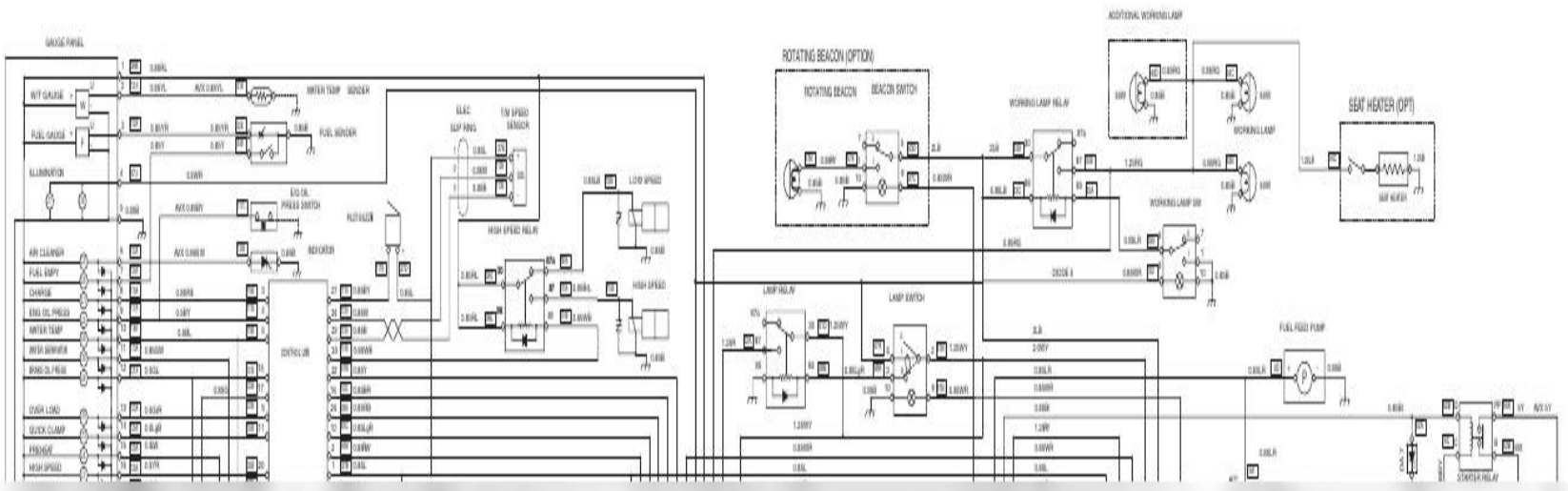
B55W-2

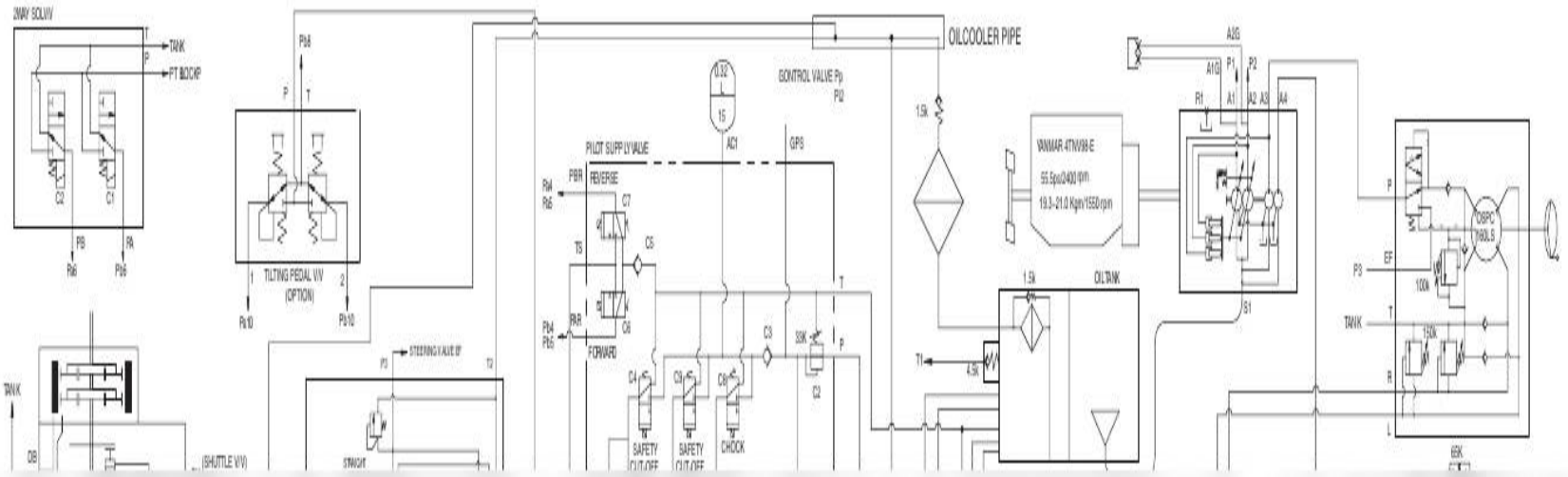


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4-valve Cylinder Head

4-Valve Cylinder Head Components

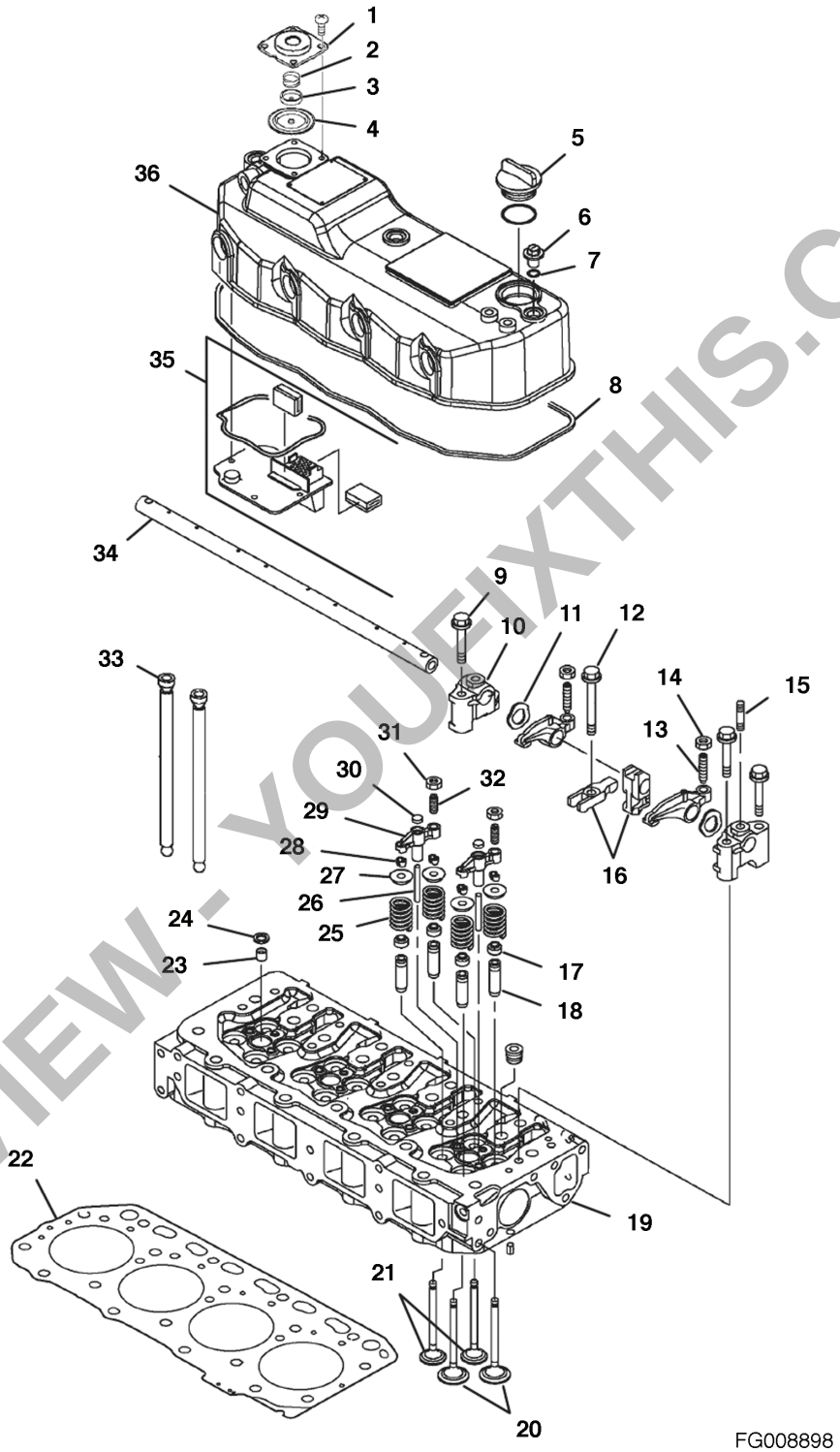


Figure 119

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TORQUE VALUES FOR STANDARD METRIC FASTENERS

NOTE: *The units for the torque values are kg•m (ft lb).*

Dia. x Pitch (mm)	Grade										
	3.6 (4A)	4.6 (4D)	4.8 (4S)	5.6 (5D)	5.8 (5S)	6.6 (6D)	6.8 (6S)	6.9 (6G)	8.8 (8G)	10.9 (10K)	12.9 (12K)
M5 x Std.	0.15 (1.08)	0.16 (1.15)	0.25 (1.80)	0.22 (1.59)	0.31 (2.24)	0.28 (2.02)	0.43 (3.11)	0.48 (3.47)	0.50 (3.61)	0.75 (5.42)	0.90 (6.50)

