# Click here to get the complete manual

Operation	
Important information on this service manual	
Serial plates and component numbers	
Machine overview	
Inside of cab: overview	
Inside of cab: legend	
Instrument panel, multifunctional lever and drive lever: overview	
Instrument panel, multifunctional lever and drive lever: legend	1-8
Specifications	
Frame	
Engine	
Power train	
Axles	
Brakes	
Steering	
Work hydraulics	
Pilot control	
Additional control circuit + high-flow control circuit (option)	
Loader unit	
Electrical system Tires	
Weights	
Sound levels	
Vibration	
Hardware torques	
Dimensions	
Maintenance Fluids and lubricants Maintenance decal	
Maintenance schedule Model 680 (overview)	
Maintenance items	
Introduction	
Fuel system	
Engine lubrication system	
Engine and hydraulics cooling system	
Air filter	
V-belt	
Gearboxes and axles  Hydraulic system	
Lubrication points	
Attachments	
Brake system	
Tire care	
Changing wheels	
Electrical system	
General maintenance work	
Heating	3-39
Engine	
Engine BF4M 2011: overview	4-1
Engine oil cooling	
Fuel system	
Checking and adjusting valve tip clearance	
Replacing the fuel injection pump	
Setting charge air pressure	
Removing/mounting the cylinder head	4-12
Engine trouble	4-16

Power train	
Variable displacement pump 12 – 25 mph (20 – 40 km/h)	5_1
Hydraulic motor – control element 12 mph (20 km/h)	
Hydraulic motor – hydraulic connections 12 mph (20 km/h)	
Power train diagram 12 mph (20 km/h)	
ECO-Speed – hydraulic motor 25 mph (40 km/h)	
ECO speed power train (25 mph [40 km/h]): diagram	
Test report model	
Towing and transporting the machine	
Check and adjustment instructions	
Drive electronics operator's manual (SUSMIC)	
Procedures (sensor)	5-18
Axles	
Serial plate – axle	6-1
Front axle screw connections	
Rear axle screw connections	
Drain, fill and check plug – front axle	
Drain, fill and check plug – rear axle	
Tightening torques – front axle	
Tightening torques – rear axle	
Sealing work	b-t
Brakes	
Brake circuit	7-1
Service brake	
Steering	•
Steering circuit	
Steering circuit	
Hydraulic ports on servostat	
Pressure relief valve – servostat: settings	
Front/rear axle steering cylinder	
Setting the steering sensors	8-5
Hydraulic system	
Test report	9_1
Control valve connections: overview	
Control valve: design	
Pilot control unit: design	
Valve block connections: overview	
Pilot control circuit	
Work hydraulics circuit	
Load stabilizer circuit with hose burst valve	
Load stabilizer: circuit diagram	9-9
Load stabilizer with hose burst valve: circuit diagram	
Hose burst valve with load stabilizer: connections	
Hose burst valve circuit	
Hose burst valve circuit	
4th control circuit (front/rear)	
4th control circuit (front/rear) circuit	
Lift cylinder: sealing work	9-16
Tilt cylinder: sealing work	9-17
Control cylinder (quickhitch frame): sealing work	
Work hydraulics diagram: legend	
Work hydraulics diagram	9-21

