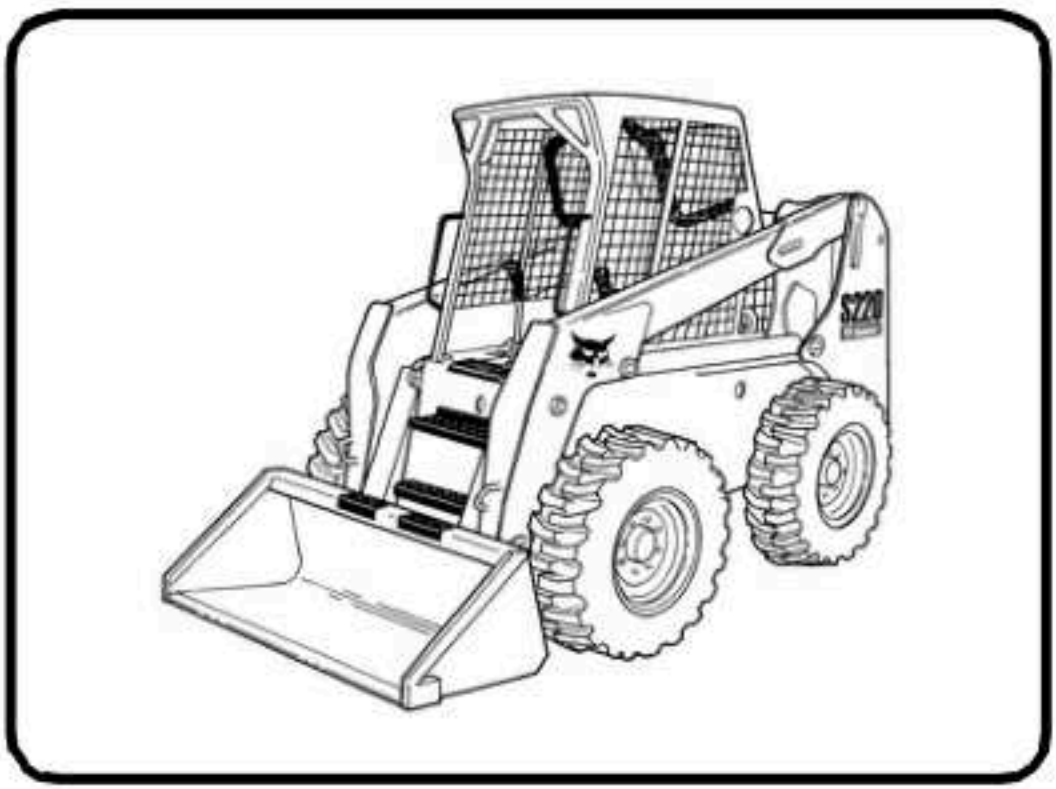
Bobcat®

Service Manual
S220 Skid-Steer Loader

S/N A5GK20001 & Above
S/N A5GL20001 & Above



EQUIPPED WITH
BOBCAT INTERLOCK
CONTROL SYSTEM (BICS™)

6987038 (7-08)

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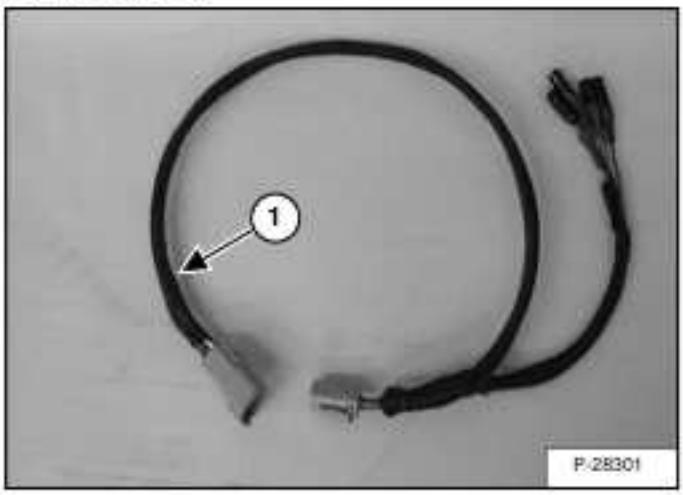
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Joystick Testing

