Carelift Equipment Limited
Service Manual – ZB10044/56

INDEX

Machine Serial Number Breakdown for introduction of T20000 Transmission

Model 10044

B10044T224970E and Above

Model 10056

B10056T216370C, B10056T217270E and Above

Carelift Equipment Limited
Service Manual – ZB10044/56

Section 10

Appendices

CareLift Equipment Limited
Service Manual – ZB10044/56

FOREWORD

This service manual has instructions and procedures for CareLift Forklifts. The information, specifications, and illustrations used in this manual are based on information that was current at the time this issue was written.

Correct servicing will promote a long productive life. Before attempting to start a test, repair or rebuild job, be sure that you have studied the respective sections of this manual, and know all the components you will work on.

Safety is not only your concern but everybody's concern. Safe working habits cannot be bought or manufactured; they must be learned through the job you do. By learning what **NOTE**, **CAUTION**, **WARNING** and **DANGER** symbols emphasize; you know what is safe and what is not safe. If necessary, consult your supervisor for specific instructions on a job, and the safety equipment required.

NOTE, CAUTION, WARNING and DANGER

NOTE, **CAUTION**, **WARNING** and **DANGER** are used in this manual to emphasize important and critical instructions. They are used for the following conditions:

NOTE.....An operating procedure, condition, etc., essential to highlight.

CAUTION.....Operating procedures, practices, etc., which if not strictly observed, will result in damage or injury.

WARNING.....Operating procedures, practices, etc., which if not correctly followed, will result in personal injury or loss of life.

DANGER.....If not observed, will result in serious injury or loss of life.

WARNING

SAFETY

WARNING	WARNING
The proper and safe lubrication and maintenance for this machine, recommended by CareLift, is outlined in the OPERATION & MAINTENANCE GUIDE for this machine. **Improper performance of lubrication or maintenance procedures is dangerous and could result in injury or death. Read and understand the OPERATION & MAINTENANCE GUIDE before performing any lubrication or maintenance.**	**Do not operate this machine unless you have read and understand the instructions in the OPERATOR'S GUIDE. Improper machine operation is dangerous and could result in injury or death.**

The mechanic may be unfamiliar with many of the systems on this machine. This makes it important to use caution when performing service work. Knowledge of the system and/or components is important before the removal or disassembly of any component.

Because of the size of some of the machine components, the mechanic should check the weights of the components. Use proper lifting procedures when removing any components.

Following is a list of basic precautions that should always be observed:

1. Read and understand all Warning plates and decals on the machine before operating, lubricating or repairing the product.

2. Always wear protective glasses and protective shoes when working around machines. In particular, wear protective glasses when pounding on any part of the machine or its attachments with a hammer or sledge. Use welders gloves, hood/goggles, apron and other protective clothing appropriate to the job being performed. Do not wear loose-fitting or torn clothing. Remove all rings from fingers when working on machinery.

3. Do not work on any machine that is supported only by lift jacks or a hoist. Always use blocks or jack stands to support the machine before performing any disassembly.

4. Lower the forks or other implements to the ground before performing any work on the machine. If this cannot be done, make sure the forks or other implements are blocked correctly to prevent them from dropping unexpectedly.

5. Use steps and grab handles when mounting or dismounting a machine. Clean any mud or debris from steps, walkways or work platforms before using. Always face the machine when using steps, ladders and walkways. When it is not possible to use the designed access system, provide ladders, scaffolds, or work platforms to perform safe repair operations.

6. To avoid back injury, use a hoist when lifting heavy components. Make sure all chains, hooks, slings, etc., are in good condition and are of the correct capacity. Be sure hooks are positioned correctly. Lifting eyes are not to be side loaded during a lifting operation.

7. To avoid burns, be alert for hot parts on machines which have just been stopped and hot fluids in lines, tubes and compartments.