918123/AP0605 **I-2** 

Electrical system	
Ohm's Law (current, voltage, resistance generates power)	
Measuring equipment and methods	
Terminal description	
Cable color-coding	
Relays	
Electrical units	
Fuse box on left and right of steering column	
Main fuse box with relays	
Relays	
Steering electronics	
Instrument panel, fuse box, relays: overview	
Legend for wiring diagram	
Wiring diagram	
Legend for wiring harness 207749: engine – frame	10-19
Wiring harness: 207749: engine – frame	
Legend for wiring harness 207750: cab	10-21
Wiring harness 207750: cab	10-22
Wiring harness 208562: control lever base (option)	10-23
Wiring harness 207968: control lever base (standard)	10-24
Wiring harness 207810: steering-column control lever	
Wiring harness 208111: additional control circuit	10-26
Wiring harness 208609 (joystick)	10-27
Electronics between joystick and wiring harness 208609	10-27
Wiring harness 207539: rotating beacon (option)	10-28
Wiring harness 207539: front working light (option)	10-29
Wiring harness 208589: load stabilizer (option)	10-30
Wiring harness 208676: solenoid valve – load stabilizer (option)	10-31
Wiring harness 209185: inching sensor	10-32
Wiring harness 209185: crawler gear – potentiometer	10-33
Wiring harness 208563: numberplate light (option)	10-34
Wiring harness 208113: air-suspension operator's seat (option)	10-35
Wiring harness: air conditioning (option)	10-36
Plug – SUSMIC	10-37
Relay assignment	10-38
Plug and socket connection: steering electronics – steering-column control le 10-39	ver
Plug and socket connection: fuse box and relay (left)	10-40
Plug and socket connection: fuse box and relay (right)	
Plug and socket connection: cab	
Plug and socket connection: instrument panel	
Plug and socket connections: load stabilizer, speedometer 25 mph (40 km/h)	, front

I-3 918123/AP0605

# 1 Operation

# 1. 1 Important information on this service manual

Your decision to purchase this piece of Gehl equipment was a good one. We are sure that your decision was carefully considered and that you are looking forward to many years of reliable performance from this machine.

Gehl Company has invested much time and effort in developing its lines of equipment. The equipment you have purchased is built with a great deal of pride, and designed to provide long life, efficient operation, durability and dependability.

Modern machinery has become more sophisticated and, with that in mind, Gehl Company asks that you read and COMPLETELY understand the contents of this manual and become familiar with your new machine, BEFORE attempting to service it.

This manual was developed specifically for the machine you have purchased. The information within is for your assistance in preparing, adjusting, maintaining and servicing your machine. More importantly, this manual provides a service plan for safe and proper use of your machine. Refer to the Table of Contents for an outline (by chapters) of this manual. Use the Index, located at the back of this manual, for specific chapter and topic/page number references.

If this machine is resold, Gehl Company recommends that this manual be given to the new owner

If this machine was purchased "used," or if the owner's address has changed, please provide your Gehl dealer or Gehl Company with the owner's name and current address, along with the machine model and serial number. This will allow the registered owner information to be updated, so that the owner can be notified directly in case of an important product issue, such as a safety update program.

"Right" and "left" are determined from the position of sitting in the operator's seat, facing forward.

Gehl Company reserves the right to make changes or improvements in the design or construction of any part without incurring the obligation to install such changes on any unit previously delivered.

Throughout this manual information is provided that is introduced by the word NOTE or IMPORTANT. Be sure to read carefully and comply with the message or directive given. Following this information will improve your maintenance efficiency, help you to avoid costly breakdowns or unnecessary damage and extend your machine's life.

Operational safety and readiness of the machine depend partially on maintenance and service of the machine. This is why regular maintenance and service work is absolutely necessary. Extensive maintenance and repair work must always be carried out by a qualified technician with appropriate training. Insist on using Gehl original service parts when carrying out maintenance and repair work. This ensures operational safety and readiness of your machine, and maintains its value.

Our wide dealership network stands ready to provide any assistance required, including genuine Gehl service parts. All parts should be obtained from or ordered through your Gehl dealer. Give complete information about the part as well as the model number and serial number of your machine. Record numbers, in the spaces provided, as a handy record for quick reference.

Purchased from:	
Date of Purchase: _	
Model No.:	
Serial No.:	

918123/AP0605 **1-1** 

#### Abbreviations/symbols

- · This symbol stands for a list.
  - · Subdivision within lists or an activity. Follow the steps in the recommended sequence.
- This symbol requires you to perform the activity described.
- This symbol marks the passages in the text describing the effects or results of an activity.

n. s. = not shown.

"Option" = optional equipment.

Stated whenever controls or other components of the machine are installed as an option.



This symbol shows the driving direction – for better orientation in figures and

# Serial plates and component numbers

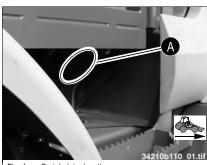
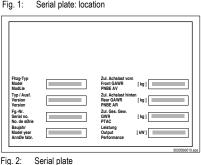


Fig. 1: Serial plate: location



#### Serial number

The serial number is stamped in the cab support A

(on the right as seen in driving direction, behind the cab door lining). It is also located on the serial plate.

