# Freightliner 2008 Sterling 360 Driver S And Maintenance Manual

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OWNER AND VEHICLE INFORMATION
OWNER NAME:
USER/COMPANY NAME:
MAILING ADDRESS:
CITY, STATE: ZIP:
VEHICLE IDENTIFICATION NUMBER:
DATE OF DELIVERY (WARRANTY START DATE): / / / MO. DAY YR.

**SELLING DEALER IMPRINT HERE** 

## **Foreword**

Thank you for purchasing a Sterling 360<sup>™</sup> vehicle.

This manual explains proper vehicle handling, simple maintenance practices, and the periodic maintenance schedule to ensure that you are able to drive your vehicle safely and comfortably.

For your reference, keep this manual in the vehicle at all times.

#### Lubrication

When performed on a regular basis, lubricating the parts of your vehicle is the least costly way of obtaining safe and reliable vehicle operation. Added benefits and savings occur when you check that the engine, undercarriage, and noise emission control parts are in good working order during lubrication.

This manual explains when you should lubricate parts and what to look for when checking for wear or damage.

### **Environmental Concerns and Recommendations**

Whenever you see instructions in this manual to discard materials, you should attempt to reclaim and recycle them. To preserve our environment, follow appropriate environmental rules and regulations when disposing of materials.

# **NOTICE: Parts Replacement Considerations**

Do not replace suspension, axle, or steering parts (such as springs, wheels, hubs, and steering gears) with used parts. Used parts may have been subjected to collisions or improper use and have undetected structural damage.

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## Symbols and alert messages

- Descriptions and specifications in this manual were in effect at the time of printing. Sterling Truck Corporation reserves the right to discontinue models and to change specifications or design at any time without notice and without incurring obligation. Descriptions and specifications contained in this publication provide no warranty, expressed or implied, and are subject to revisions and editions without notice.
- The following symbols are used throughout this handbook:

ু : optional equipment
⇒ ্র : cross-reference to another page that contains relevant information about the subject.

This manual contains important hazard messages under the following four headings that identify the nature and importance of the information:

DANGER /

Imminent hazards that will result in severe personal injury or death.

**WARNING** 

Hazards or unsafe practices that could result in severe personal injury or death.

CAUTION /

Hazards or unsafe practices that could result in minor personal injury and/or damage to products or property.

NOTE:

Relevant information that is helpful or informative but not associated with any risk or hazard.

California Proposition 65 Warning

DANGER /!\

THIS PRODUCT CONTAINS OR EMITS CHEMICALS KNOWN TO THE STATE OF CALIFORNIA TO CAUSE CANCER AND BIRTH DEFECTS OR OTHER REPRODUCTIVE HARM.

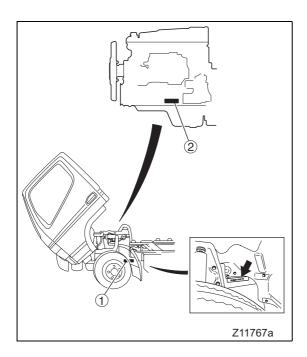
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# 1. About your vehicle

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# Chassis and engine numbers

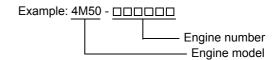
#### 1 Chassis number

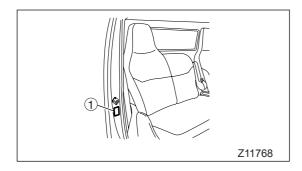
The chassis number is located on the left frame rail, behind the front wheel.



# 2 Engine number

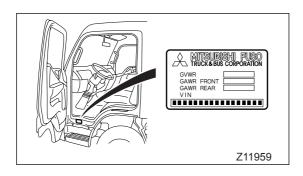
The engine number is located on the left-hand side of the crankcase.





# Power line label

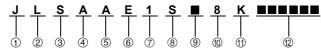
The power line label  $\odot$  is located on the passenger's B-pillar door post. It gives the vehicle model, chassis number, and information about the components of the powertrain: engine, transmission, and axle.