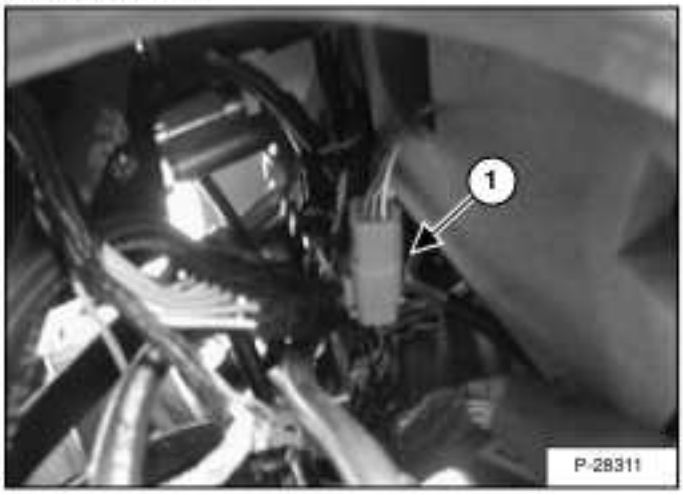
Figure 50-112-1



The tools listed will be needed to do the following procedure:

MEL1608-Joystick Test Harness **[Figure 50-112-1]**
MEL1563 or 6689779-Remote Start Tool
Multimeter

Figure 50-112-2



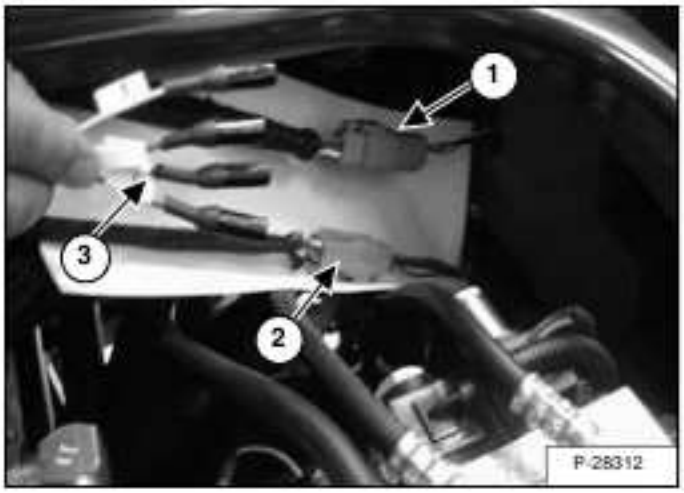
Raise the lift arms and install an approved lift arm support device. (See Installing on Page 10-20-1.)

Raise the operator cab. (See Raising on Page 10-30-2.)

Connect the remote start tool to the loader. (See REMOTE START TOOL KIT-MEL1563 on Page 10-60-1.)

At the back side of the control panel, locate the left joystick wire connector (Item 1) **[Figure 50-112-2]**.

Figure 50-112-3



Disconnect the joystick harness connector (Item 1) from the loader wiring harness (Item 2) **[Figure 50-112-3]**.

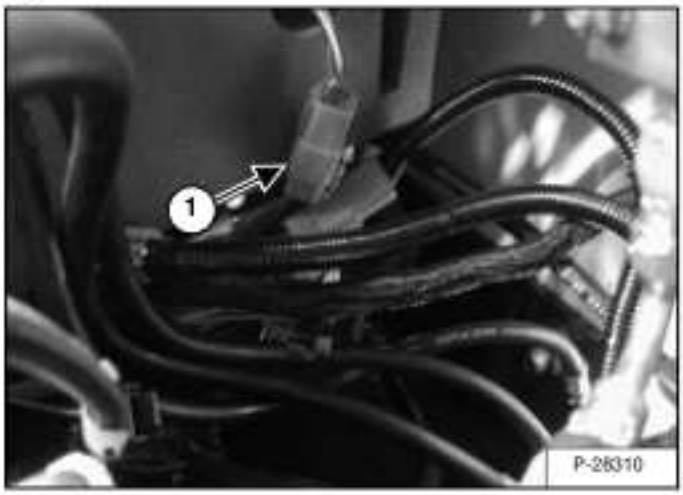
Install the test harness (Item 3) **[Figure 50-112-3]** between the two connectors.