8. Use caution when removing cover plates.

9. Use caution when removing filler caps, breathers and plugs on the machine. Hold a rag over the cap or plug to prevent being sprayed or splashed by liquids under pressure. The danger is even greater if the machine has just been stopped because fluids can be hot.

10. Always use tools that are in good condition and be sure you understand how to use them before performing any service work.

11. Reinstall all fasteners with same part number. Do not use a lesser quality fastener if replacements are necessary. Do not mix metric fasteners and standard nuts and bolts.

WARNING

12. If possible, make all repairs with the machine parked on a level, hard surface. Block machine so it does not roll while working on or under the machine.

13. Disconnect battery before starting to work on machine. Hang "Do Not Operate" tag in the Operator's Compartment.

14. Repairs which require welding should be performed only with the benefit of the appropriate reference information and by personnel adequately trained and knowledgeable in welding procedures. Determine type of metal being welded and select correct welding procedure and electrodes, rods or wire to provide a weld metal strength equivalent to that of the parent metal.

15. Do not damage wiring during removal operations. Reinstall the wiring so it is not damaged nor will it be damaged in operation by contacting sharp corners, or by rubbing against some object or hot surface. Do not connect wiring to a line containing fluid.

16. Be sure all protective devices including guards and shields are properly installed and functioning correctly before starting a repair. If a guard or shield must be removed to perform the repair work, use extra caution.

17. Always support the boom and carriage to keep carriage or attachments raised when maintenance or repair work is performed, which requires the boom be in a raised position.

18. Loose or damaged fuel, lubricant and hydraulic lines, tubes and hoses can cause fires. Do not bend or strike high pressure lines or install lines, which have been bent or damaged. Inspect lines, tubes and hoses carefully. Do not check for leaks with your hands. Pinhole (very small) leaks can result in a high velocity oil stream that will be invisible close to the hose. This oil can penetrate the skin and cause personal injury. Use cardboard or paper to locate pinhole leaks.

19. Tighten connections to the correct torque. Make sure that all heat shields, clamps and guards are installed correctly to avoid excessive heat, vibration or rubbing against other parts during operation. Shields that protect against the oil spraying onto hot exhaust components in event of a line, tube or seal failure must be installed correctly.

20. Relieve all pressure in air, oil or water systems before any lines, fittings or related items are disconnected or removed. Always make sure all raised components are blocked correctly and be alert for possible pressure when disconnecting any device from a system that utilizes pressure.

21. Do not operate a machine if any part is damaged or contacts any other part during operation.

22. Caution should be used to avoid breathing dust that may be generated when handling components containing asbestos fibres. If this dust is inhaled, it can be hazardous to your health. Components in CareLift products that may contain asbestos fibres are brake pads, brake band and lining assemblies, clutch plates and some gaskets. The asbestos used in these components is usually bound in a resin or sealed in some way. Normal handling is not hazardous as long as airborne dust, which contains asbestos, is not generated.

If dust-containing asbestos is present, there are several common sense guidelines that should be followed.

A. Never use compressed air for cleaning.

B. Avoid brushing or grinding of materials containing asbestos.

C. For clean up, use wet methods or a vacuum equipped with a high efficiency particulate air (HEPA) filter.

D. Use exhaust ventilation on permanent machining jobs.

E. Wear an approved respirator if there is no other way to control the dust.

F. Follow environmental rules and regulations for disposal of asbestos.

G. Avoid areas where asbestos particles may be in the air.

CareLift Equipment Limited
Service Manual – ZB10044/56

GENERAL INFORMATION

This Service Manual deals with systems and components of CareLift Zoom Boom forklifts.

Engine, transmission, axles, and other major components are covered in their respective manuals.