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TROUBLESHOOTING – SWING GEARBOX

Problem	Possible Cause	Remedy
Swing motor fails to operate and:		
Three pressure tests at motor, brake or makeup valve show low reading(s).	Swing relief valve defective Brake release valve defective Motor makeup valve defective.	Adjust pressure to recommended range in affected valve. OR Disassemble and clean valve assembly. Replace all valve components that show damage.
All three pressure checks are OK but left travel also fails to run.	Exchange front and rear pump inlet and outlet hoses to test pump function.	If swing and left travel are restored but right travel stops working, replace or repair P1 pump.
All three pressure tests are OK, but machine fails to swing at all.	Brake assembly or motor friction plate failing to release.	Check for binding. Disassemble and repair.
	Pilot (control) pressure low or swing control valve stuck.	Disassemble / Repair pilot pressure swing spool (305) and / or swing control valve.
	Swing motor defective.	Test motor drain rate. Replace / Repair motor.
	Gear train defective.	Refer to "Swing Gear Troubleshooting" procedure.
Swing functions but only at reduced rpm.	Causes listed above could also produce dragging swing, OR hot or wrong oil OR worn-out parts.	Check above list; then replace oil, test motor drain rate and check for "02" reading (e-EPOS self-test).
Left travel speed is also reduced.	Low output at P1 pump or external pilot piping leaks/is clogged.	Clean and repair piping or repair or replace pump P1.
Swing control movement is reversed.	Inlet / outlet piping reversed.	Reset controls or reverse piping.
Machine swings but continues coasting on past stopping point.	Swing control valve spool not centered.	Replace return spring; clean/ repair valve piston and spool.
	Pilot pressure may be outside range.	Disassemble, clean or replace pilot relief valve or pilot valve.
	Swing relief valve may be faulty.	Repair/Replace swing relief valve.
Swing movement is in one direction only.	Check to see that pilot pressure is the same right and left.	If pilot pressure is unequal, clean or repair piping or repair/replace valve.
	Swing control valve spool may be stuck.	Repair/Replace the swing control valve.
	Swing relief valve may be faulty.	Repair/Replace the swing relief valve.
No rotation and:		
Pressure at swing motor inlet increases.	Swing brake not releasing.	Check brake engagement and disengagement; check release pressure.
	Internal damage to gearbox drive train.	Replace broken gears and drive train assemblies.
	Overload.	Reduce load weight.

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GENERAL SPECIFICATIONS

Weight		
Shipping Weight	Single Tire	5,550 kg (12,236 lb
	Twin Tire	5,910 kg (13,029 lb)
Count Weight		233 kg (514 lb)
Upper Turntable Weight		2,588 kg (5,706 lb)
Lower (Include Swing Bearing) Weight		1,965 kg (4,332 lb)
Operating Weight		Add weight of full fuel tank and operator.
		Boom 258 kg (569 lb)
		Boom Cylinder 68 kg (150 lb)

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System	Check Item	Daily	Periodic Maintenance Interval					
			Every 50 hours	Every 250 hours	Every 500 hours	Every 1000 hours	Every 1500 hours	Every 2000 hours
Cooling System	Check and Refill Engine Coolant	C						
	Check and Clean Radiator Fins		C					
	Check and Adjust Cooling Fan V-Belt		C 1st time	C 2nd and after				
	Drain, Flush and Refill Cooling System with New Coolant							R or every year whichever comes first

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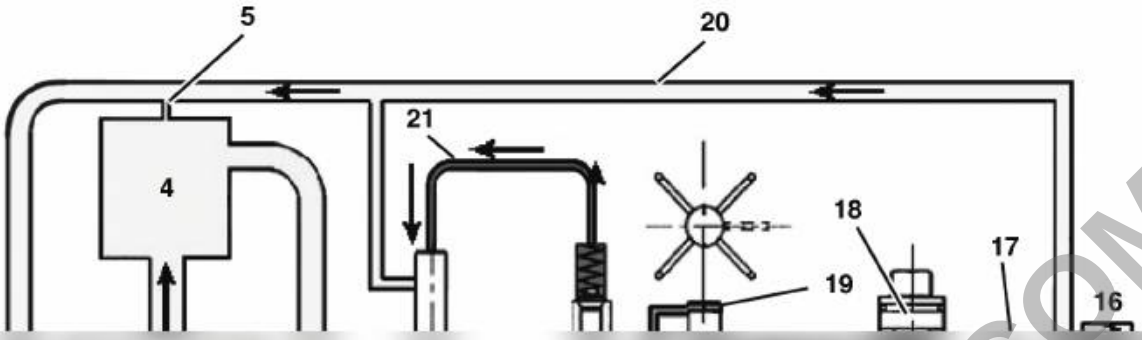
Reference Number	Description
1	Radiator and Oil Tank
2	Engine Cover
3	Engine
4	Muffler
5	Main Pump
6	Seat
7	Swing Motor
8	Swivel Joint
9	Swing Bearing
10	Cabin
11	Steering Column
12	Control Valve
13	Arm Cylinder
14	Boom
15	Arm
16	Bucket Cylinder
17	Guide Link
18	Push Link
19	Bucket

