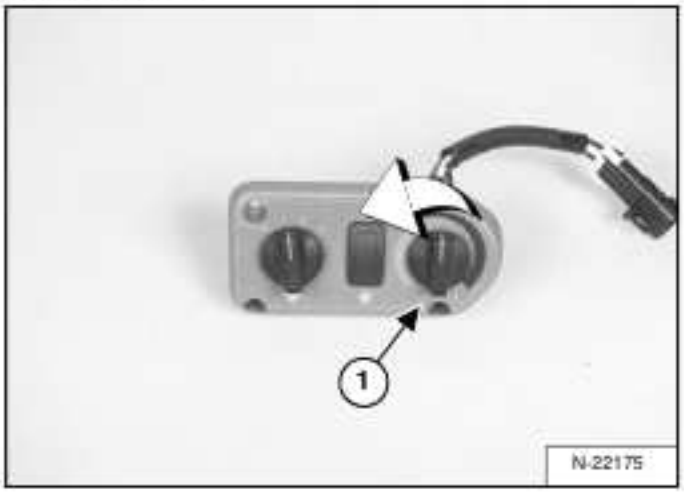
If no resistance is found replace the potentiometer.

Figure 70-80-37



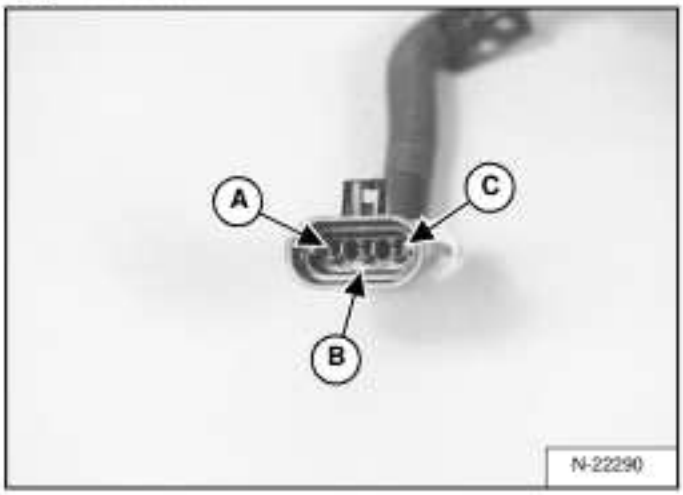
The white wire **B**, (Item 1) **[Figure 70-80-37]**, on the potentiometer, is a resister wire.

Figure 70-80-38



To check the resistance of the white wire, turn the potentiometer control (Item 1) **[Figure 70-80-38]** to the full A/C position.

Figure 70-80-39



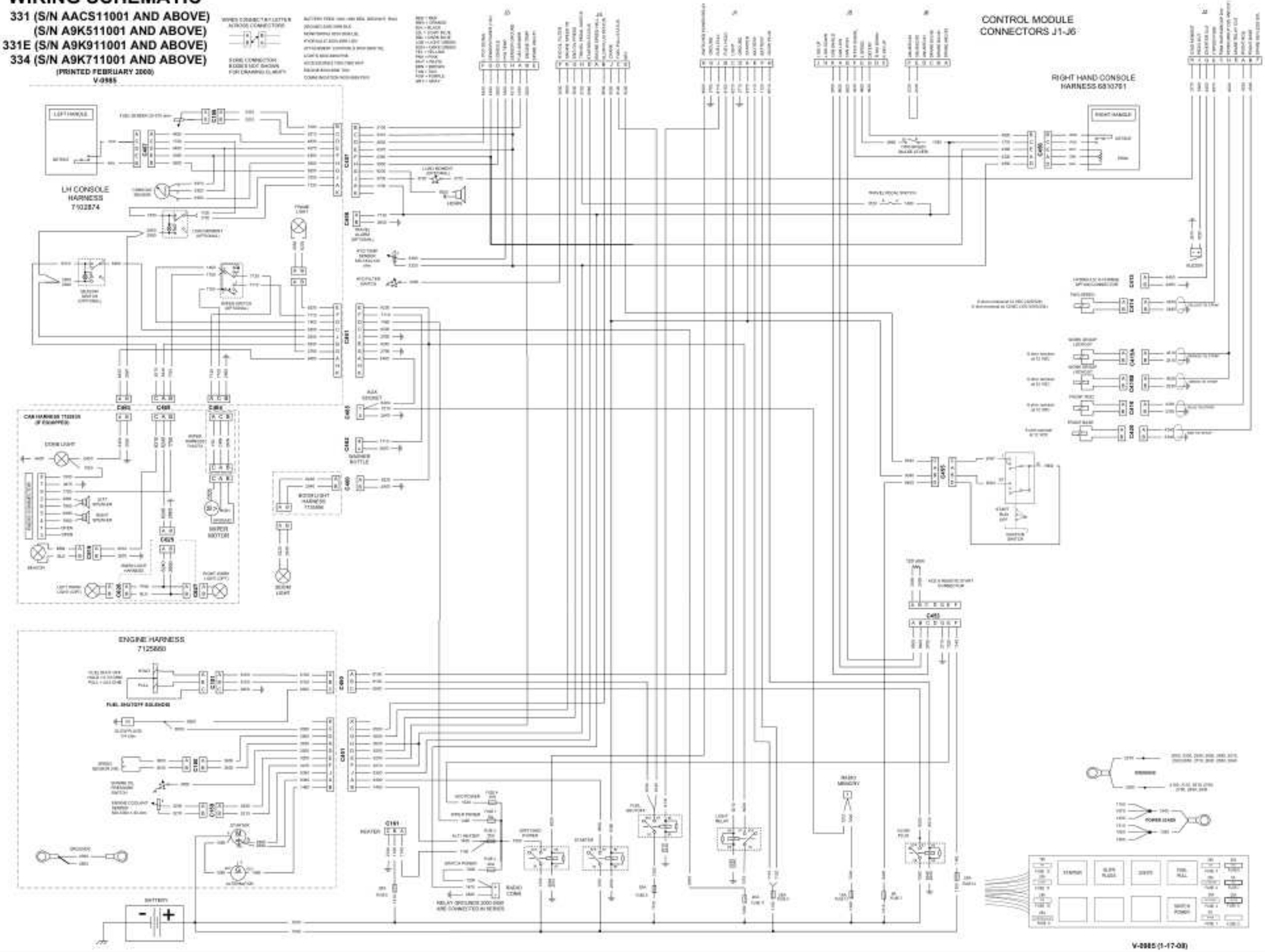
The resistance between the wire terminal **A** and wire terminal **B** frame **[Figure 70-80-39]** should be approximately 49K Ohm's.

Check the resistance between the wire terminal **C** and wire terminal **B** frame **[Figure 70-80-39]** should be approximately 39K Ohm's.

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WIRING SCHEMATIC

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