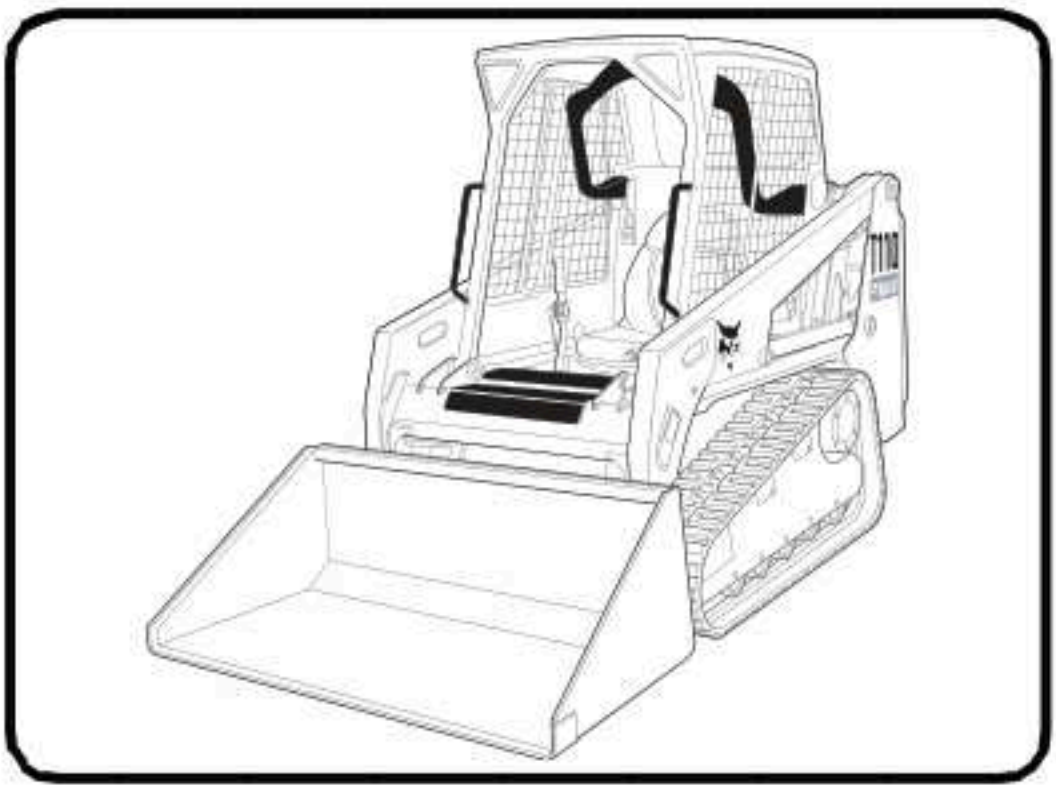
Bobcat®

Service Manual
T110 Compact Track Loader

S/N AE0H11001 & Above
S/N AE0J11001 & Above



EQUIPPED WITH
BOBCAT INTERLOCK
CONTROL SYSTEM (BICS™)

6904979 (7-10)

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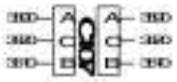
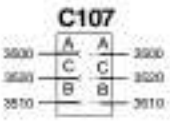
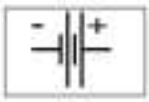
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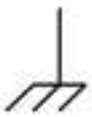
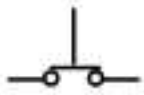
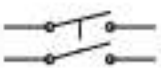
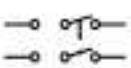
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Glossary Of Electrical Symbols

SYMBOL	DESCRIPTION
	CONNECTIONS
 	CONNECTOR - Harness - Used for connecting two harnesses together or a harness to a component. The connector can vary from a single pin to any number of pins (Example: three pin connectors shown). The connector pins can be numbered alphabetical (shown) or numerical (1, 2, 3 etc.). The harness wires numbers are called out next to the connector (Example: 3500). The connector number is called out next to the connector (Example: C107). These connector numbers are used for schematic identification only and do not appear on the harness or connector.
	COMPONENTS
	BATTERY - Used for supplying and storing electrical power for the machine.
+	POSITIVE ELECTRICAL CIRCUIT - Indicates positive battery circuit.
-	NEGATIVE ELECTRICAL CIRCUIT - Indicates battery ground circuit.
G	ALTERNATOR - Used to create the electrical current to supply voltage to the battery and components.
	STARTER - Uses battery current to start the machine engine.
	GROUND - Used to represent an external ground connection.