Reference Number	Description
20	Side Cutter
21	Tooth Point
22	Wheel Chocks
23	Boom Cylinder
24	Ram Cylinder
25	Front Axle
26	Travel Motor
27	Transmission
28	Driveshaft
29	Step
30	Rear Axle
31	Tire
32	Dozer Blade
33	Dozer Cylinder
34	Sucktion Filter
35	Counterweight
36	Return Filter
37	Fuel Tank
38	Air Breather

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Fuel System Diagram



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SAFETY PRECAUTIONS

⚠ CAUTION

Follow all safety recommendations and safe shop practices outlined in the front of this manual or those contained within this section.

Always use tools and equipment that are in good working order.

Use lifting and hoisting equipment capable of safely handling load.

Remember, that ultimately safety is your own personal responsibility.

APPLICABLE MODELS

The contents of this section apply to the following models and serial number ranges.

MODEL	SERIAL NUMBER RANGE
B55W-2	5001 and Up

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Hydraulic System Troubleshooting, Testing and Adjustment SP001510

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Product Label 

Instructions

Trim Out The Label Along The Lines And Insert Into Pocket On The Binder Spine

B55W-2

Serial Number 5001 and Up

Pub.No. K1038983AE

DOOSAN Infracore

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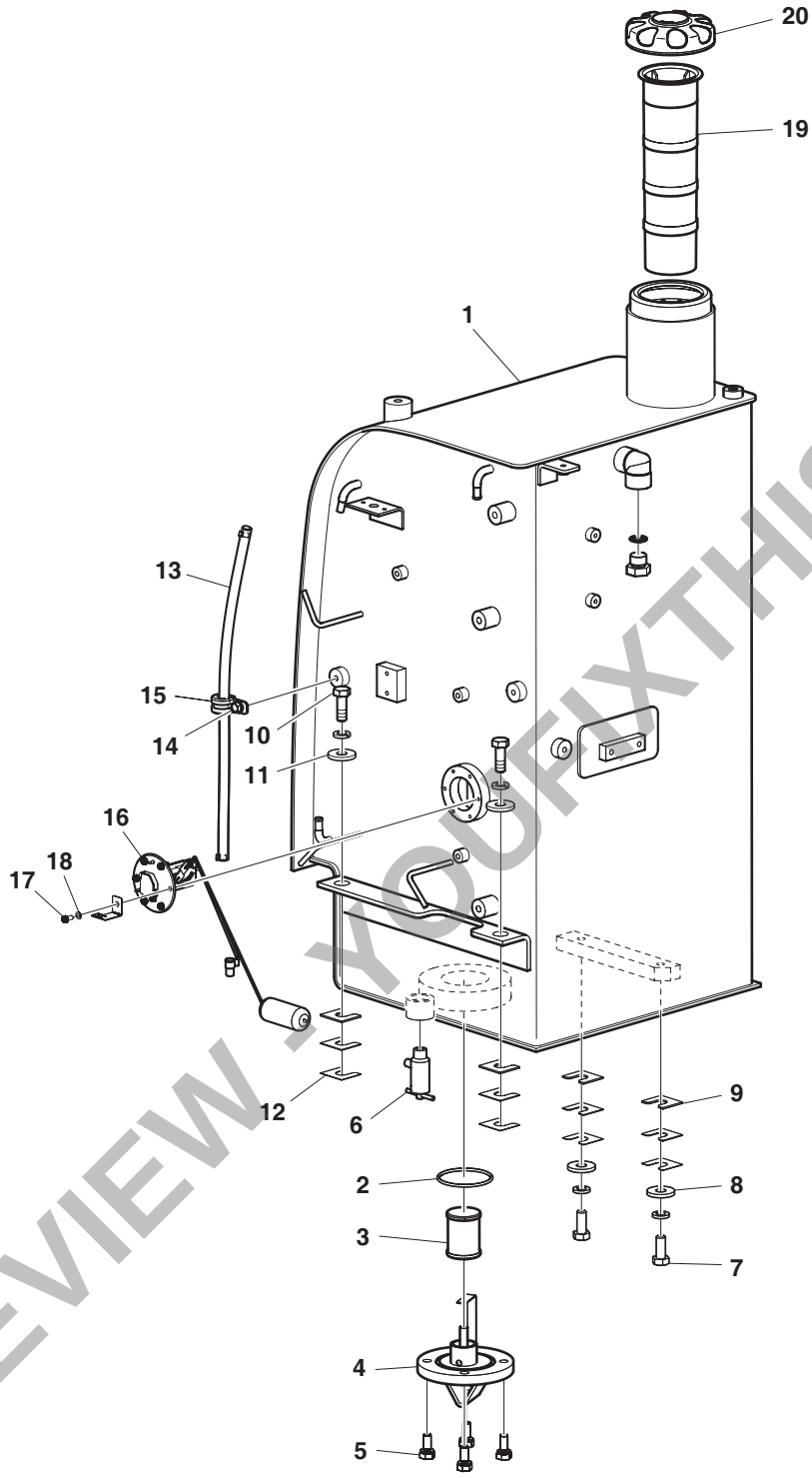
Material	Low Weight or Density 1,100 kg/m^3 (1,850 lb/yd^3), or Less	Medium Weight or Density 1,600 kg/m^3 (2,700 lb/yd^3), or Less	High Weight or Density 2,000 kg/m^3 (3,370 lb/yd^3), or Less
Earth, WET, muddy	----------	----------	1,762 kg/m^3 (2,970 lb/yd^3)
Gypsum, calcined, (heated, powder)	961 kg/m^3 (1,620 lb/yd^3)	----------	----------
Gypsum, crushed to 3 inch size	----------	1,522 kg/m^3 (2,565 lb/yd^3)	----------
Gravel, DRY, packed			1,810 kg/m^3