# Vehicle identification number (VIN)

The VIN is stamped on a plate that is located just below the kick plate on the driver's door (see illustration).

The VIN includes 17 coded numbers and letters. The coding is given below.



① Country J: Japan

② Make L: Mitsubishi Fuso

③ Vehicle type S: Sterling incomplete vehicle

④ Gross vehicle weight / Brake system

A: 10,001 to 14,000 lb / Hydraulic B: 14,001 to 16,000 lb / Hydraulic C: 16,001 to 19,500 lb / Hydraulic

⑤ Line A: Sterling 360 COE 30

B: Sterling 360 COE 45

C: Sterling 360 COE 50

6 Series (wheel base) D: 2.90 to 3.19 m

E: 3.20 to 3.49 m G: 3.80 to 4.09 m J: 4.40 to 4.69 m K: 4.70 to 4.99 m

Cab chassis type1: COE 4X2 chassis cab

® Engine
S: 4.9 L Diesel turbo charged and charge air cooled

Oheck digit

Model yearPlantK: Kawasaki

Plant sequential serial number

#### **Maintenance**

Regular maintenance will improve the performance of your vehicle and extend its service life. It is recommended that you make a habit of performing the following inspections.

In this manual, you will find simple maintenance checks and procedures that can be carried out by the owner. If you have difficulty, or your vehicle needs work that is not described in this manual, please contact an authorized Sterling service facility.

## 1 Engine run-in period

To avoid overburdening a new engine, limit engine speed to 1800 revolutions per minute (rpm) for the first 600 miles (1000 km).

After this initial run-in period, gradually increase engine speed, starting with the lower gears.

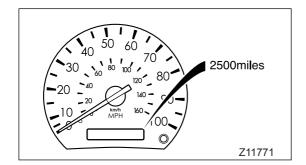
#### 2 Pretrip inspection

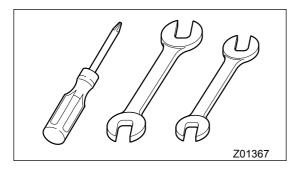
Inspect your vehicle at the start of each working day. This will ensure continued safe and comfortable operation. 

⇔ □ P. 11-7

### 3 Initial maintenance

After you have driven the first 4,000 km (2,500 miles), your vehicle requires a special inspection and adjustments to compensate for the initial settlement of various parts.





## 4 Maintenance program

Recurring maintenance lengthens the vehicle's service life and can help prevent accidents. Recurring maintenance can be based on either distance traveled (odometer reading), or length of service (hourmeter reading).

Maintenance intervals for each recurring item are shown in the maintenance schedule. Please follow the maintenance schedule. ⇔ ☐ P. 14-2

#### Fuel

Use only diesel fuel conforming to the following recommendations, without any additives, for diesel engines installed in the Sterling 360.

## 1 Diesel fuel properties

For optimum fuel economy and performance, adhere to the following recommendations.

Use condition	Recommendation
Normal operation at temperatures above 10°F (–12°C)	ASTM D-975 Grade Ultra Low Sulfur Grade 2-D*
Operation at temperatures below 10°F (–12°C), or long-hour no-load operation.	ASTM D-975 Grade Ultra Low Sulfur Grade 1-D*

#### NOTE:

\* ASTM is an acronym for the American Society for Testing and Materials which recommends fuel containing 0.0015% – basis 15 ppm sulfur or less sulfur content.

Sulfur content exceeding 0.0015% – basis 15 ppm sulfur deteriorates the performance of the emission control device.

To meet precise fuel requirements, obtain cooperation from a reputable supplier of diesel fuel. The fuel supplier and the vehicle operator are both responsible for keeping the fuel clean.

### 2 Ultra low sulfur diesel

Use only a ultra low sulfur diesel fuel (with a sulfur content of 15 ppm or lower) for refueling your engine. Otherwise, the catalyst inside the diesel particulate filter (DPF) will not work effectively and the DPF's performance of removing small particles (particulate matter or PM) in exhaust gases will be degraded. Furthermore, your truck will not meet emission regulations if you replenish it with a non-approved fuel.

