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TO THE OPERATOR OF A YANMAR EXCAVATOR

⚠ DANGER!

Unsafe use of the excavator could lead to serious injury or death. Operating procedures, maintenance and equipment practices or traveling or shipping methods that do not follow the safety guidelines on the following pages could cause serious, potentially fatal injuries or extensive damage to the machine or nearby property.

Please respect the importance of taking responsibility for your own safety, and that of other people who may be affected by your actions.

The safety information on the following pages is organized into the following sections:

1. “Location of Safety Labels” on page 1-4
2. “Summary of Safety Precautions for Lifting in Digging Mode” on page 1-11
3. “Unauthorized Modifications” on page 1-12
4. “General Hazard Information” on page 1-12
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11. “Excavator Rated Lift Capacity Tables” on page 1-40

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OPERATING CONTROLS

The "Operating Controls" section presented here consists of the following groups:

1. “Component Locations” on page 2-2
2. “Operator’s Area” on page 2-4
3. “Operational Controls and Panels” on page 2-5
4. “Steering Console” on page 2-14
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14. “Cab Storage Compartments” on page 2-43
15. “Upper Structure Swing Lock Pin” on page 2-44
16. “Boom Swing Lock” on page 2-45
17. “Wheel Chocks” on page 2-45
18. “Emergency Glass Breaking Tool” on page 2-45

Each group is explained with a point location drawing or photo and a brief description of each control, switch, gauge or valve.

Indicator lights work in addition to the gauges on the instrument panel. The operator should monitor machine pressure on the instrument panel along with pilot lights. These lights will only give the operator an indication that there is a problem

⚠ WARNING!

Warning lights. When any one or more of the warning lights located on the control console come "ON," immediately discontinue operation and shutdown unit. Investigate and correct the problem before proceeding with operation.

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TO HANDLE A NEW EXCAVATOR

All YANMAR excavators are inspected and adjusted prior to leaving the factory. However, it is required that the operator follow these steps during the initial break-in period. Failure to follow these steps may result in damage to the equipment or reduced performance.

HOUR	LOAD
For first 50 hours of operation.	Maintain about 60% - 70% load of full capacity (Engine RPM: 60% - 70% of rated RPM).
After first 50 hours of operation.	Full load.

If machine is used at full load before it is broken in, it may affect the life cycle and safe running operations. This could lead to problems later.

NOTE:

1. *Check daily for leakage of coolant, engine oil and hydraulic oil.*
2. *Inspect all lubricants daily, add appropriate lubricants as required.*
3. *During operation, monitor all instruments and gauges from time to time.*
4. *Avoid a extreme engine load.*
5. *Operate unit at 60% - 70% load until engine and all other components are at operating temperature.*
6. *Check that work equipment is operating normally during operation.*
7. *Check machine for loose parts or for damage that may have occurred during shipping.*
8. *Check for loose wiring or terminals, check gauge operation and battery fluid level.*

LUBRICATION AND FILTERS

1. Change engine oil and replace oil filter element after first 50 hours of operation.
2. Clean hydraulic oil filter after first 100 hours of operation.
3. Clean hydraulic suction filter after first 100 hours of operation.
4. Replace travel and reduction gear oil after first 500 hours of operation.

NOTE: *For the replenishment of oil or grease, refer to “Inspection, Maintenance and Adjustment” on page 4-1 of this manual.*

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INSPECTION, MAINTENANCE AND ADJUSTMENT

Routine maintenance and inspections are required to keep your machine in the correct operating condition. The following pages list the inspection intervals, the system or component checks and location references.

NOTE: *The following pages list the service checks and their required intervals. The service cycles may need to be shortened depending on the working conditions. Extremely hot or dusty conditions will require more frequent service. Operational hours are determined by the amount of time accumulated on the engine hour meter located on the control console in the cab.*

SERIAL NUMBERS

There are two serial number plates attached to the body of the excavator.

The main serial number plate (Figure 1) is located on the front of the operator's cab. A corresponding number is stamped into the left hand side of the boom.

The engine serial number (Figure 2) is stamped on the top of the cylinder head cover. The engine model information is described on an ID label on top of the cylinder head cover.

Please make note of these numbers and their locations. These will be required whenever warranty service work is requested.

