Utility Vehicle
2200
2200S
2300

Bobcat®

Service Manual

S/N A59Z11001 & ABOVE (2200 DIESEL)
S/N A59Y11001 & ABOVE (2200 GASOLINE)
S/N A5A111001 & ABOVE (2200S DIESEL)
S/N A5A011001 & ABOVE (2200S GASOLINE)
S/N A59W11001 & ABOVE (2300 DIESEL)



Ingersoll Rand
Compact Vehicle Technologies

6904893 (02-07)

Printed in U.S.A.

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TROUBLESHOOTING GUIDE

SYMPTOM	POSSIBLE CAUSES	REFER TO
Engine starts but does not run smoothly.	Spark plug is fouled or in poor condition	**Section 20b – Honda GX 620 Gasoline Engine Manual**
	Spark plug wire is damaged or loose	**Section 20b – Honda GX 620 Gasoline Engine Manual**
	Intermittent ignition coil failure	Test Procedure 15 – Ignition Spark on page 11b-27, Test Procedure 16 – Engine Kill Wire on page 11b-28, and Test Procedure 17 – Grounded Kill Wire on page 11b-28
	Water or dirt in the fuel system and/or carburetor; dirty or clogged fuel filter	Fuel System on page 13b-7
	Fuel pump malfunction; fuel pressure to carburetor too low	Fuel System on page 13b-7
Engine turns but fails to start.	Fuel tank is empty	Fuel System on page 13b-7
	Fuel line or filters clogged	Fuel System on page 13b-7
	Fouled spark plug	Section 13b – Honda Gasoline Engine, Muffler, Fuel System, and Clutches
	Spark plug wire damaged or loose	Section 13b – Honda Gasoline Engine, Muffler, Fuel System, and Clutches
	Engine flooded with fuel as result of excess choking	See owner's manual, Controls and Indicators. See Choke.
	Fuel pump malfunction or failure	Fuel System on page 13b-7
	Ignition coil failure	Test Procedure 15 – Ignition Spark on page 11b-27, Test Procedure 16 – Engine Kill Wire on page 11b-28, and Test Procedure 17 – Grounded Kill Wire on page 11b-28
	Kill circuit grounded	Test Procedure 17 – Grounded Kill Wire on page 11b-28
	Carburetor solenoid failure	Test Procedure 21 – Carburetor Solenoid Circuit on page 11b-31
	Improper idle governor adjustment	Fuel System on page 13b-7
Engine overheats.	Fan screen is partially blocked or plugged	**Section 20b – Honda GX 620 Gasoline Engine Manual**
	Governor is improperly adjusted	Fuel System on page 13b-7
	Carburetor is too lean; check main jet size	**Section 20b – Honda GX 620 Gasoline Engine Manual**
Engine pre-ignites.	Excessive carbon deposits on piston head or in combustion chamber	**Section 20b – Honda GX 620 Gasoline Engine Manual**
	Spark plug heat range is incorrect	**Section 20b – Honda GX 620 Gasoline Engine Manual**
	Unsuitable or contaminated fuel	Fuel System on page 13b-7

Troubleshooting Guide continued on next page...

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5-4 LUBRICATION SYSTEM

Specifications

Item	Standard
Engine Oil:	
Grade	API Service Classification: SF, SG, SH, or SJ class
Viscosity	SAE40, SAE30, SAE10W-30 / SAE10W-40, or SAE5W-20
Capacity	1.4 L (1.5 US qt) [When oil filter is not removed]
	1.6 L (1.7 US qt) [When oil filter is removed]
Level	Between "H" and "L" marks on oil gauge
Oil Pressure	241 to 310 kPa (35 to 45 psi)
Oil Pressure Switch:	
Detect pressure	98 kPa (14.2 psi)
Screw	PT 1/8 pipe thread
Oil Filter By-pass Valve Openning	
Pressure	78.5 to 117.5 kPa (11.4 to 17.1 psi)

