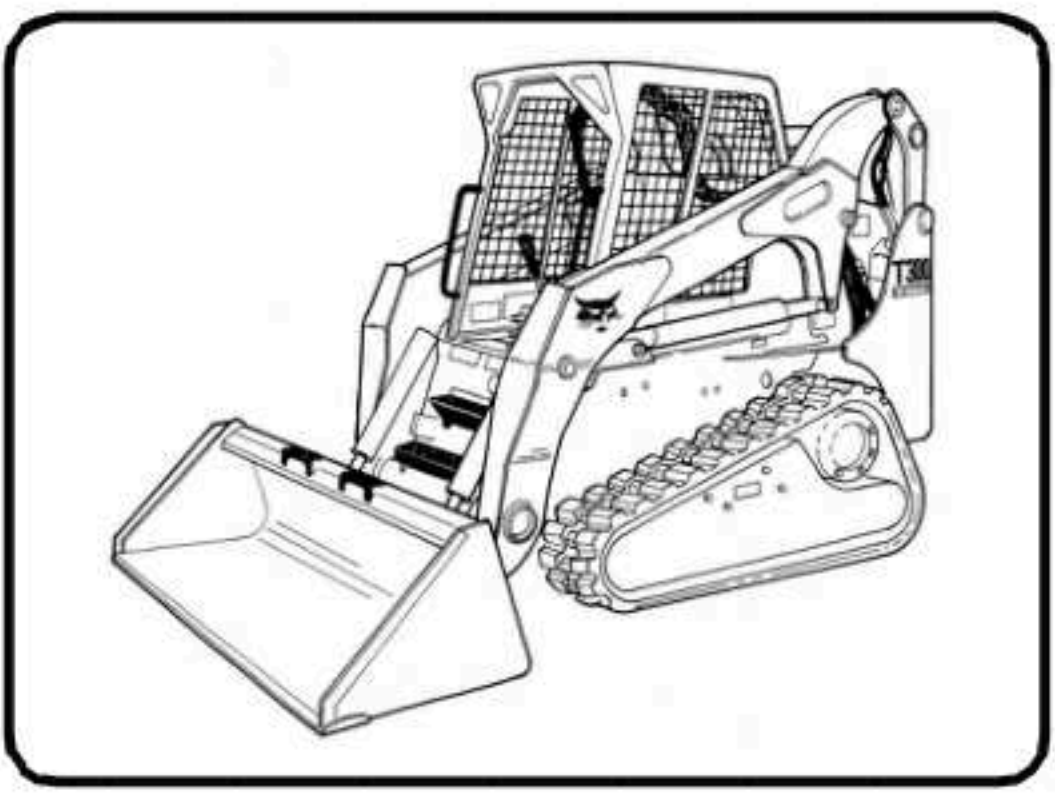
Bobcat®

Service Manual
T300 Compact Track Loader

S/N A5GU20001 & Above
S/N A5GV20001 & Above



EQUIPPED WITH BOBCAT INTERLOCK CONTROL SYSTEM (BICS™)

6987045 (2-11)

Printed in U.S.A.

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ACS- ADVANCED CONTROL SYSTEM
AHC- ADVANCED HAND CONTROL SYSTEM
BICS™-BOBCAT INTERLOCK CONTROL SYSTEM