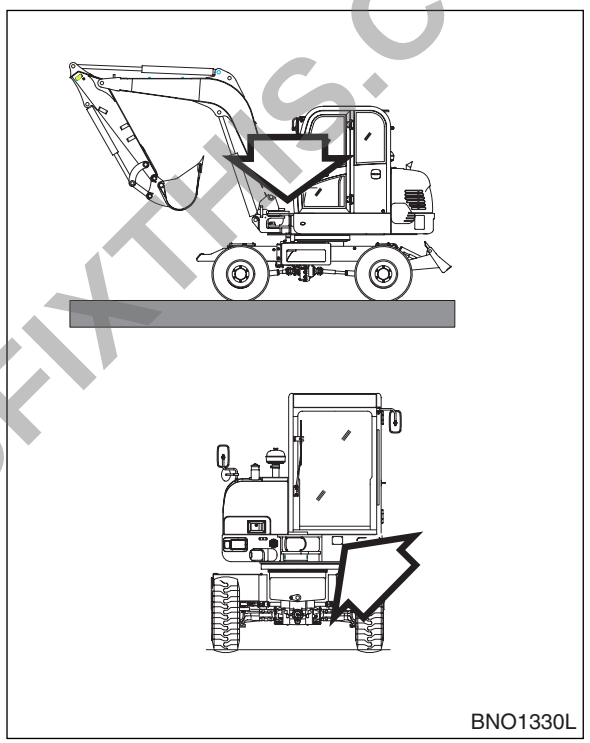


Figure 1

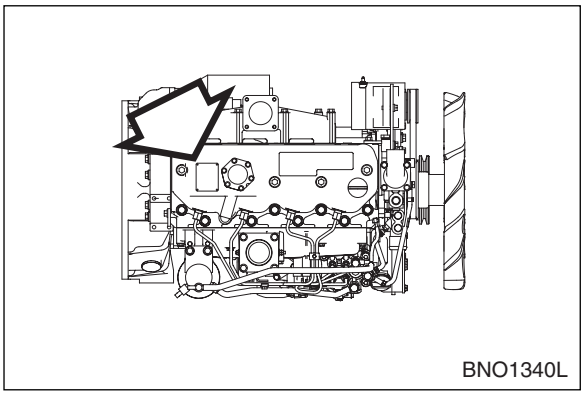


Figure 2

SAFETY PRECAUTIONS

1. Make sure to lock out the hydraulic controls and post a notice (Warning Tag) that the machine is being serviced to prevent any unauthorized operation.
2. Make sure to clean up any fluid spills, especially around the engine.
3. Inspect all fuel lines to make sure that fittings, lines, filters and O-rings, etc., are tight and are not showing signs of wear or damage.
4. If the inspection or test procedure requires that the engine is running, make sure to keep all unauthorized personnel away from the machine, and that all industry standard safety precautions are followed.

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MAINTENANCE INTERVALS

10 HOUR / DAILY SERVICE

- Inspect All Tires for Correct Tire Pressure and Signs of Damage or Abnormal Wear (See page 4-11)
- Grease Dozer Blade Pins (See page 4-11)
- Grease Boom, Arm and Front Attachment Pins (See page 4-11)
- Check Engine Oil Level (See page 4-11)
- Check Level of Hydraulic Oil Tank (See page 4-12)
- Check for Leaks in Hydraulic System (See page 4-13)
- Check Fuel Level (See page 4-13)
- Check Fuel Water Separator (See page 4-14)
- Check for Leaks in Fuel System (See page 4-14)
- Check Oil Level of Swing Reduction Device (See page 4-15)
- Check Cooling System and Refill as Required (See page 4-16)
- Check Level of Window Washer Liquid (See page 4-17)
- Clean Dust Net in front of Radiator (See page 4-17)
- Clean Engine Air Intake Precleaner (See page 4-17)
- Inspect Bucket Teeth and Side Cutters for Signs of Wear (See page 4-18)
- Check Engine Fan Belt for Cracks, Wear and Correct Tension (See page 4-18)
- Inspect Seat Belt for Proper Operation (See page 4-19)
- Inspect Structure for Cracks and Faulty Welds (See page 4-19)
- Check Operation of All Switches (See page 4-19)
- Check Operation of All Exterior Lights, Horn and Control Console Indicator and Monitor Lights (See page 4-19)
- Start Engine, Check Starting Ability, and Observe Exhaust Color at Start-up and at Normal Operating Temperature, Listen for Any Abnormal Sounds. (See page 4-19)
- Check Operation of All Controls (See page 4-19)
- Inspect for Any Loose or Missing Nuts and Bolts (See page 4-19)

