

# Volvo Vn Vhd Operators Manual

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## OPERATOR'S MANUAL VN, VHD



**VOLVO**

New Roads.™

## Foreword

This manual contains information concerning the safe operation of your vehicle. It is extremely important that this information is read and understood before the vehicle is operated. This manual also contains a considerable amount of information concerning the vehicle, such as vehicle identification, Preventive Maintenance recommendations and a log for your service records. Please keep this in the vehicle at all times. Information from other component manufacturers is supplied in separate manuals in the Owner's Package.

**Note:** It is important that this manual stays with the vehicle when it is sold. Important safety information must be passed on to the new customer. The service information contained in this manual gives the owner important information about maintaining the vehicle but is not intended as a substitute for the Preventive Maintenance Service Manual and must not be regarded as such.

The National Highway Traffic Safety Administration (NHTSA) and Volvo Trucks North America, Inc. should be informed immediately if you believe that the vehicle has a defect that could cause a vehicle accident, injury or death.

Contact NHTSA by calling the Auto Safety Hotline at 1 (800) 424-9393 or 1 (888) 327-4236. Send written complaints to: NHTSA, U.S. Department of Transportation, Washington, DC 20590.

**Volvo Trucks North America, Inc.**  
Greensboro, NC USA

**Order number: PV776-20570119**

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## Warning Label Information

### IMPORTANT

**Before driving this vehicle, be certain that you have read and that you fully understand each and every step of the driving and handling information in this Operator's Manual. Be certain that you fully understand and follow all safety warnings. It is extremely important that this information is read and understood before the vehicle is operated.**

IT IS IMPORTANT THAT THE FOLLOWING INFORMATION CONCERNING LABELS BE READ, UNDERSTOOD AND ALWAYS FOLLOWED.

The following types of labels are used throughout this manual:

**Note:** A note defines an operating procedure, practice, condition, etc., which is essential to proper operation of the vehicle.



#### DANGER

A danger label directs the operator's attention to unsafe practices which could result in serious personal injury or death. The caution label is in **white** type on a **black** background with a **black** border.



#### WARNING

A warning label directs the operator's attention to unsafe practices which could result in personal injury or severe damage to the vehicle. The warning label is in **black** type on a **gray** background with a **black** border.



#### CAUTION

A caution label directs the operator's attention to unsafe practices where personal injury is not likely but property damage could occur. The caution label is in **black** type on a **white** background with a **black** border.

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## **WARNING AND ADVISORY LABELS**

Advisory, Danger, Warning and Caution labels are placed in various locations of the vehicle to alert drivers and service technicians about situations that may lead to personal injury or equipment damage. In the event that a label is damaged or missing the **label must be replaced**. Contact your authorized Volvo dealer for assistance regarding Warning and Advisory labels, also see "Warning Labels" page 89.

### Information for the Owner

If there are questions on the maintenance and performance of your vehicle, please discuss them with your Volvo Truck dealer. Your authorized dealer is required to have trained mechanics, special tools and spare parts to fully service your vehicle. If necessary, your dealer will contact the manufacturer for any assistance.

In addition to this Operator's Manual, there may be additional instruction/operator's manuals supplied by component manufacturers. These manuals are placed in the Owner's Package and placed in the cab. Be sure to read all the manuals thoroughly before operating the vehicle.

Various safety labels may be placed about components by the component manufacturer. Be sure to read and follow these labels to prevent damage to the vehicle, personal injury or death.

Information in this manual refers to Volvo components and Volvo drivetrain. There is also certain information regarding the Cummins engine. For detailed information on the Cummins engine or non-Volvo engines and/or drivetrains contact the respective manufacturer.

Establish a Preventive Maintenance Program with the help of your local Volvo Truck dealer. A Preventive Maintenance Program makes it possible to maximize the amount of time your vehicle is up and running, resulting in longer component life. This makes for a safer vehicle by reducing any mechanical failures due to poor maintenance practices.

Various truck warranty coverage plans, contingent on application and weight class, are available. Please contact an authorized Volvo Truck Dealer for complete details. Replacement warranty certificates for Volvo Trucks are available from authorized Volvo dealers.

For trucks placed in service after October, 2002 and operating in the USA, Mexico and Canada, Volvo dealers can order copies of the Standard Truck Warranty Certificate and the Premium (Purchased) Truck Coverage Certificate. Warranty Certificate copies and Operator Manuals are available in either English, Spanish or French. Contact your authorized Volvo Truck dealer for more information.