SYMBOL	DESCRIPTION
	COMPONENTS
	GROUND - Frame - Used to represent an component that is internally grounded.
	LIGHT -
 	SWITCH - Single Pole - Single Throw (ON-OFF) Normally Open
 	SWITCH - Single Pole - Single Throw (ON-OFF) Normally Closed.
	SWITCH - Single Pole - Double Throw (ON-OFF-ON) - This switch can be in any of three positions. (Some switches are spring activated to return them to a certain position when released.)
	SWITCH - Double Pole - Single Throw (ON-OFF) Open and Closed positions will be specified depending on switch application.)
	SWITCH - Double Pole - Double Throw (ON-OFF) Open and Closed positions will be specified depending on switch application.
	POTENTIOMETER - Variable resistance - Provides variable resistance.

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Specifications (Cont'd)

All dimensions are given in inches. Respective metric dimensions are given in millimeters enclosed by parentheses.

Crankshaft

Crankshaft Alignment Allowable Limit	0.00079 (0,02)
Crankshaft Journal to Bearing 1 Oil Clearance	0.00157 - 0.00465 (0,04 - 0,118)
Allowable Limit	0.0079 (0,2)
Crankshaft Journal 1 O.D.	2.35909 - 2.35984 (59,921 - 59,940)
Crankshaft Bearing 1 I.D.	2.36142 - 2.36374 (59,980 - 60,039)
Crankshaft Journal to Bearing 2 Oil Clearance	0.00157 - 0.00409 (0,04 - 0,104)
Allowable Limit	0.0079 (0,2)
Crankshaft Journal 2 O.D.	2.35909 - 2.35984 (59,921 - 59,940)
Crankshaft Bearing 2 I.D.	2.36142 - 2.36318 (59,98 - 60,025)
Oil Clearance Between Crank Pin & Bearing	0.0010 - 0.0034 (0,025 - 0,087)
Allowable Limit	0.0079 (0,2)
Crank Pin O.D.	1.84878 - 1.84941 (46,959 - 46,975)
Crank Pin Bearing I.D.	1.85039 - 1.85220 (47,0 - 47,046)
Crankshaft Side Clearance	0.0059 - 0.0138 (0,15 - 0,35)
Allowable Limit	0.0197 (0,5)
Crankshaft Sleeve Wear Allowable Limit	0.0039 (0,1)