50 HOUR / WEEKLY SERVICE

- Perform All 10 Hour / Daily Service Checks (See page 4-20)
- Grease Boom, Arm and Front Attachment Pins (See page 4-20)
- Grease Dozer Blade Pins (See page 4-23)
- Grease Front Axle Pin (See page 4-23)
- Grease Swing Bearing (See page 4-24)
- Grease Boom Swing Cylinder Head (See page 4-24)
- Change Engine Oil and Filter (See page 4-24)
- Drain Water and Sediment from Fuel Tank (See page 4-24)
- Clean Fuel Tank Strainer (See page 4-25)
- Drain and Refill Transmission Fluid (Drain and Refill after First 50 Hours) (See page 4-25)
- Drain and Refill Hub Reduction Gear Oil (See page 4-25)
- Drain and Refill Front Axle Case Oil (See page 4-25)
- Drain and Refill Rear Axle Case Oil (See page 4-25)
- Check Battery Fluid Level and Condition (See page 4-25)

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⚠ WARNING!

The hydraulic oil will be hot after normal machine operation. Allow the system to cool before attempting to service any of the hydraulic components.

The hydraulic tank is pressurized. Loosen the breather cap slightly to allow the pressurized air to vent. After the pressure has been released, it is safe to remove either the fill cap or service covers or drain water from the tank.

IMPORTANT!

Make sure to clean any dirt or water from the top of the hydraulic tank, especially around the fill port and filter ports.

NOTE: *Replace hydraulic oil filter after first 250 Hours of operation and every 500 Hours thereafter.*

1. Remove bolts (5, Figure 61), washers (6), service cover (10) and O-ring (7). Remove spring (12), valve (11) and filter element (13).
2. Properly discard filter element.
3. Install new filter element and a new O-ring. Install valve and spring. Install service cover plate.
4. Run engine for 10 minutes at low idle to purge air from circuit.
5. Stop engine.
6. Check level in hydraulic oil tank. Add oil if necessary

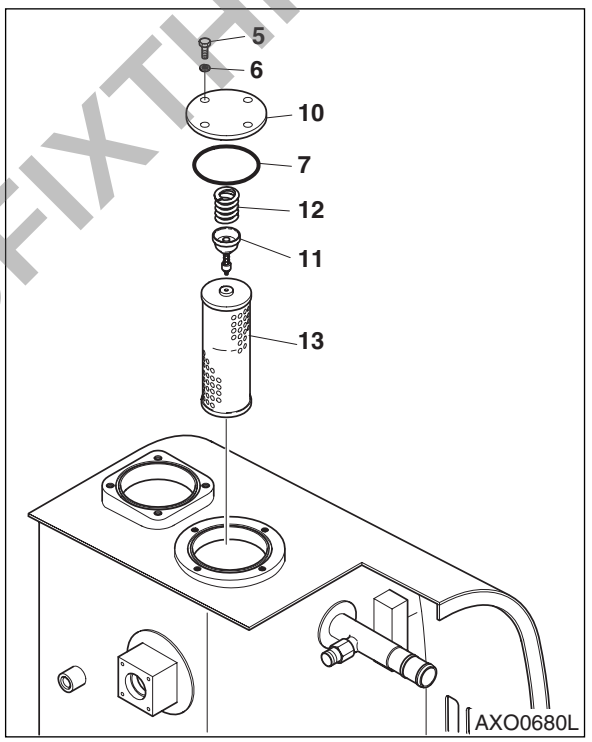


Figure 61

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TRANSPORTATION

Obey all local, state or federal regulations for the transportation of the excavator. If unsure of regulations check with local authorities.

Check the intended route for road width, overhead clearances, weight restrictions, and traffic control regulations. Special approval or permits may be required.

⚠ DANGER!

Yanmar warns any user, that the removal of the counterweight from the machine, front attachment or any other part, may affect the stability of the machine. This could cause unexpected movement, resulting in death or serious injuries. Yanmar is not liable for any misuse.

Never remove the counterweight or front attachment unless the upper structure is in-line with the lower structure.

Never rotate the upper structure once the counterweight or front attachment has been removed.