**Note:** Federal law requires manufacturers to notify owners of its products in the event of a non-compliance to a Federal Motor Vehicle Safety Standard or if a safety related defect is discovered. If you are not the original owner of this vehicle, please notify us about the change in ownership at the address below or through an authorized Volvo Truck dealer. This is the only way we will be able to contact you if necessary.

Volvo Trucks North America, Inc.

Att: Vehicle Registration dept.

P. O. Box 26115

Greensboro, NC 27402-6115

United States of America



## 2 General Information

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**DO NOT Remove** this Operator's manual from the vehicle, it contains important operational and safety information that is needed by all drivers and owners of this vehicle.

**Note: Illustrations in this manual are used for reference only and may differ slightly from the actual vehicle, however, key components addressed in the manual are represented as accurately as possible.**

This manual covers Volvo **VN and VHD** series vehicles manufactured by Volvo Trucks North America, Inc. with any of the following designations:

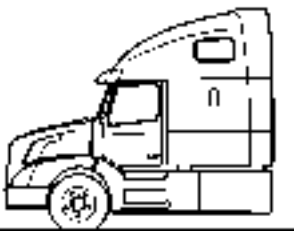
- VNL 780
- VNL 670
- VNL 630
- VNL 430
- VNL 300 (Daycab)
- VNM 630
- VNM 430
- VNM 200 (Daycab) Roof fairing choice is optional.
- VHD 200B (Axle Back)
- VHD 200F (Axle Forward)

*L=long hood, M=medium hood*

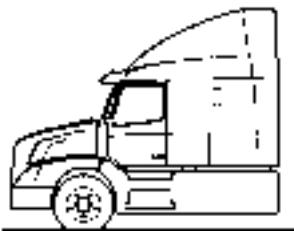
General Information 3



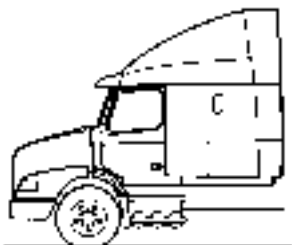
VNI 790



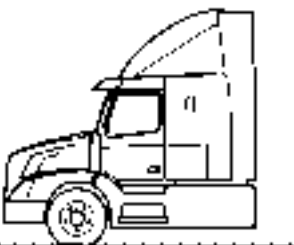
VNI 870



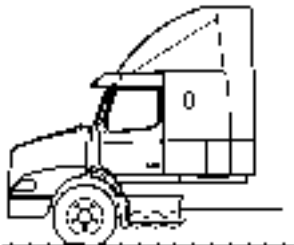
VNI 830



VNI 630



VNI 430



VNI 430



VNL 300



VNI 200



VNI 200



VHD 200B



VHD 200F

## 4 General Information

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This manual, **and other literature for specific components**, for example, Volvo Maintenance and Engine, Cummins engine, Eaton transmission, etc., contain important information which will assist you in safely operating this vehicle. They contain advice and instructions which will enable you to get the operating economy and performance that you expect from this quality vehicle.

All information, illustrations and specifications contained in this manual are based upon the latest product information available at the time of publication. If any questions arise concerning the current status of Federal or state laws, the appropriate Federal or state agency should be contacted.

Volvo Trucks North America, Inc. reserves the right to make changes at any time or to change specifications or design without notice and without incurring obligation.

### Operating

**Before driving this vehicle, locate the instruments and controls, and become thoroughly familiar with their operation. After starting and when driving, always check to make sure the instrument readings are normal.**

**Note:** Certain components on the vehicle are supplied by vendors who meet Volvo Truck's stringent quality requirements. In addition to major components, these quality requirements also apply to parts, which are expected to wear out over time and will need replacement. Examples are filters, tires, brakes, wiper blades, belts etc.

When replacing these components select parts that are equal to, or exceed the quality of the original equipment components. After the worn parts are replaced, there may be a difference in the way the vehicle operates or performs. For example, new tires may have different handling characteristics than old, worn tires. Be aware of possible changes in the way the vehicle functions and adapt your driving style accordingly.