The following forklift Models are covered in this manual:

ZB10044 (2003 remodel) & ZB10056

- ZB10044 – Maximum Capacity 4,535 KG @ 610 MM
  10,000 Lb. @ 24"
  Maximum Lift Height 44 Ft.
- ZB10056 - Maximum Capacity 4,535 KG @ 610 MM
  10,000 Lb. @ 24"
  Maximum Lift Height 55'-10"

NOTE: *See individual model load charts for capacities at reach and height and with optional attachments.*

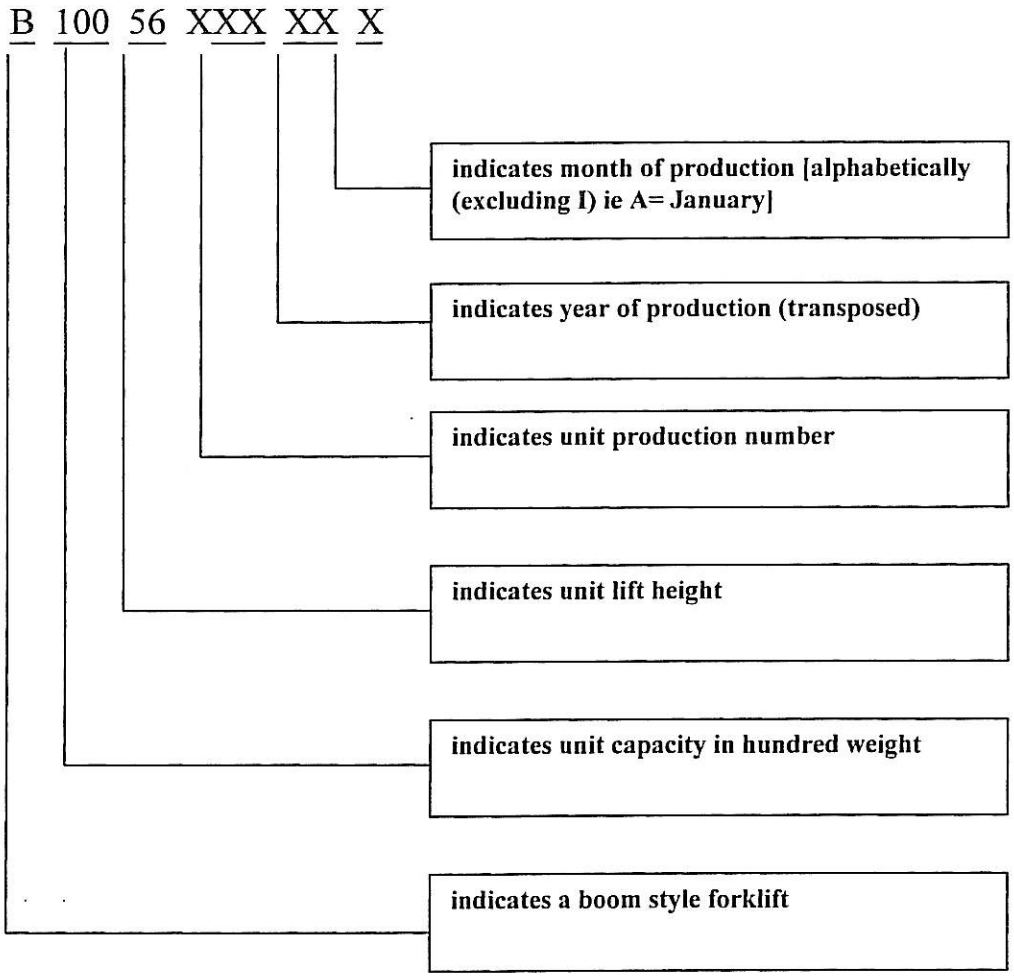
CareLift Equipment Limited
Service Manual – ZB10044/56

MODEL/SERIAL NUMBERS

Location:

1. Stamped on identification plate in cab.
2. Stamped to frame at right rear engine access opening on the horizontal bottom of the cut-out.

The serial number is composed of the following variables;



SECTION 1

1.0.0 ENGINE AND COMPONENTS

1.1.0 ENGINE

The standard engine used on the ZB10044 and ZB10056 model is a Cummins 4BT3.9 Turbo @ 110 HP.