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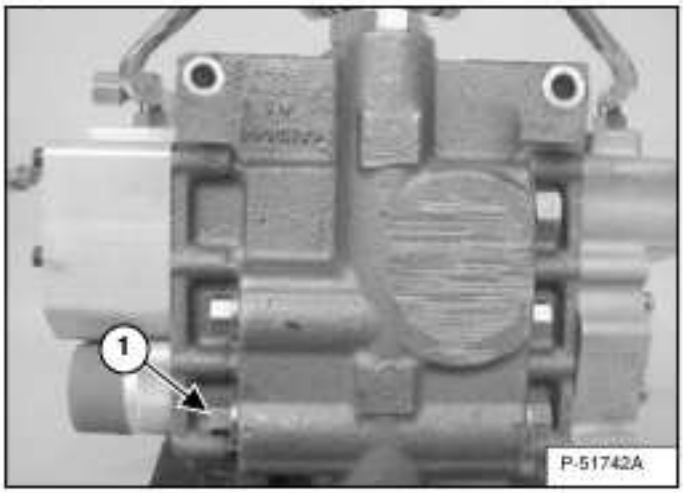
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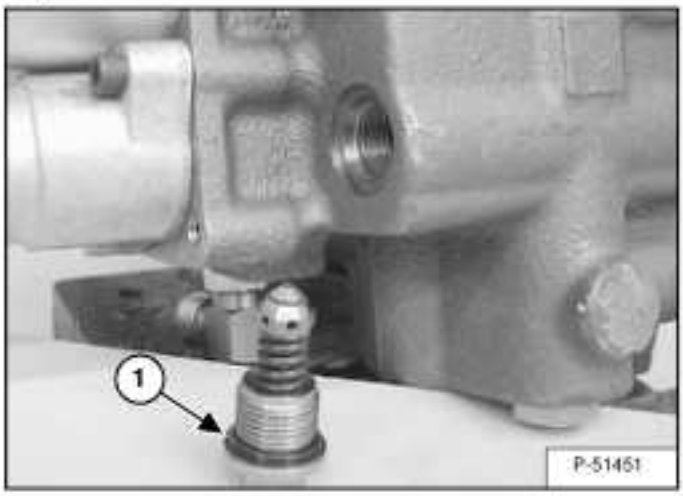
Port Relief / Anti-Cavitation Valve Removal And Installation (Lift, Base End)

Figure 20-41-38



Loosen the lift circuit port relief / anti-cavitation valve (Item 1) **[Figure 20-41-38]**.

Figure 20-41-39

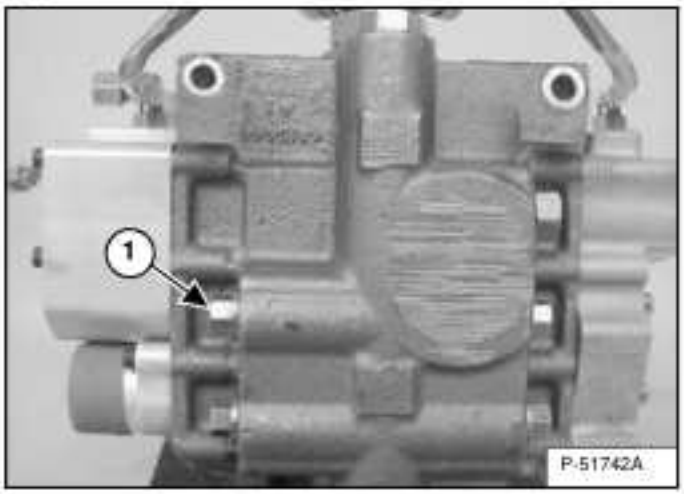


Replace the O-ring (Item 1) **[Figure 20-41-39]** before installation.

Installation: Lightly lubricate with oil and tighten to 52 - 61 N•m (38 - 45 ft-lb) torque.

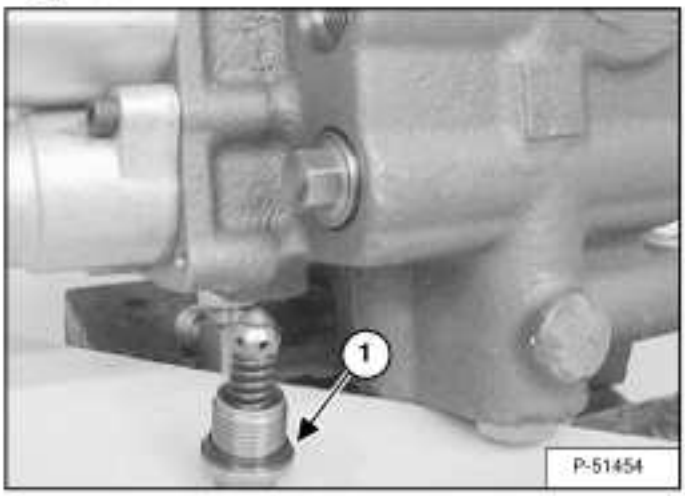
Port Relief / Anti-Cavitation Valve Removal And Installation (Tilt, Base End)