## General Safety Information

### Operating the Vehicle

Every vehicle, including heavy duty vehicles, have blind spots. The size of blind spots vary from driver to driver and from situation to situation. As a skilled, professional driver, **you** are in the best position to avoid accidents in turns, lane changes or other maneuvers. Volvo Trucks North America, Inc. provides standard equipment (such as cabs, windshields, window sizes and mirrors), preferred by most owners and drivers under most conditions and in most applications.

However, due to differences in the size of drivers, their seating positions, the use and operation of their vehicles, personal preferences and other factors, no combination of mirrors and other visibility enhancement devices can eliminate all blind spots in every situation.

The safe operation of this vehicle is determined by the **you, the driver**. Because of your special preferences, needs and circumstances, you may choose to add extra mirrors and/or other visibility enhancement devices. If so, contact an authorized Volvo Truck dealer to obtain parts which best fit your personal needs and preferences.



#### WARNING

All items within the cab must be secured before the vehicle is set in motion. This includes, but is not limited to, drinks, clothes, books, televisions, etc. In the event of a collision, loose items could fly around inside the cab. This could cause personal injury.



#### DANGER

Never try to operate or work on this vehicle while under the influence of alcohol. Your reflexes can be affected by the smallest amount of alcohol. Drinking and operating this vehicle can lead to an accident, causing serious personal injury or death.

## 6 General Information

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### Operating In Bobtail Mode

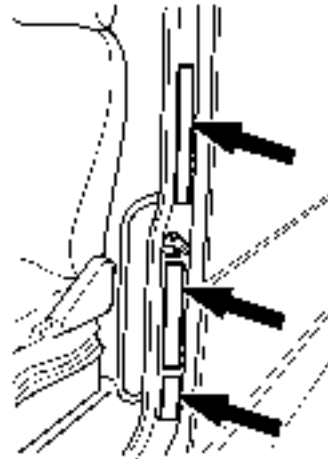
Depending on customer specification, some tractors may be equipped with a bobtail air brake proportioning valve which automatically redistributes the braking force between front and rear axles when not hooked up to a semitrailer (bobtail operation).

When operating in bobtail mode, the rear brake chambers receive reduced or proportional brake air pressure. When the tractor is towing a trailer, the rear brake chambers will receive full (normal) brake pressure. For tractors with no proportioning valve, the ABS system automatically controls brake pressure.

**Note:** When operating bobtail, be certain that glad hands, trailer air hoses, electrical cable and connectors are properly stowed and secure. Do not allow them to rub or chafe on other components.

### DO NOT Overload

This vehicle has been designed and assembled for a maximum gross vehicle weight rating (GVWR) and a maximum front and rear axle weights rating (FAWR and RAWR). The actual rating for this vehicle can be found on the label attached to the door frame on the driver's side. If any of these three ratings is exceeded and overloading occurs, instability, poor handling, failure of parts and accelerated wear can occur.



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 **DANGER**

Under no circumstances should the published GVWR, FAWR, and/or RAWR be exceeded. Failure to observe these precautions can lead to the loss of vehicle control, resulting in a vehicle accident causing serious personal injury or death.

 **DANGER**

DO NOT exceed the load rating of the tires or the vehicle weight ratings. Overloading may result in tire failure causing loss of vehicle control, leading to an accident resulting in severe personal injury or death.

## 8 General Information

### VN Front Bumper / License Plate Mounting

When placing the licence plate on the vehicle, make sure the opening in the bumper is not covered.

Place the license plate below the opening in the front bumper. Measure from the points marked in the illustration to obtain correct positioning to place the license plate.

Measuring points:

A to A: Lateral

B to B: Vertical

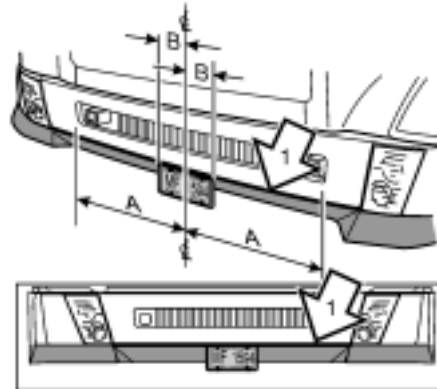
C to C: Center line



#### CAUTION

DO NOT cover the opening in the front bumper with a license plate. Covering this hole will restrict airflow to the lower portion of the radiator. This can cause the engine to overheat, which can damage the engine.