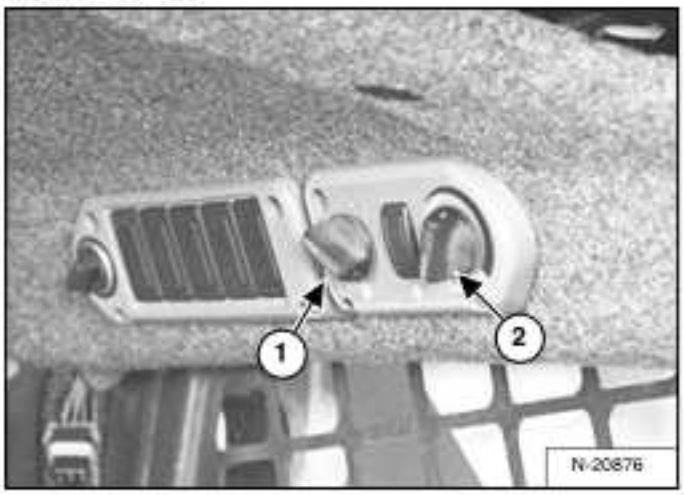
Balancer Shaft

Balancer Shaft Side Clearance	0.0028 - 0.0087 (0,07 - 0,22)
Allowable Limit	0.0118 (0,3)
Balancer Shaft Journal 1 to Balancer Shaft Bearing 1 Clearance	0.00118 - 0.00437 (0,030 - 0,111)
Allowable Limit	0.0079 (0,2)
Balancer Shaft Journal 1 O.D.	1.72968 - 7.73031 (43,934 - 43,950)
Balancer Shaft Bearing 1 I.D.	1.73149 - 1.73405 (43,980 - 44,045)
Balancer Shaft Journal 2 to Balancer Shaft Bearing 2 Clearance	0.00118 - 0.00437 (0,030 - 0,111)
Allowable Limit	0.0079 (0,2)
Balancer Shaft Journal 2 O.D.	1.65094 - 1.65157 (41,934 - 41,950)
Balancer Shaft Bearing 2 I.D.	1.65275 - 1.65531 (41,980 - 42,045)
Balancer Shaft Journal 3 to Balancer Shaft Bearing 3 Clearance	0.00079 - 0.00370 (0,020 - 0,094)
Allowable Limit	0.0079 (0,2)
Balancer Shaft Journal 3 O.D.	0.86405 - 0.86456 (21,947 - 21,960)
Balancer Shaft Bearing 3 I.D.	0.86535 - 0.86775 (21,980 - 22,041)

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Heater Valve Not Opening Or Closing

Figure 80-30-18



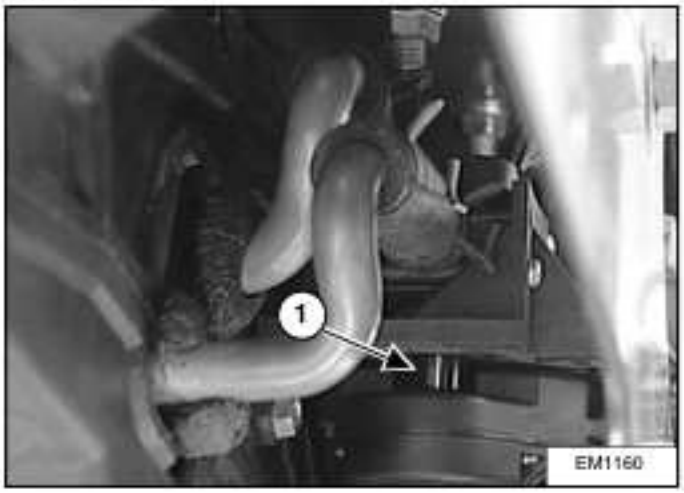
Raise the lift arms and install an approved lift arm support device. (See Installing on Page 10-20-1.)

Turn the fan switch (Item 1) to position **1**. Turn the temperature control (Item 2) **[Figure 80-30-18]** to the High cold position, with the loader ignition switch OFF.

Raise the operator cab. (See Raising on Page 10-30-1.)

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

Figure 80-30-19



Place the remote start tool on the left fender of the loader, so the heater valve can be clearly seen. Watch the valve shaft (Item 1) **[Figure 80-30-19]**, as the key switch of the remote start tool is turned to the ON position without starting the loader. The heater valve should rotate. Place a mark on the heater valve shaft.

Turn the key switch of the remote start tool to the OFF position and remove the remote start tool from fender.

Lower operator cab.

Turn the temperature control (Item 2) **[Figure 80-30-18]** to the High Heater position, with the loader ignition switch OFF.

Raise the operator cab. (See Raising on Page 10-30-1.)

Place the remote start tool on the left fender of the loader, so the heater valve can be clearly seen. Watch the valve shaft (Item 1) **[Figure 80-30-19]**, as the key switch of the remote start is turned to the ON position without starting the loader. The heater valve should rotate.

If it does not rotate, check the potentiometer for proper function. (See Electrical System on Page 80-30-2.)

