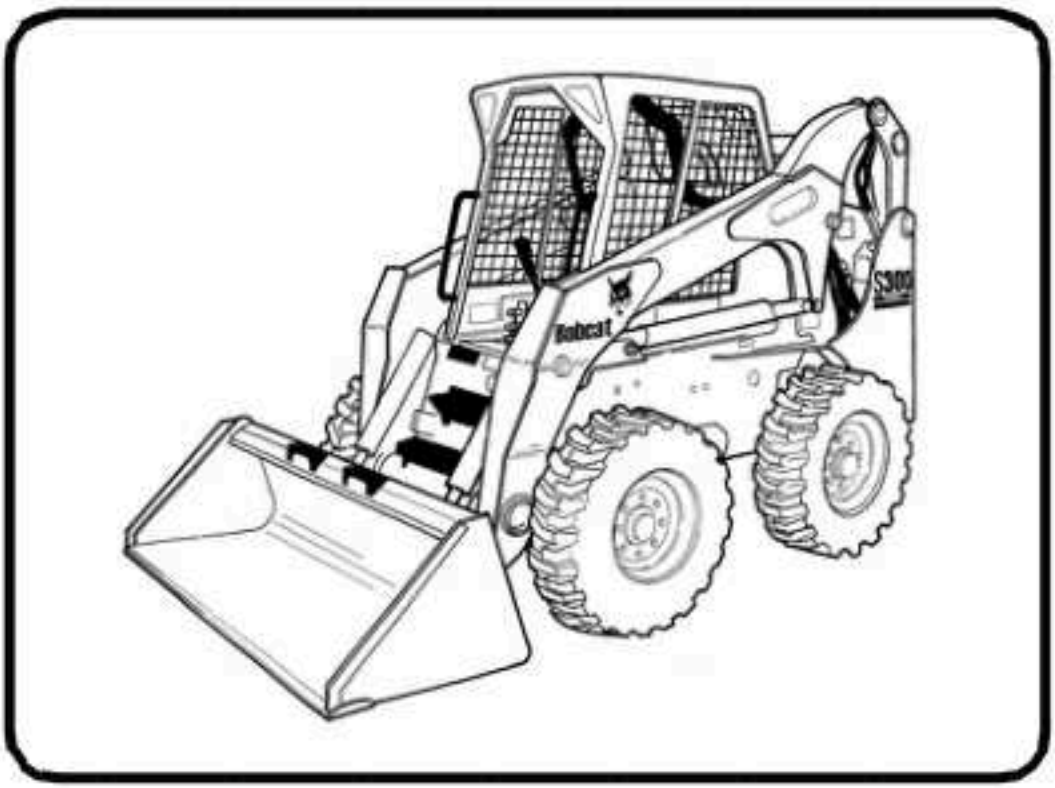
Bobcat®

Service Manual

S250, S300 Skid-Steer Loader

S/N A5GM20001 & Above
S/N A5GN20001 & Above
S/N A5GP20001 & Above
S/N A5GR20001 & Above



EQUIPPED WITH
BOBCAT INTERLOCK
CONTROL SYSTEM (BICS™)

6987039 (2-11)