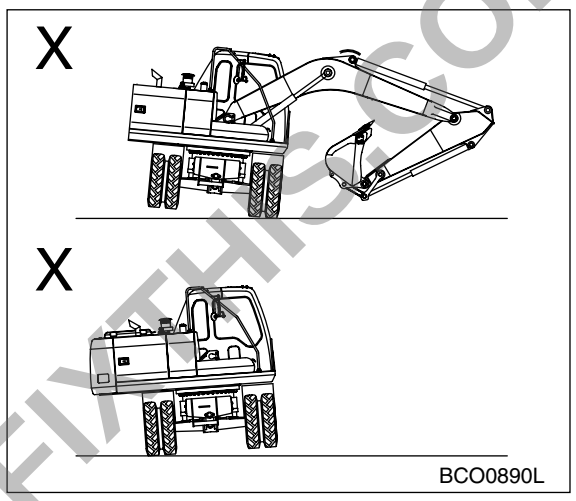


Figure 1

⚠ WARNING!

1. **Loading or unloading the machine can be a dangerous operation. Make sure to run the engine at the lowest speed setting, and travel at the slowest speed possible.**
2. **Make sure that the ramp being used is capable of handling the weight of the machine. If required, add blocking under the ramp for additional support.**
3. **Make sure that the ramp surface is free of grease or mud that could cause the machine to slip or slide.**
4. **Make sure that the trailer is parked on firm, level ground before attempting to load/ unload the excavator.**
5. **If required to turn the machine while it is on the trailer, make sure to do this at the slowest engine and travel speeds possible.**
6. **Make sure that the swing lock pin is inserted before transporting to prevent the machine from accidental swinging.**
7. **Make sure to secure the excavator onto the trailer as required by local transportation laws.**

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TROUBLESHOOTING

In all cases if a system malfunction is discovered, measures must be taken to correct the problem and the cause. Check for the cause of the problem and take preventive measures in advance through proper maintenance and repair. Since the cause of a problem at times may be due to multiple malfunctions a systematic approach must be taken to correct the problem. If a problem occurs, use the following troubleshooting table to isolate the cause and take necessary measure(s) for adjustment and repair. If the cause of the problem can not be isolated, consult with your nearest YANMAR dealer for assistance. Never attempt to perform an adjustment, disassembly or repair on hydraulic, electric & electronic systems without first contacting your service center.

ENGINE

PROBLEM	CAUSE	REMEDY
Starter does not operate.	Low battery power.	Charge battery.
	Poor terminal contact.	Clean and tighten connections.
	Starter switch failure.	Replace switch.
	Starter relay failure.	Replace relay.
	Starter control failure.	Replace controller.
	Wiring harness faulty.	Replace harness.
	Battery relay failure.	Replace relay.
	Blown fuse.	Replace fuse.
Starter engages, engine does not start.	Fuel gelled due to cold weather.	Replace fuel.
	Fuel filters clogged.	Replace filters.
	Water or dirt in fuel system.	Clean system and add new fuel.
	Air in fuel system.	Purge air from system.
	Engine stop control failure.	Replace stop control.
	Engine stop relay failure.	Replace relay.
	Blown fuse.	Replace fuse.
Engine starts, runs only at low speed or shuts down.	Engine oil viscosity incorrect.	Change oil.
	Clogged or dirty fuel injectors.	Clean injectors.
	Fuel filters clogged.	Replace filters.
	Engine stop motor cable out of adjustment.	Readjust.
	Engine speed control cable out of adjustment.	Readjust.

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STANDARD SPECIFICATION

COMPONENT			SPECIFICATION
Model			B55W-1 Hydraulic Wheel Excavator
Equipment Weight			5.55 metric tons
Drive Train			4 WD
Bucket Capacity	CECE		0.15 cu. m (0.20 cu. yd.)
	SAE		0.174 cu. m (0.23 cu. yd.)
Performance	Travel Speed	Forward	I Speed: 0 - 9.80 km/h (0 - 6.09 mph)
			II Speed: 0 -25.0km/h (0 - 15 mph)
		Reverse	I Speed: 0 - 9.80 km/h (0 - 6.09 mph)
			II Speed: 0 - 25.0 km/h (0 - 15 mph)
	Max. Swing Speed		9.1 rpm
	Digging Force	Bucket	4.07 metric tons
		Arm	2.82 metric tons
	Gradeability		30° (57.7%)
	Minimum Swing Radius		1,650 mm (5' - 5")
Engine	Model		Yanmar 4TNV 94L
	Style		Water Cooled - 4 Cylinders
	Rated Output		54.9 ps (54.15 hp) @2,400 rpm
	Maximum Torque		19.3 kg•m (140 ft lbs) @ 1,600 rpm
Travel System	Drive System / Transmission Gear		Hydraulic Drive / Forward, Reverse 2 Speed
	Tire Size		12.00-16.5-12PR
	Brake Type		Full Hydraulic Type
			Wet Disk Brake Type