Turn the remote start key to ON position without starting the loader.

Check the voltage between pin 3 and pin 5 on the joystick test harness (Item 3) **[Figure 50-112-3]**.

The voltage should be between 2.45 and 2.55 volts.

Figure 50-112-4

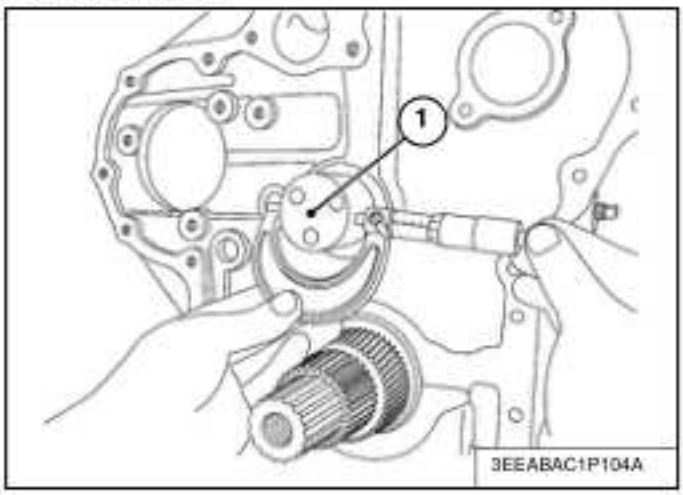


Repeat the procedure at the right joystick wiring harness connector (Item 1) **[Figure 50-112-4]**. (If needed.)

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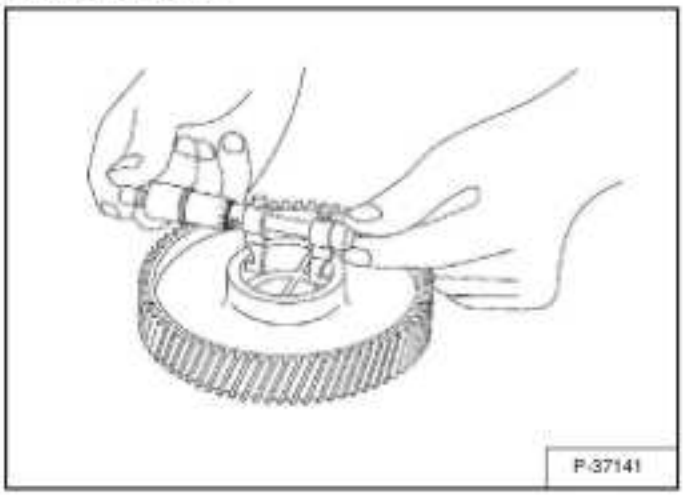
Idler Gear And Shaft - Servicing (Cont'd)

Figure 70-100-15



Measure the idle gear shaft O.D. with an outside micrometer **[Figure 70-100-15]**.

Figure 70-100-16



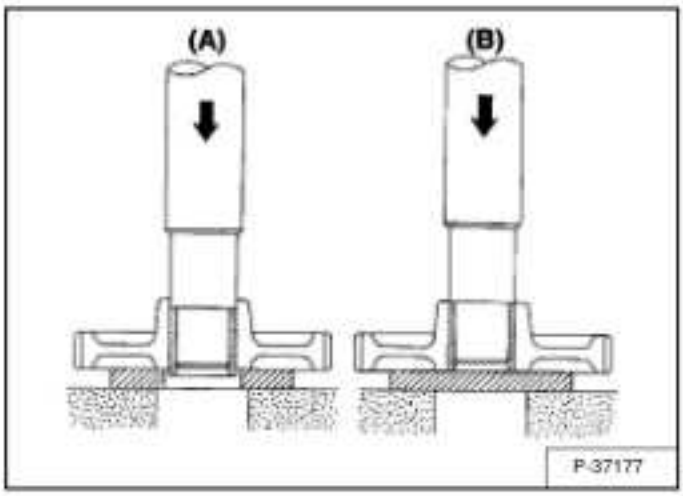
Measure the idle gear bushings I.D. with an inside micrometer, and calculate the oil clearance **[Figure 70-100-16]**.