Engine service information can be found in the Cummins Engine Manuals.

Basic Engine warranty is 2 years or 2000 hours, which ever occurs first.

It should be noted that engine warranty service work is to be directed to and administered by, your nearest authorized Cummins dealer/distributor. CareLift cannot enter into any warranty service work requirements.

The basic Cummins engine warranty covers the entire engine from the flywheel including all internal parts as well as the following list of parts if they were supplied with the engine as original.

1. Starter
2. Alternator
3. Injectors, Injector Pump
4. Fuel Pump
5. Fuel Solenoid
6. Water Pump

The air cleaner and exhaust system are not part of the engine package, and are covered later in this manual.

Also the cooling system, including radiator and hoses are not part of the engine package and are covered later in this manual.

1.2.0 EXHAUST SYSTEM

1.2.1 STANDARD EXHAUST SYSTEM PARTS

Standard exhaust parts are shown in the individual sections of the parts manual covering each model.

Standard exhaust systems consist of a baffled muffler and necessary piping to carry the exhaust away from the operator.

The 4BT3.9 Cummins turbo exhaust system runs off the turbo outlet and is reverse directed along the left side to the rear of the unit through a flex tube into a baffled muffler located on the left boom wing , exhausting to the left rear.

A catalytic muffler is available as an option.

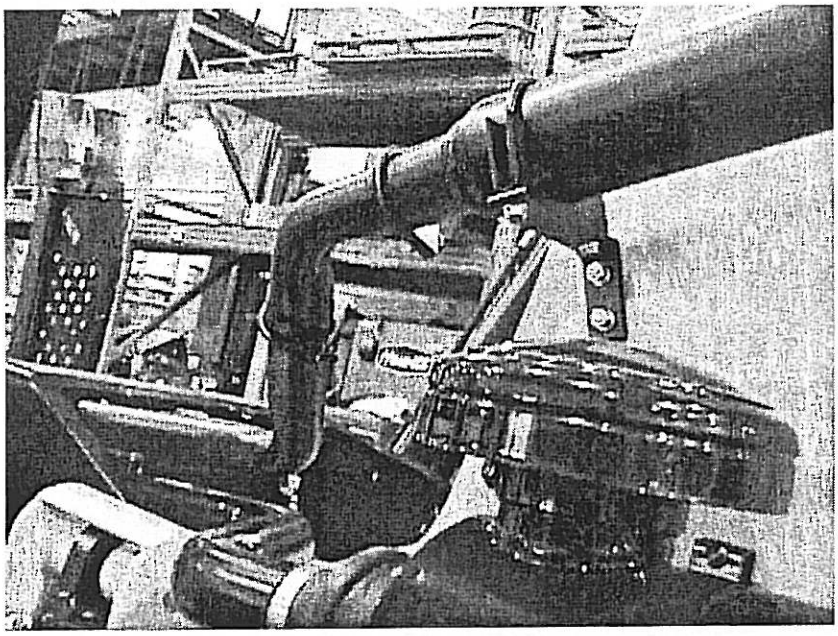


Figure 1: *EXHAUST GROUP*

1.3.0 AIR CLEANER ASS'Y

1.3.1 AIR CLEANER MAKES AND MODELS

A Donaldson 2- stage air cleaner is used on these models. The air cleaner is mounted to the outside face of the boom wing on the left side of the machine. This location mounts the air cleaner as high as possible to stay away from the dirt and also helps protect it from physical damage.

All air cleaners are dry type and have dual elements-installed. The inner element is a safety element only. NEVER operate unit without both elements properly installed.

It is not necessary to replace the safety (inner) element every time the main element is replaced, unless it is dirty.

Due to the importance of the engine receiving clean air through the air cleaner system, all hose connections and clamps should be checked on a regular basis to ensure that there are not any leaks.

See parts listing for individual part members when servicing this unit.