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Parts List



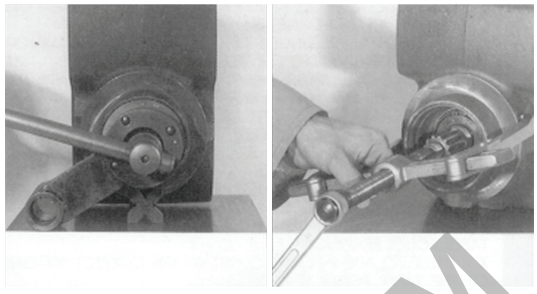
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Figure 1

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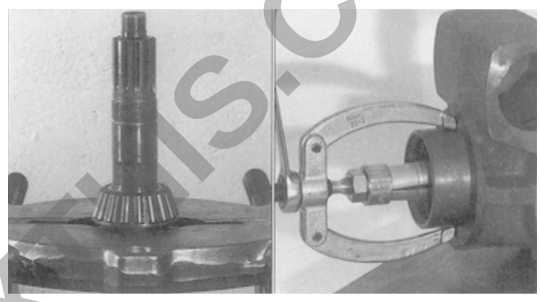
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7. Disassembling of bevel pinion support.



BNS0840P

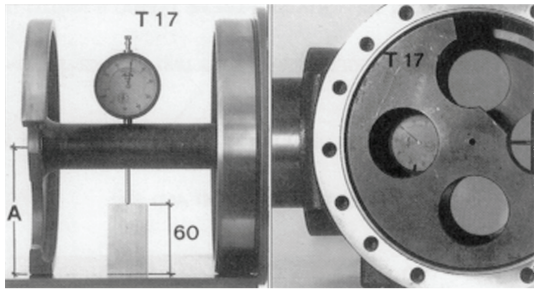
Figure 76



BNS0850P

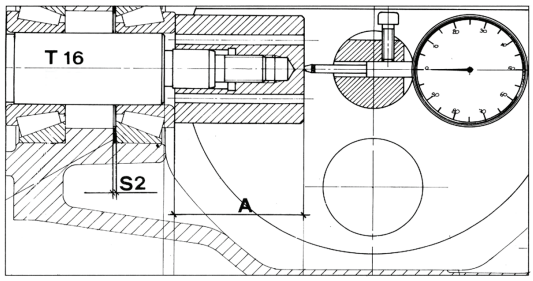
Figure 77

8. Determination of shim pack S2 for adjustment of bevel pinion position. Assembling of outer races without shims. Insert tool and verify after having set to zero the gauge on a surface plate. The difference is S2. Remove outer race of taper roller bearing, insert shims and reassemble the outer race definitively.



BNS0860P

Figure 78



BNS0870S

Figure 79

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Engine Service Standards

Inspection Item	Standard	Limit	Reference page
Intake / Exhaust Valve Clearance	0.006 - 0.010 in. (0.15 - 0.25 mm)	-	See “Measuring And Adjusting Valve Clearance” on page -123.
Fuel Injection Timing	See “Checking And Adjusting Fuel Injection Timing” on page -185.		
Fuel Injection Pressure	See “Test and Adjustment Specifications” on page -170.		

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Measuring And Adjusting Valve Clearance

Measure and adjust while the engine is cold.