The serial plate is located on the machine frame on the right, next to the loader unit bulkhead (on the right above the front axle).

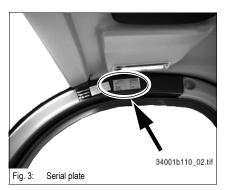
#### Serial plate information

#### Example:

Machine model: 680 Version: 343-01 Serial no .: 343 01 0001 Model year: 2005

Front gross axle weight rating: 9370 lbs. (4250 kg) Rear gross axle weight rating: 9370 lbs. (4250 kg) Gross weight rating: 15,432 lbs. (7000 kg) Output: 75 hp (56 kW)

Other information – see 2 Specifications on page 2-1.



#### Cab number

The serial plate (arrow) is located in the cab, on the top right frame member.

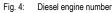
1-2 918123/AP0605

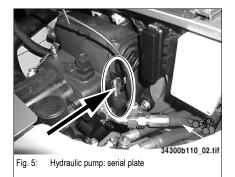


## Engine number

The serial plate (arrow) is located on the cylinder-head cover (engine).

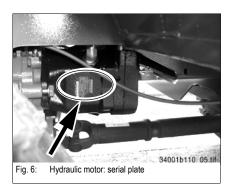
Example: Deutz BF4M2011





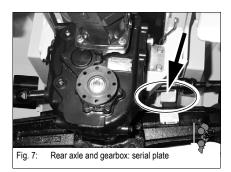
### Hydraulic pump number

The serial plate (arrow) is located on the hydraulic pump housing (next to where the pump is attached to the diesel engine).



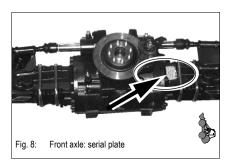
# Hydraulic motor number

The serial plate (arrow) is located above the drive shaft, on the right of the hydraulic motor.



#### Rear axle number

The serial plate (arrow) is located on the inside of the axle tube, on the left side in the driving direction (arrow).



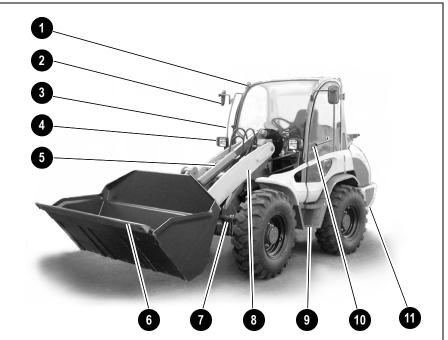
#### Front axle number

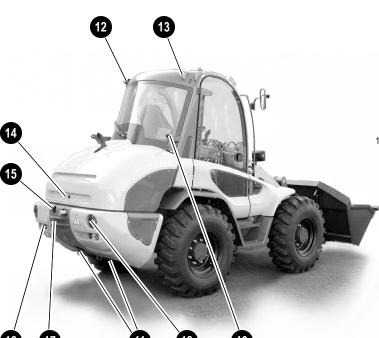
The serial plate (arrow) is located on the inside of the axle tube, on the right side in the driving direction (arrow).

918123/AP0605 **1-3** 

# 1. 3 Machine overview

- 1 Bracket for working light<sup>1</sup>
- 2 Rearview mirror
- 3 Handle
- 4 Headlight with turn indicator
- 5 Tilt cylinder
- 6 Front-edge protection
- 7 Front eye hook for tieing down the machine
- 8 Loader unit
- 9 Access
- 10 Door handle
- Rear eye hook for tieing down the machine





- 12 Bracket for working light
- 13 Bracket for rotating beacon (option)
- 14 Engine cover lock
- 15 Backup warning system
- 16 Reflectors
- 17 Tow facility
- 18 Brake, rear and turn indicator lights
- 19 Door latch
- Bracket for working light is only for removing the cab, and may not be used for crane-lifting the machine.

Fig. 9: Machine outside views

**1-4** 918123/AP0605