Item	Service Limit
Oil Pump:	
Inner and outer rotor clearance	0.2 mm (0.008 in.)
Outer rotor outside diameter	40.470 mm (1.5933 in.)
Outer rotor thickness	9.830 mm (0.3870 in.)
Pump housing inside diameter	40.801 mm (1.6063 in.)
Pump housing depth	10.230 mm (0.4028 in.)
Pump shaft outside diameter	10.923 mm (0.4300 in.)
Pump shaft bearing inside diameter	11.072 mm (0.4359 in.)
Relief valve spring free length	19.50 mm (0.77 in.)

Special Tool - Oil Filter Wrench : 57001–1249

Sealant - Kawasaki Bond (Silicone Sealant) : 56019–120

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ELECTRICAL

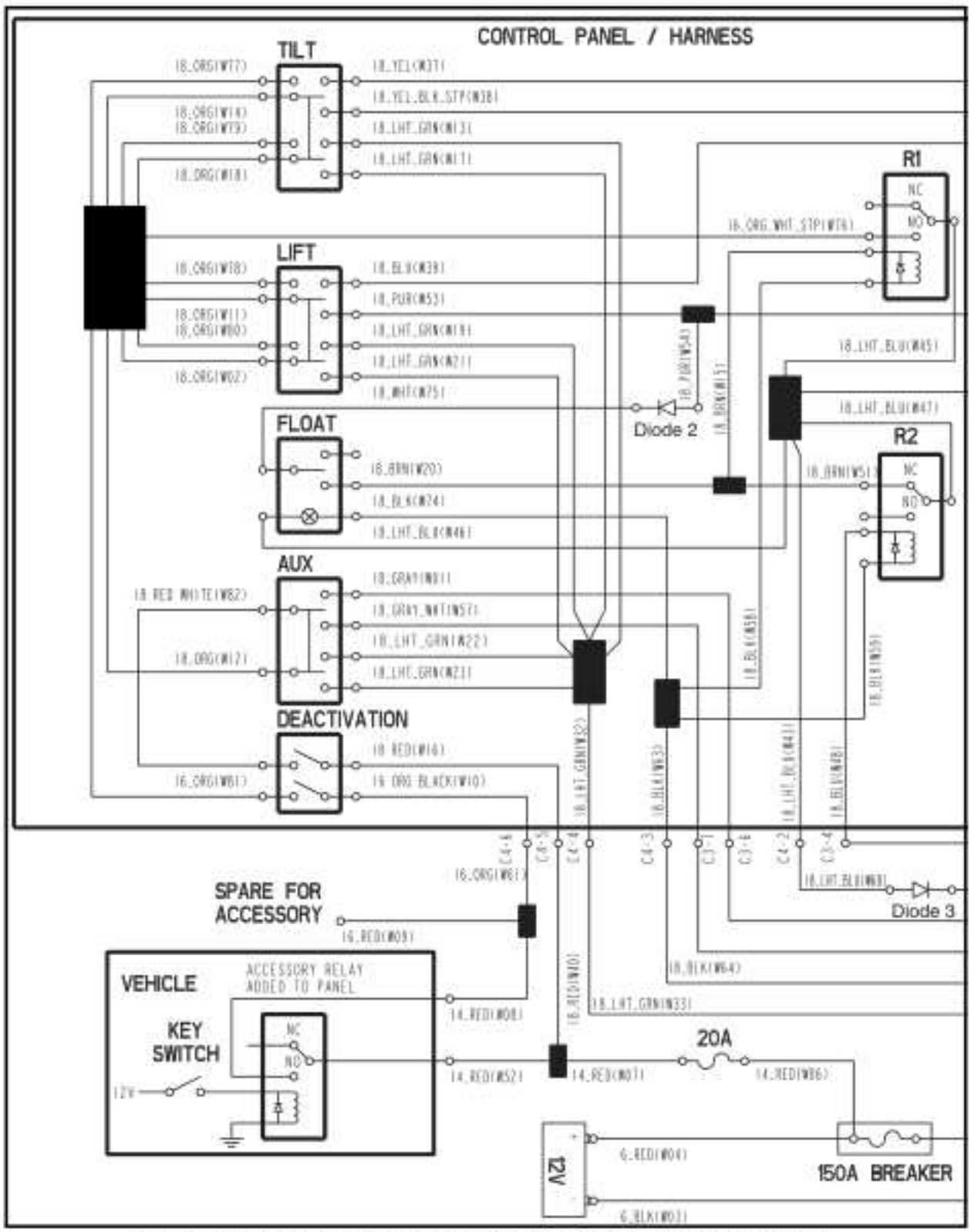
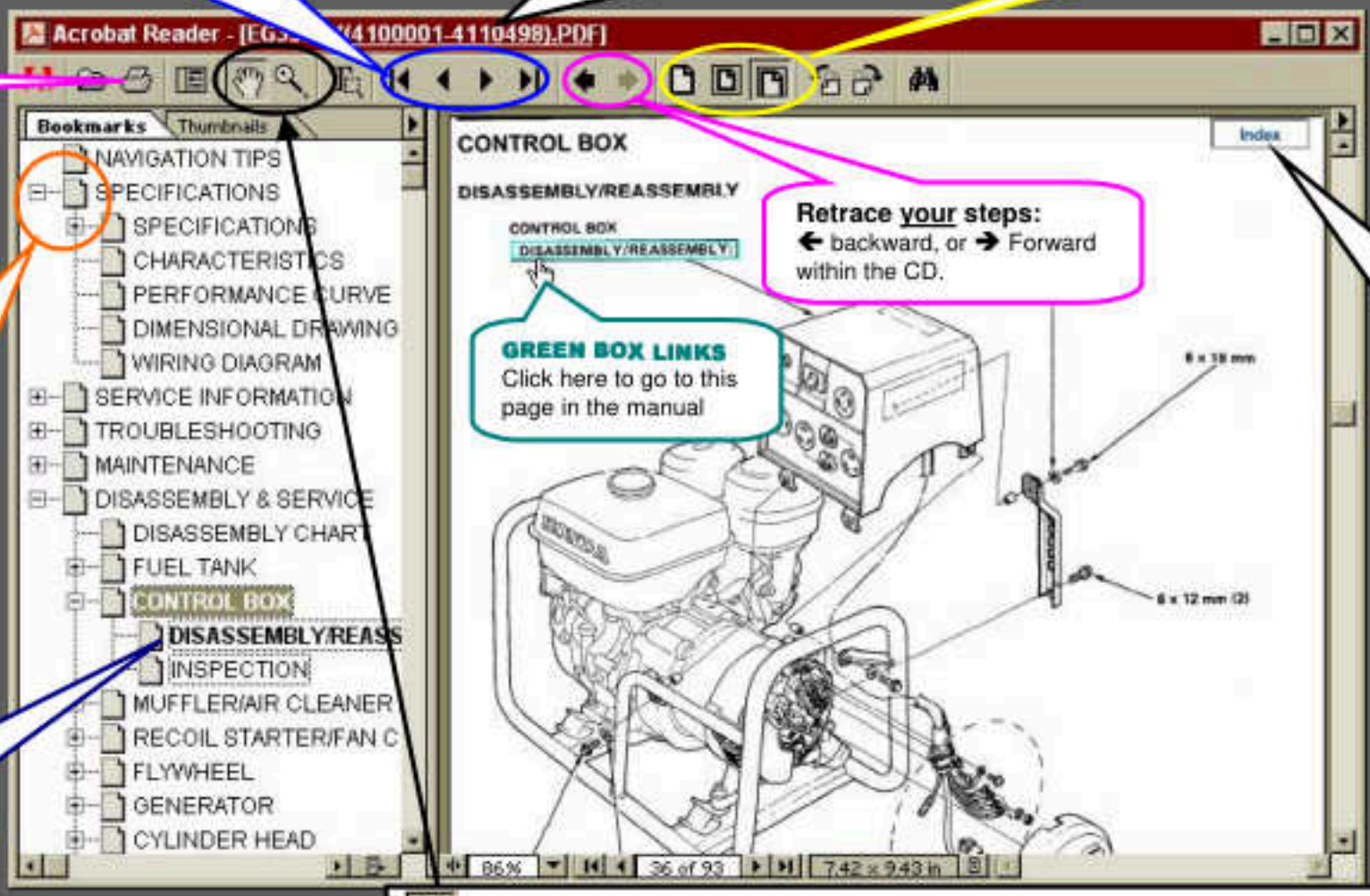