NOTE: *The No. 1 piston position is on the flywheel end of the engine, opposite the radiator. The firing order is 1-3-2 for 3-cylinder engines and 1-3-4-2 for 4-cylinder engines.*

3-cylinder engines fire every 240° of crankshaft rotation.

4-cylinder engines fire every 180° of crankshaft rotation.

Valve clearance of both the intake and exhaust valves can be checked with the piston for that cylinder at top dead center (TDC) of the compression stroke. When a piston is at TDC of the compression stroke, both rocker arms will be loose and the cylinder TDC mark on the flywheel will be visible in the timing port of the flywheel housing.

If there is no valve clearance, and the cylinder is at TDC of the compression stroke, extreme wear, or damage to the cylinder head or valves may be possible.

If adjusting each cylinder individually, the cylinder to be adjustedfirst does not have to be the No. 1 cylinder. Select and adjust the cylinder where the piston is nearest to the top deadcenter after turning. Make adjustment for the remaining cylinders in the order of firing by turning the crankshaft each time.

To decrease the number of rotations required to check all cylinders, other cylinders can also be checked as indicated in the chart below.

Example: On a 3-cylinder engine, with the No. 1 piston at TDC on the compression stroke (both valves closed), the valves indicated on the top line of the chart can be adjusted without rotating the crankshaft. To adjust the remaining two valves, rotate the crankshaft until the No. 1 piston is at TDC on the exhaust stroke (exhaust valve only open).

3-Cylinder Engines

Cylinder No.	**1**		**2**		**3**	
Valve	Intake	Exhaust	Intake	Exhaust	Intake	Exhaust
No. 1 Cylinder at TDC Compression	o	o	o			o
No. 1 Cylinder at TDC Exhaust				o	o	

4-Cylinder Engines

Cylinder No.	**1**		**2**		**3**		**4**	
Valve	Intake	Exhaust	Intake	Exhaust	Intake	Exhaust	Intake	Exhaust
No. 1 Cylinder at TDC Compression	o	o	o			o		
No. 4 Cylinder at TDC Compression				o	o		o	o

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Engine Coolant Pump Components