If the oil clearance exceeds the allowable limit, replace the bushing.

Clearance between idle gear shaft and idle gear bushing	Factory spec.	0.0020 - 0.0036 in. (0,050 - 0,091 mm)
	Allowable limit	0.0039 in. (0,10 mm)

Idle gear bushing I.D.	Factory spec.	1.7726 - 1.7736 in. (45,025 - 45,050 mm)
Idle gear shaft O.D.	Factory spec.	1.7700 - 1.7707 in. (44,959 - 44,945 mm)

Figure 70-100-17



Using an idle gear bushing replacing tool, press out the used bushing.

Clean a new idle gear bushing and idle gear bore, and apply engine oil to them.

Using an idle gear bushing replacing tool, press in a new bushing to the specified dimension **[Figure 70-100-17]**.

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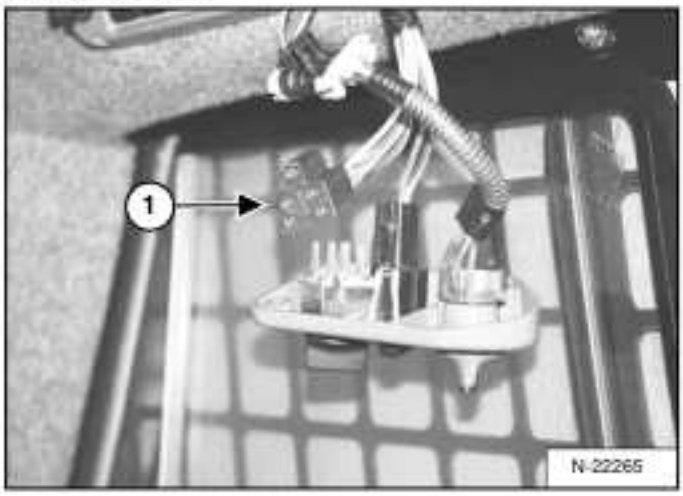
Electrical System (Cont'd)

Figure 80-30-18



Remove the control panel and wiring harness from the cab **[Figure 80-30-18]**.

Figure 80-30-19

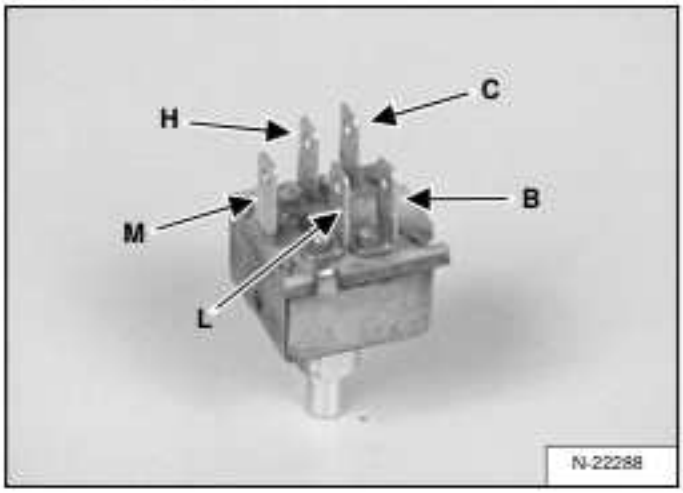


Disconnect the loader wiring harness (Item 1) **[Figure 80-30-19]** from the blower switch.

Check the loader harness for voltage. The voltage should be 12 volts.

If there is no voltage at the wiring harness, check the harness for broken wires.

Figure 80-30-20



If there is voltage at the wiring harness, check the blower switch **[Figure 80-30-20]** for resistance.

With the switch in the **OFF** position, there should be zero resistance between all terminals.

With the switch in the **1** position, there should be resistance between **C** terminal and the **B** terminal. And also between the **C** terminal and the **L** terminal frame **[Figure 80-30-20]**.

With the switch in the **2** position, there should be resistance between **C** terminal and the **B** terminal. And also between the **C** terminal and the M terminal frame **[Figure 80-30-20]**.

With the switch in the **3** position, there should be resistance between **C** terminal and the **B** terminal. And also between the **C** terminal and the **H** terminal frame **[Figure 80-30-20]**.