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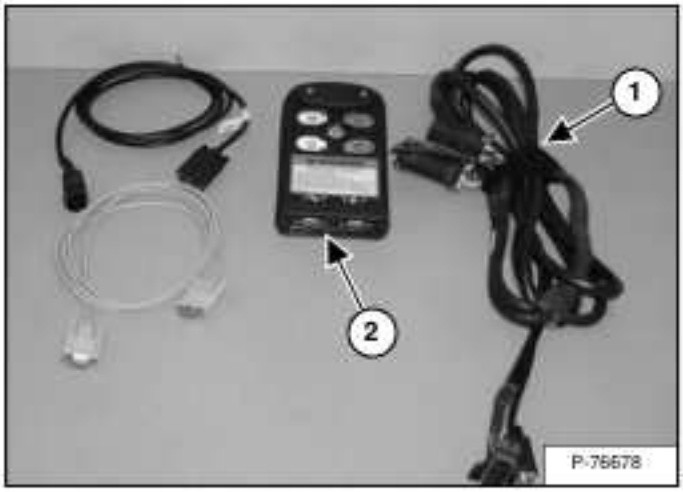
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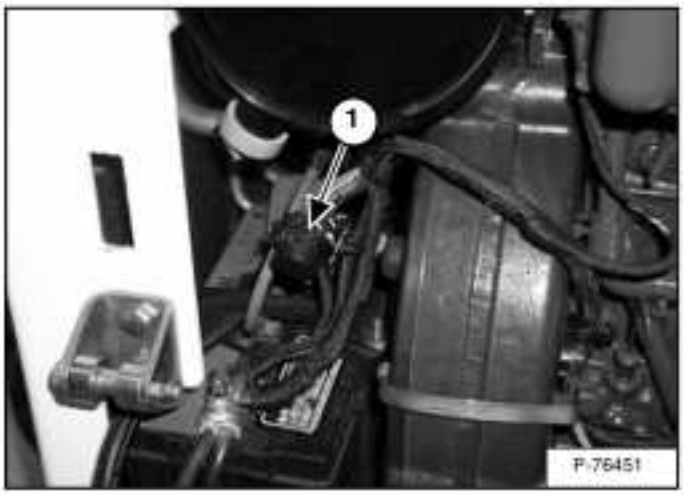
Loader Service Tool Harness - 6689747

Figure 10-61-3



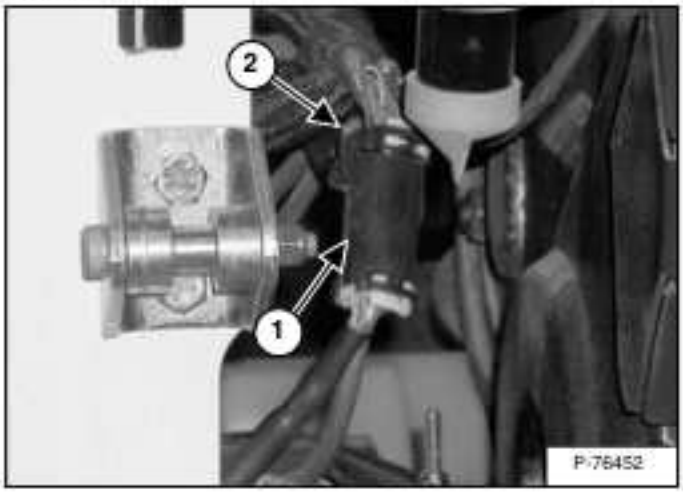
The loader service tool harness (Item 1) **[Figure 10-61-3]** is used to connect the remote start tool (service tool) (Item 2) **[Figure 10-61-3]** to the electrical system on the loader.

Figure 10-61-4



Loaders without an attachment control harness, remove the loader harness cap (Item 1) **[Figure 10-61-4]** and connect the Loader Service Tool Harness from the Remote Start Tool (Service Tool).

Figure 10-61-5



Loaders with an attachment control harness (7 pin or 14 pin), the attachment harness (Item 1) must be disconnected from the loader harness (Item 2) **[Figure 10-61-5]**.

When the remote start procedure is completed, replace the loader connector cap (Item 1) **[Figure 10-61-4]** or reconnect the attachment control harness to the loader harness **[Figure 10-61-5]**.

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Specifications (Cont'd)

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

Timing Gear

Timing Gear Backlash	
Crank Gear - Idler Gear	0,049 - 0,193 mm (0.00193 - 0.00759 in)
Allowable Limit	0,22 mm (0.0087 in)
Idler Gear - Cam Gear	0,049 - 0,189 mm (0.00193 - 0.00744 in)
Allowable Limit	0,22 mm (0.0087 in)
Idle Gear - Injection Pump Gear	0,0300 - 0,165 mm (0.00119 - 0.00649 in)
Allowable Limit	0,22 mm (0.0087 in)
Clearance Between Idle Gear Shaft And Idle Gear Bushing	0.050 - 0.091 mm (0.0020 - 0.0035 in)
Allowable Limit	0,10 mm (0.0039 in)
Idle Gear Bushing I.D.	45,025 - 45,050 mm (1.7727 - 1.7736 in)
Idle Gear Shaft O.D.	44,959 - 44,975 mm (1.7701 - 1.7706 in)
Idle Gear Side Clearance	0,15 - 0,30 mm (0.0059 - 0.011 in)
Allowable Limit	0,9 mm (0.04 in)