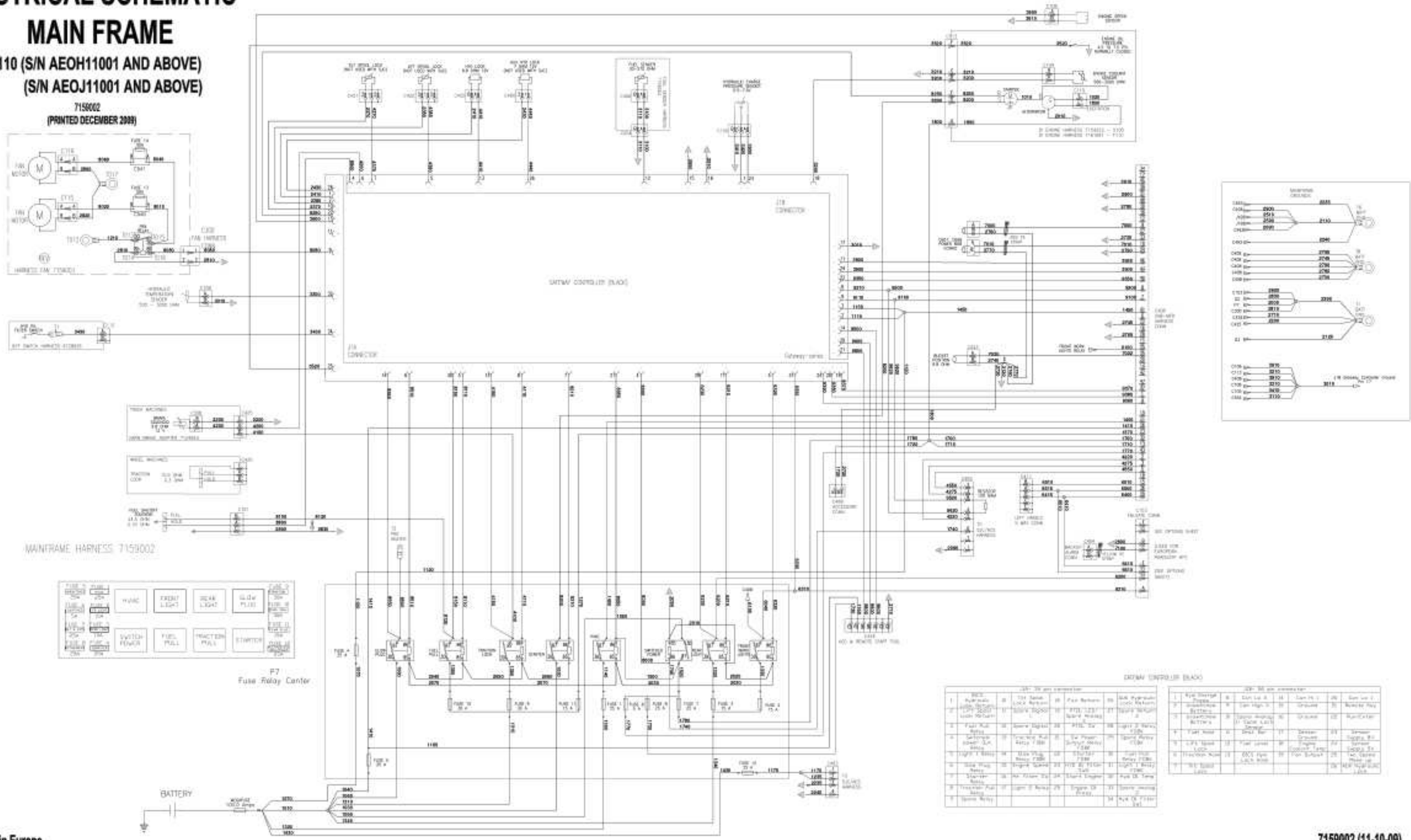
Replace the heater valve.

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ELECTRICAL SCHEMATIC
MAIN FRAME

T110 (S/N AEOH11001 AND ABOVE)
(S/N AEOJ11001 AND ABOVE)

7159002
(PRINTED DECEMBER 2009)



Printed in Europe

7159002 (11-10-09)

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