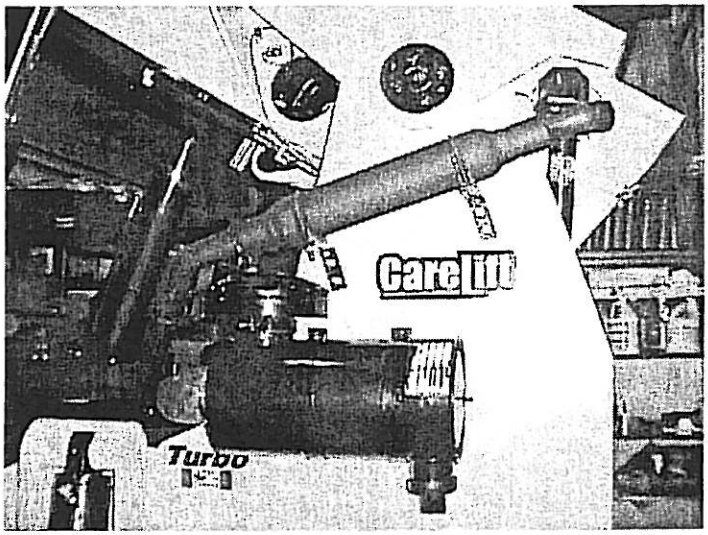


Figure 2: AIR CLEANER LOCATION

1.4.0 ACCELERATOR ASS'Y

1.4.1 ACCELERATOR PARTS

All units use a Morse throttle pedal assembly. The throttle pedal controls the fuel injector pump through a cable.

The throttle pedal pivot pin as well as all other moving joints should be lubricated on a regular basis during service to prevent seizing or wearing of parts.

The foot throttle pedal assembly is a standard model and is used on all models that Carelift produces.

The mounting of the cable to the injector pump may vary depending on the type of injector pump used with a particular engine spec.

See parts manual for individual parts numbers and serial numbers that may be required to identify specific engine combinations used.

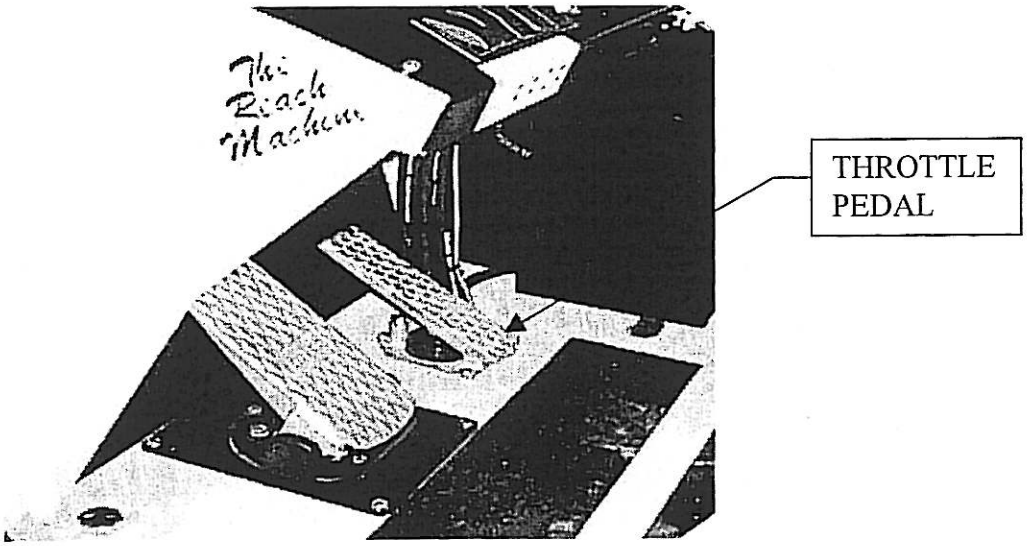


Figure 3: *FOOT PEDAL*