Figure 20-41-40



Remove the tilt port relief / anti-cavitation valve (Item 1) **[Figure 20-41-40]** from the base end of the tilt section.

Figure 20-41-41



Replace the O-ring (Item 1) **[Figure 20-41-41]** before installation.

Installation: Lightly lubricate with oil and tighten to 52 - 61 N•m (38 - 45 ft-lb) torque.

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Specifications

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

Fuel System

Injection Timing (T250)	0,0917 - 0,117 rad (5.25 - 6.75 degrees) B.T.D.C.
Fuel Injection Pressure - 1st Stage	18629,6 - 19615,6 kPa (186,3 - 196,2 bar) (2702 - 2845 psi)
Fuel Injection Pressure - 2nd Stage	23538,7 - 24517,8 kPa (235,4 - 245,2 bar) (3414 - 3556 psi)
Fuel Tightness of Nozzle Valve Seat	When the pressure is 16671,5 kPa (166,7 bar) (2418 psi), the valve seat must be fuel tightness.

Valves

Valve Seat Width (Intake)	1,6 - 2,0 mm (0.063 - 0.078 in)
Valve Seat Width (Exhaust)	2,3 - 2,6 mm (0.091 - 0.10 in)
Valve Seat and Face Angle (Intake)	1,0 rad (60 degrees)
Valve Seat and Face Angle (Exhaust)	0,785 rad (45 degrees)
Valve Stem O.D.	6,960 - 6,975 mm (0.2741 - 0.2746 in)
Valve Guide I.D.	7,030 - 7,045 mm (0.2768 - 0.2773 in)
Clearance Between Valve Stem And Valve Guide (Intake and Exhaust)	0,055 - 0,085 mm (0.0022 - 0.0033 in)
Allowable Limit	0,1 mm (0.004 in)
Valve Clearance (Cold)	0,23 - 0,27 mm (0.0091 - 0.010 in)
Valve Recessing (Intake)	0,60 - 0,80 mm (0.024 - 0.031 in)
Allowable Limit	1,20 mm (0.047 in)
Valve Recessing (Exhaust)	0,850 - 1,05 mm (0.0335 - 0.0413 in)
Allowable Limit	1,20 mm (0.047 in)

Valve Springs

Valve Spring (Intake)	35,1 - 35,6 mm (1.39 - 1.40 in)
Allowable Limit	34,6 mm (1.36 in)
Valve Spring (Exhaust)	35,1 - 35,6 mm (1.39 - 1.40 in)
Allowable Limit	34,6 mm (1.36 in)
Setting Load / Setting Length (Intake)	63,5 N / 31,5 mm (14.3 lb / 1.24 in)
Allowable Limit	45,9 N / 31,5 mm (10.3 lb / 1.24 in)
Setting Load / Setting Length (Exhaust)	63,5 N / 31,5 mm (14.3 lb / 1.24 in)
Allowable Limit	45,9 N / 31,5 mm (10.3 lb / 1.24 in)
Tilt - Allowable Limit	1,0 mm (0.039 in)

Valve Tappets

Clearance Between Tappet And Guide	0,020 - 0,062 mm (0.00079 - 0.0024 in)
Allowable Limit	0,07 mm (0.003 in)
Tappet Guide I.D.	24,000 - 24,021 mm (0.94489 - 0.94570 in)
Tappet O.D.	23,959 - 23,980 mm (0.94327 - 0.94409 in)