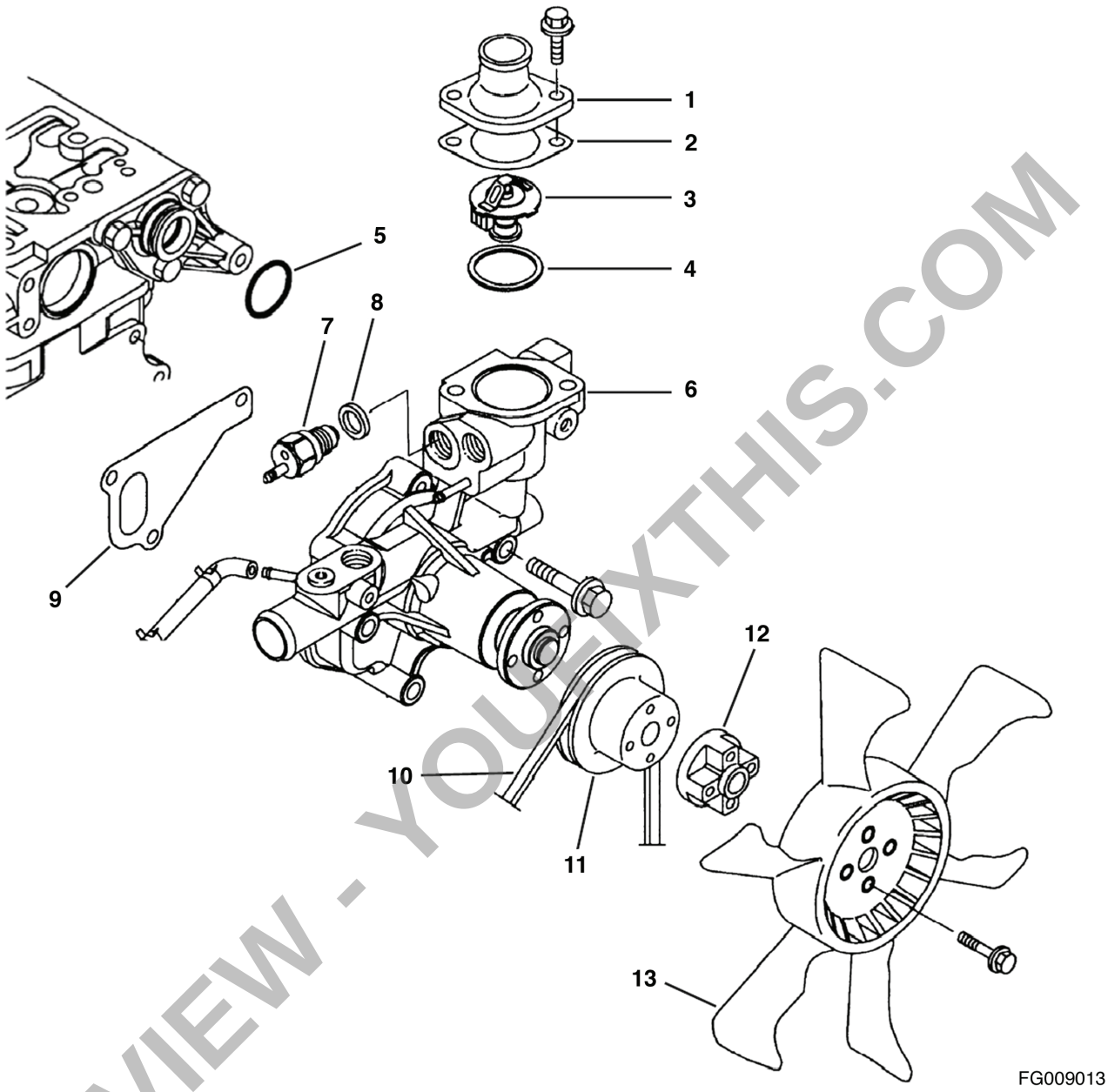


Figure 302

Reference Number	Description
1	Thermostat Cover
2	Thermostat Cover Gasket
3	Thermostat
4	Thermostat O-Ring
5	Special O-Ring
6	Engine Coolant Pump
7	Temperature Switch

Reference Number	Description
8	Gasket
9	Engine Coolant Pump Gasket
10	V-Belt
11	Engine Coolant Pump V-Pulley
12	Spacer
13	Engine Coolant Fan

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SCREW-LOCKING, SEALING AND LUBRICATING MATERIALS

⚠ CAUTION

Locking, sealing and lubricating materials referred to in this manual are the same used in the sop-floor.

The table below gives an account of the typical applications of each single material, in order to facilitate replacement with similar products marketed by different brand names with different trade marks.

Denomination	Application
Loctite 242	Anaerobic product apt to prevent the loosening of screws, nuts and plugs. Used for medium-strength locking. Before using it, completely remove any lubricant by using the specific activator.
Loctite 243	The oleocompatible alternative to 242. Does not require the activation of lubricated surfaces.
Loctite 270	Anaerobic product for very-high strength locking of screws and nuts. Before using it, completely remove any lubricant by using the specific activator. To remove parts, it may be necessary to heat them at 80°C
Loctite 510	Anaerobic product for the hermetic sealing of flanged units and screw holes communicating with fluids. Can seal clearances between flanges up to 0.2 mm.
Silicone	Semi-fluid adhesive material used for sealing and filling and to protect components from environmental and physical elements. Polymerises with non-corrosive dampness.
(TECNO LUBE/101) Silicone-based grease	Highly adhesive synthetic grease, with silicone compounds added. Applied to adjustment screws with hole communicating with oil-type fluids. Used when frequent adjusting is required.
Molikote (DOW CORNING)	Lubricating compound containing molybdenum disulphide, used to lubricate articulation pins and to prevent sticking and oxidation of parts that are not lubricated on a regular basis.

MAINTENANCE INTERVALS AND OIL SPECIFICATION

Operation	Frequency	Lubricants
Check levels	monthly	SAE85W90 API GL
Oil change:	every 1000 hours */**	
* Initially after 150 working hours ** Clean the sensor reading zone every oil change		

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TROUBLESHOOTING – JOYSTICK CONTROL VALVE

Problem	Possible Cause	Remedy
Secondary pressure does not increase.	Low primary pressure.	Check primary pressure.
	Broken spring.	Replace spring.
	Spool sticking.	Clean, repair or replace.
	Excess spool to casing clearance.	Replace spool casing.
	Worn or loose handle subassembly.	Repair or replace handle subassembly.
Secondary pressure too high.	Dirt, other interference between valve parts.	Clean, repair or replace.
	Return line pressure too high.	Redirect return line.
Secondary pressure does not hold steady.	Dirt, other interference between valve parts, or worn spool sticking intermittently.	Clean, repair or replace.
	Interference or binding on spool return spring.	Clean, repair or replace.
	Unsteady pressure in tank return line.	Redirect return line.
	Air bubbles in piping (temporary) or air leak.	Vent air, or repair leak.
NOTE: *Look for evidence of leaking oil to help locate damaged seals or gaskets that could be the cause of air leaks.*		

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Overload Relief Valve

Overload relief valve

1. This relief valve is inserted between the cylinder port "HP" and the low pressure passage "LP". Oil fulfills the inside space(G) through a hole of the piston(C). the sleeve(K) and the main port(D) are firmly seated by which it applies to other area of(A), (B).