Figure 21-18 Wiring Diagram for Hydraulic Attachment System Vehicles (Front)

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Figure 17-16 Install Roller Thrust Bearing

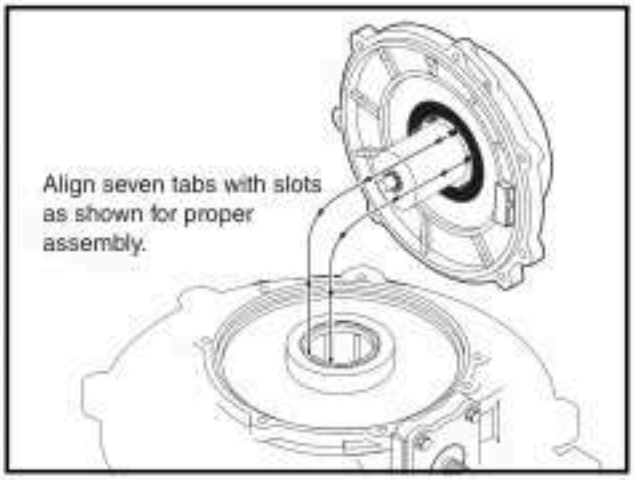


Figure 17-17 Align Armature Plate Tabs and Ring Gear Bearing Cage Slots



Figure 17-18 Install Cover and Torque Bolts

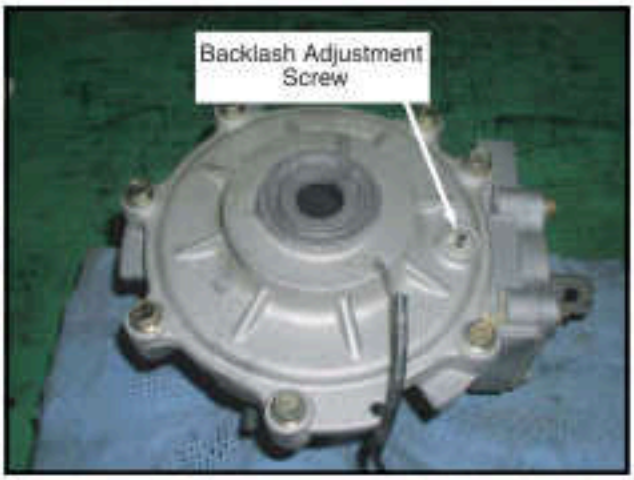


Figure 17-19 Backlash Adjustment Set Screw

Backlash Adjustment

1. Locate the backlash adjustment set screw on the right front, coil side, of the differential **(Figure 17-19, Page 17-7)**.
2. Use a 3/32-inch Allen wrench and turn the screw clockwise until it stops (do not apply torque).

NOTE: *When the screw stops, the splined shaft of the pinion gear should not be movable by hand in either direction.*

3. Turn the Allen wrench and set screw counterclockwise slowly while turning the pinion gear shaft clockwise. Continue this process until the pinion gear shaft can rotate four complete turns freely and without any tight spots.

NOTE: *The set screw should only have to be turned 1/4 to 1/2 of a full turn from its stop position to achieve the proper backlash set.*

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