Cylinder Head

Cylinder Head Surface Flatness - Allowable Limit	0,05 mm (0.002 in)
Compression Pressure	2475 kPa / 250 rpm (34,7 bar / 250 rpm) (504 psi / 250 rpm)
Compression Pressure - Allowable Limit	2558 kPa / 250 rpm (25,6 bar / 250 rpm) (371 psi / 250 rpm)
Compression Ratio	19.0
Variance Among Cylinder - Allowable Limit	10% or less
Firing Order	1-3-4-2

Piston And Piston Ring

Piston Pin Bore I.D.	30,000 - 30,013 mm (1.1811 - 1.1816 in)
Allowable Limit	30,05 mm (1.183 in)
Clearance Between Compression Ring 1 & Ring Groove	0,05 - 0,09 mm (0.002 - 0.003 in)
Allowable Limit	0,15 mm (0.0059 in)
Clearance Between Compression Ring 2 & Ring Groove	0,0930 - 0,120 mm (0.00367 - 0.00472 in)
Allowable Limit	0,20 mm (0.0079 in)
Clearance Between Oil Ring And Ring Groove	0,020 - 0,060 mm (0.0008 - 0.0023 in)
Allowable Limit	0,15 mm (0.0059 in)
Ring Gap	
Compression Ring 1	0,30 - 0,45 mm (0.012 - 0.017 in)
Allowable Limit	1,25 mm (0.0492 in)
Compression Ring 2	0,30 - 0,45 mm (0.012 - 0.017 in)
Allowable Limit	1,25 mm (0.0492 in)
Oil Ring	0,25 - 0,45 mm (0.0099 - 0.017 in)
Allowable Limit	1,25 mm (0.0492 in)

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Gauge Pressure Related Troubleshooting (Cont'd)

Possible Cause	Inspection	Solution
High pressure side Too low.		
1. Low refrigerant charge.	The high side pressure will be low and bubbles may be present in sight glass on receive drier.	Repair any leaks and recharge the refrigerant to the correct level.
System pressures Equal		
1. Clutch not operating.	See magnetic clutch related topics above.	
2. Compressor not pumping.	Equal high and low pressures.	Replace compressor.

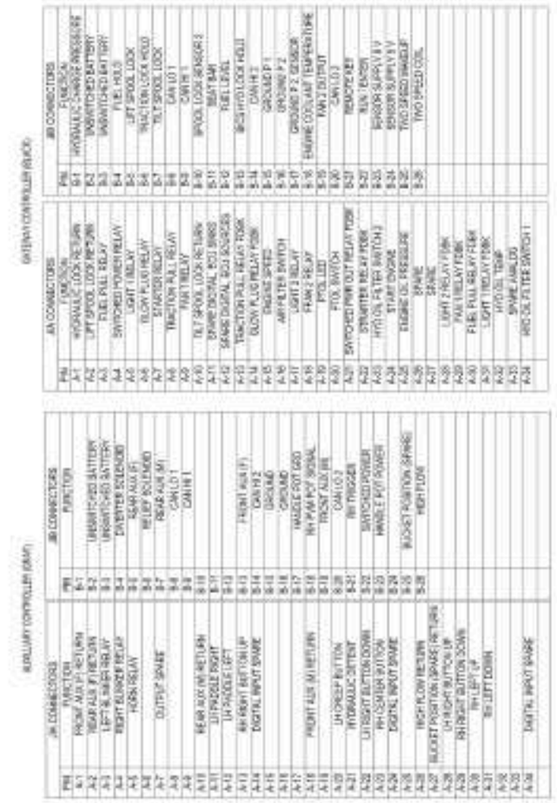
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WIRING SCHEMATIC
(MAINFRAME)
S250 (S/N A5GM20001 AND ABOVE)
(S/N A5GN20001 AND ABOVE)
S300 (S/N A5GP20001 AND ABOVE)
(S/N A5GR20001 AND ABOVE)

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