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TROUBLESHOOTING

Blower Motor Does Not Operate

Possible Cause	Inspection	Solution
1. Blown fuse.	Inspect the fuse / wiring.	Replace fuse / repair wiring.
2. Broken wiring or bad connection.	Check the fan motor ground and connectors.	Repair the wiring or connector.
3. Fan motor malfunction.	Check the lead wires form the motor with a circuit tester.	Replace Motor.
4. Resistor malfunction.	Check resistor using a circuit tester.	Replace Resistor.
5. Fan motor switch malfunction.	Check power into and out of the fan switch.	Replace Fan Switch.

Blower Motor Operates Normally, But Air Flow Is Insufficient

Possible Cause	Inspection	Solution
1. Evaporator inlet obstruction.	Check evaporator for plugging.	Remove obstruction and clean evaporator fins with air or water.
2. Air leak.	Check to make sure air hoses are properly hooked to Louvers, and air ducts.	Repair of adjust.
3. Defective thermo. switch (frozen evaporator).	Check thermostat using a circuit tester.	Replace thermostat.
4. Plugged cab filters	Check cab filter condition.	Clean or replace filters.

Insufficient Cooling Although Air Flow And Compressor Operation Are Normal

Possible Cause	Inspection	Solution
1. System low on refrigerant.	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.
2. Excessive refrigerant.	The high pressure side pressure will be high.	Use refrigerant recovery equipment to capture excess refrigerant. Charge to the correct refrigerant level.

The Compressor Does Not Operate At All, Or Operates Improperly

Possible Cause	Inspection	Solution
1. Loose drive belt.	The belt is vibrating or oscillating.	Adjust tension.
2. Internal compressor malfunction.	The compressor is locked up and the belt slips.	Replace compressor.
	Magnetic clutch related	
3. Low battery voltage.	Clutch slips.	Recharge the battery.
4. Faulty coil.	Clutch slips.	Replace the magnetic clutch.
5. Oil on the clutch surface.	Clutch slips.	Replace or clean the clutch surface.
6. Open coil.	Clutch does not engage and there is no reading when a circuit tester is connected between the coil and terminals.	Replace clutch.
7. Broken wiring or poor ground.	Clutch will not engage. Inspect the ground and connections.	Repair.
8. Wiring harness components.	Test the conductance of the pressure switch, thermostat, Relay, etc.	Check operation / thermostat LED status.

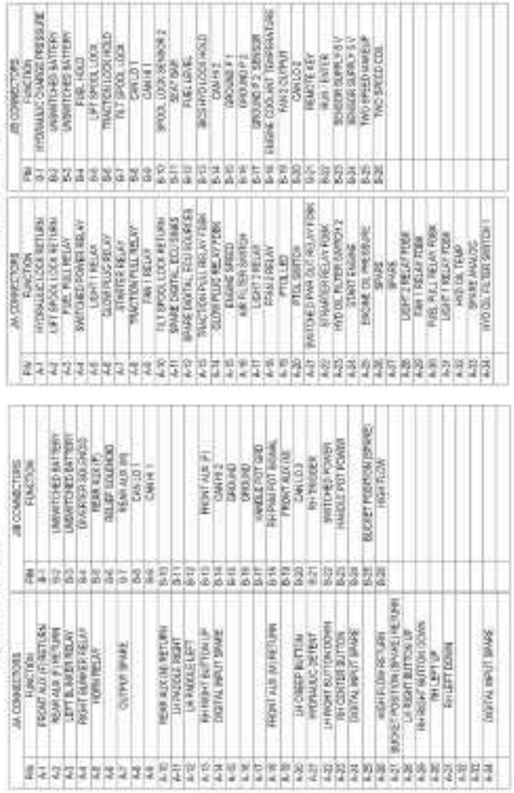
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WIRING SCHEMATIC
(MAINFRAME)
T300 (S/N A5GU20001 AND ABOVE)
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