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PARKING

1. Slowly release the pressure on the accelerator pedal.

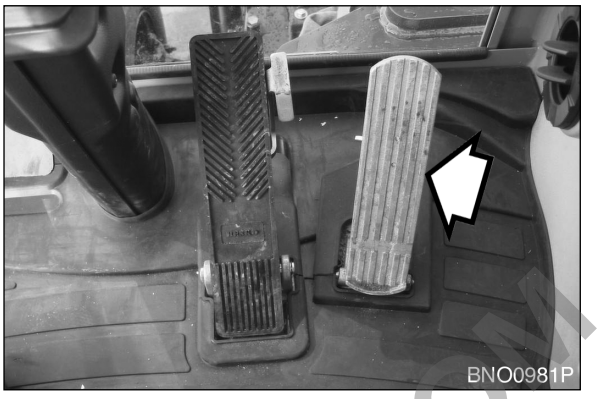


Figure 37

2. Step on the brake to fully stop the machine.

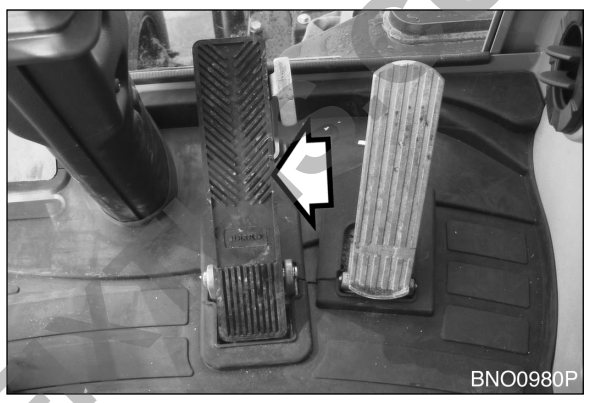


Figure 38

3. Be certain to set the operation levers, travel speed change lever and transmission selector switch to "NEUTRAL".

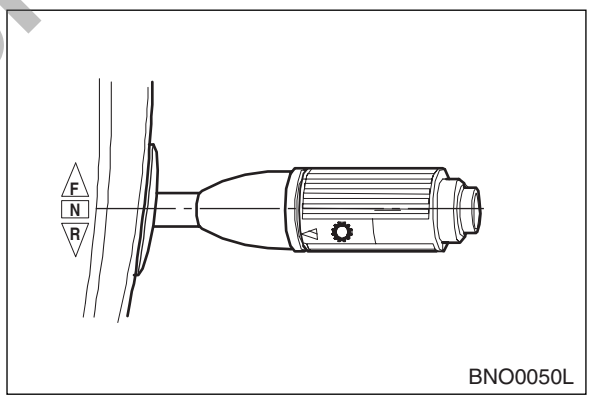


Figure 39

4. If you are using the engine speed control lever, reduce the engine speed to "LOW IDLE".

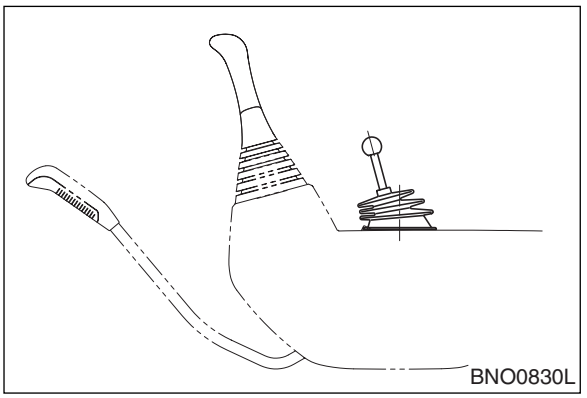


Figure 40

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