**Note: DO NOT mount the license plates in the unshaded area. Make sure the opening in the bumper is not covered. The license plate will be slightly slanted toward the rear of the vehicle.**

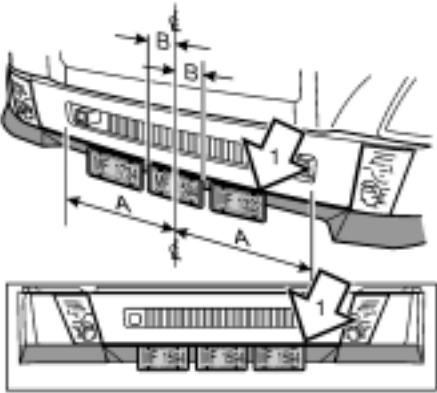


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- 1 Install license plate below this edge.

Multiple License Plate Mounting

Install multiple license plates as shown.

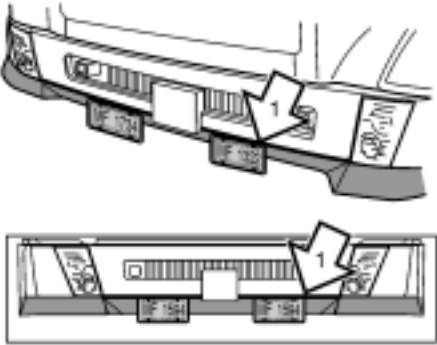


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- 1 Install license plates below this edge.

VORAD License Plate Mounting

Install multiple license plates as shown.



W8003371

- 1 Install license plates below this edge.



## 10 General Information

### Roof Extender

The Roof Extender increases fuel economy. The Extender is adjustable to five positions which are shown in the illustration here and in the graphs on the following page.

The vehicle is delivered with the extender or deflector “lowered” or down, which is the transport position, see “A” in illustration.

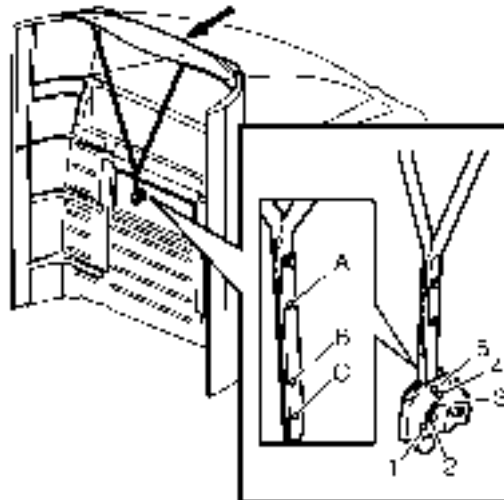
To set the extender to normal riding position, measure points H and G then select positions 1 through 5 in the rod as determined by the adjustment chart.

**B:** Position for 630 and 670 vehicles.

**C:** Position for 780 vehicles.

**Note:** For 630 and 670 vehicle models the frame height must be measured. See “F” in illustration below.

**Note:** If “F” measures 10 1/2 in (266mm) subtract 5/8in (17mm) from the value determined for “H”.



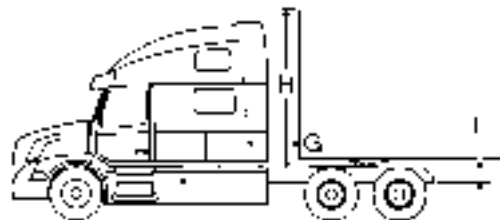
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### Roof Extender Measurements

**H** Height from the top of the trailer to the top of the frame rail.

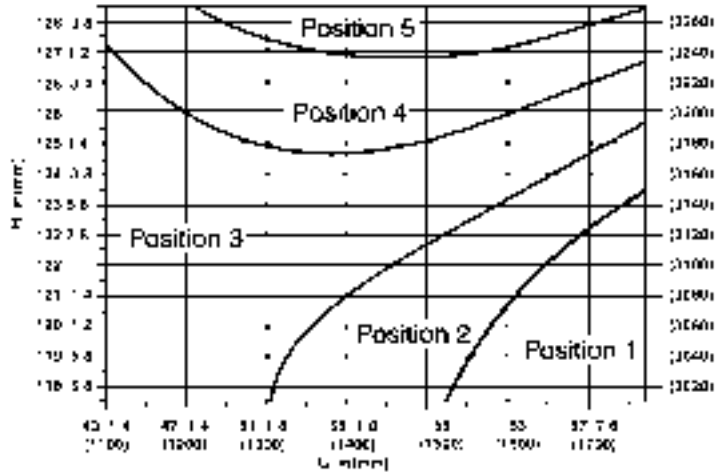
**G** Gap or distance from the back of the cab to the trailer.