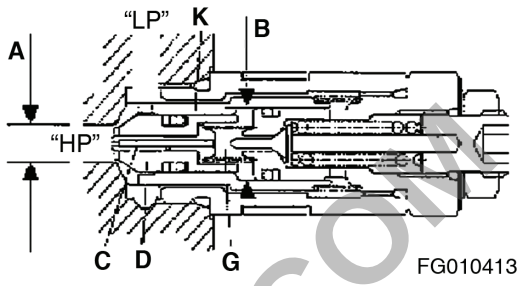


Figure 10

2. If pressure of the "HP", a cylinder port reaches to force of the pilot spring to be set, the Pilot Poppet(E) is open. Oil flows around Poppet and is delivered to the low pressure passage "LP" through a hole(H).

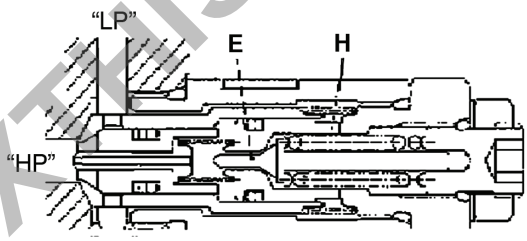


Figure 11

3. If the Poppet(E) opens, oil flows through the throttle hole(I) of the piston(C) and so pressure difference generates at the rear of the passage, "HP" and the piston(C). The Poppet(E) is seated due to movement of the piston(C).

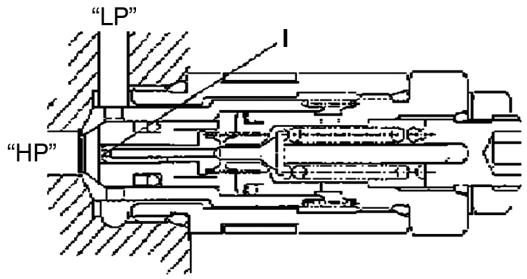


Figure 12

4. Oil flows from the passage "HP" to the rear side of the Poppet(D) only between circular pole of both Poppet(D) and piston(C) only by tightening(F) and so pressure difference becomes large. Accordingly Poppet(D) opens and so oil flows to the direct passage "LP".

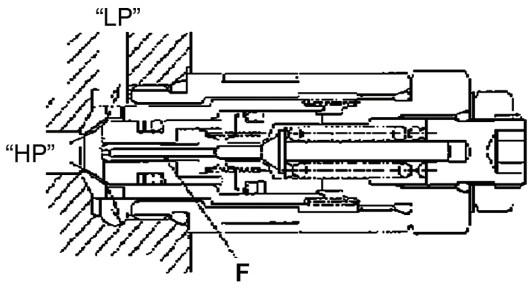


Figure 13

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23. Loosely tighten socket head bolts (2-27, Figure 69), then using a torque wrench, tighten them to specified torque.

    Tightening torque: 128 ±7 Nm (94.4 ± 5.2 ft•lb)

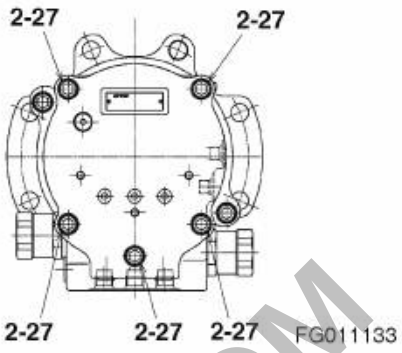


Figure 69

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SAFETY PRECAUTIONS

⚠ CAUTION

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Always use tools and equipment that are in good working order.

Use lifting and hoisting equipment capable of safely handling the load.

Remember that ultimate. safety is your own responsibility.

APPLICABLE MODELS

The contents of this section apply to the following models and serial number ranges.

MODEL	SERIAL NUMBER RANGE
B55W-2	5001 and Up

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ELECTRICAL SUPPLY SYSTEM

The electric power circuit supplies electric current to each electric component. It consists of battery, starter switch fusible link and fuse box.

The negative terminal of battery is grounded to negative body.

Even when starter switch (5) is in "OFF" position, electric current is supplied to following components through battery (1) → fusible link (3) → fuse (6).

1. Cab light, fuel pump switch, No. 5 terminal of car stereo for back up and No. 1 terminal of hour meter.
2. B terminal of starter switch, No. 22 terminal of A/C panel for back up.
3. Headlight, turn signal light, illumination light and hazard switch.
4. No.34 terminal of ECU (Engine control unit).

When the starter switch is in the ON and START positions, the current flows from the battery (1) → fusible link (3) → fuse box (6) → starter switch (5) "B" terminal / "BR" terminal → battery relay (2) → 'B' terminal which activates the coil of the battery relay and the electric supply system is energized.

When the battery relay's contacts are connected, the current flows from the circuit breaker (4) → fuse box (6) and all electric devices can be operated.

While the engine is not running, the battery supplies the electric power for all electric components. Once the engine is started, the power is supplied from the alternator (7).

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