If any of the above resistance tests fail, replace the blower switch.

If the above resistance tests are good, check the A/C switch.

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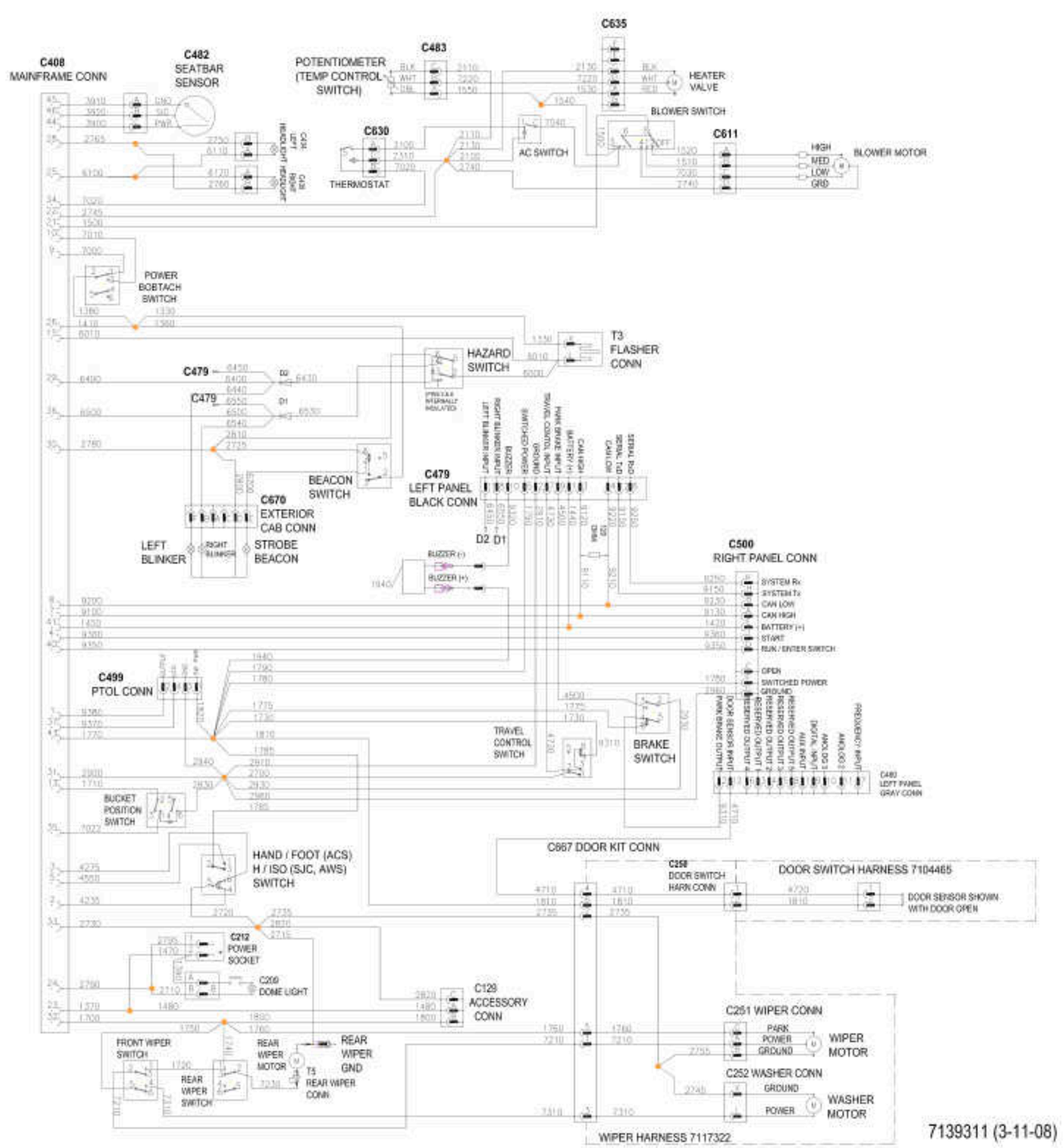
WIRING SCHEMATIC
(DELUXE CAB)
S220 (S/N A5GK20001 AND ABOVE)
(S/N A5GL20001 AND ABOVE)

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