**F** Frame rail height.



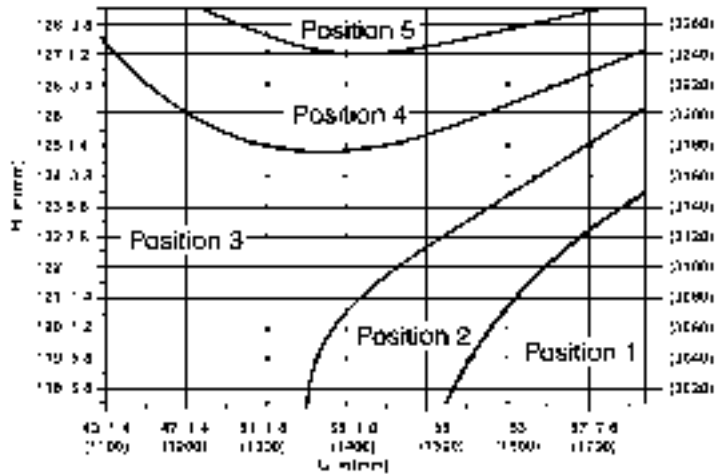
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630/670 Roof Extender Adjustment Chart



W8003472

780 Roof Extender Adjustment Chart



W8003473

## 12 General Information

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### Reporting Safety Defects

#### USA

The National Highway Traffic Safety Administration (NHTSA) and Volvo Trucks North America, Inc. should be informed immediately if you believe that the vehicle has a defect that could cause a vehicle accident, injury or death.

**1 (800) 424-9393**

or

**1 (888) 327-4236**

Contact NHTSA by calling the Auto Safety Hotline or by writing to: NHTSA, U. S. Department of Transportation, Washington, DC 20590.

#### Canada

Refer customer complaints to Volvo Trucks Canada, Inc. or to Transport Canada, Defect Investigations and Recalls.

**1 (905) 795-1555**

**1 (800) 333-0510**

For written complaints: Transport Canada, Defect Investigations and Recalls, 2780 Sheffield Road, Ottawa, ON K1B 3V9.

(Bottom number within Canada only)

#### Mexico

Volvo Trucks of Mexico, S.A. de C.V. should be informed immediately if you believe the vehicle has a defect that could cause a vehicle accident, injury or death. Contact Volvo Trucks de Mexico by calling 011-52-55-50-81-68-50 or by writing to: Volvo Trucks de Mexico, S.A. de C.V., Prol. Paseo de la Reforma 600, 1er. Piso — 121, Col. Santa Fe Peña Blanca, C.P. 01210, México, D.F.

**01 (800) 90 94 900**

(Within Mexico only)

**Note:** For Roadside assistance information see “Service Assistance and Manuals” page 374.

## Modifications to Vehicle

### Chassis Frame

Frame side rails are heat treated. No welding is permitted because this can result in structural failure. DO NOT drill through either top or bottom flanges. A warning label is also attached to the frame for information.

Drilling is permitted in the frame web in accordance with a specified hole spacing pattern. Consult an authorized Volvo Truck dealer to obtain approved hole spacing dimensions or refer to the Frame Rail and Cross Member Service Manual.

Frame rail and cross member nuts and bolts should be checked periodically and tightened to the specified torque if necessary.



W7001277



#### WARNING

DO NOT weld on any part of the frame or drill holes in the top or bottom flanges. Serious structural damage could occur.

### Frame Alterations

Under no circumstances can the frame be cut and an extension piece added to increase the wheelbase. The only alteration allowed is wheel base shortening, where the only change in the frame rail is a new hole pattern drilled for the new location of the rear suspension.



#### CAUTION

Use only electric welders due to the coating on material used to build cabs. Oxygen and Acetylene welding will not bond properly due to coating.

### Welding In Vehicle

Do not weld anywhere in or on the vehicle before disconnecting batteries, all electronic control units (ECUs) and instrument cluster. See "Electrical System" page 315. Refer to the Welding section.

DO NOT use oxy/acetylene welding to repair cab panels.