# 3 Danger of fire and explosion resulting from fuel mixtures

Fuel containing 5% gasoline has a flash point as low as 32×F (0×C), which can lead to a fire or explosion while the engine is running.

# DANGER /

NEVER MIX DIESEL FUEL WITH GASOLINE, GASOHOL OR ALCOHOL.

USE OF FUEL MIXED WITH ONE OR MORE OF THESE COULD LEAD TO A FIRE OR EXPLOSION INVOLVING SERIOUS INJURY, DEATH OR PROPERTY DAMAGE. IF YOU ACCIDENTALLY USE GASOLINE OR ALCOHOL WHEN REFUELING THE VEHICLE, REMOVE ALL OF IT FROM THE FUEL SYSTEM.

#### 4 Adverse effects of fuel mixtures

Using diesel fuel mixed with gasoline, alcohol, or both, has the following adverse effects on the engine:

- Excessive wear, damage, and failure of fuel system parts, as a result of lower fuel viscosity.
- Difficulty in starting the engine, as a result of reduced cetane number.

# CAUTION /

- The lower the cetane number, the more likely internal engine damage will occur.
- Do not add antifreeze agents or other substances to the fuel. They could damage the engine's fuel injection system.
- Be sure to clean the fuel tank cap and breather regularly. If they become so dirty that the breather gets blocked, the fuel tank may suffer damage and the fuel injection system may fail.

## 5 Refueling

# WARNING /!\

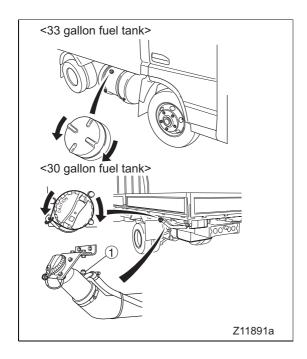
- Do not refuel with the engine running. Shut down the engine before fueling.
- Diesel fuel is combustible. Wipe up any spilled fuel. Do not smoke while refueling.
- If you inadvertently put gasoline in the fuel tank, pump it all out. Do not run the engine with gasoline in the tank.

Any of these practices can cause a fire or explosion, which could result in burn injuries or loss of life.

#### NOTE:

If the vehicle runs out of fuel and air enters the fuel lines, bleed the fuel system before starting the engine.

⇒ 🗀 P. 12-23



### • 33-gallon fuel tank

This fuel tank is on the left-hand side of the vehicle. To open the filler cap, slowly turn it counterclockwise. To close the cap, turn it clockwise. Be sure the cap is fully closed.

Fuel tank capacity	
33.0 gallons (125 liters)	

## • 30-gallon fuel tank @PT.

This optional fuel tank is at the rear of the vehicle. To open the filler cap, slowly turn it counterclockwise. To close the cap, turn it clockwise until you hear a click.

Fuel tank capacity	
29.8 gallons (113 liters)	

# WARNING /

- When filling the fuel tank using a gun-type fuel pump, do not continue pumping after the pump automatically stops. (The tank is full at this point.)
- When filling the fuel tank using any other method, stop as soon as the fuel level becomes visible through the fill opening. If the fuel level reaches the bottom of the opening, fuel may leak though the check valve ① when the vehicle starts and stops. If fuel leaks, carefully wipe it all up.
- If the pointer of the fuel level gauge is above the "F" mark, do not add any more fuel.

Overfilling the fuel tank can cause a fire, which could result in burn injuries and loss of life.

### Reporting safety defects

If you believe that your vehicle has a defect that could cause a crash or could cause injury or death, you should immediately inform the National Highway Traffic Safety Administration (NHTSA) in addition to notifying Sterling Truck Corporation.

If NHTSA receives similar complaints, it may open an investigation, and if it finds that a safety defect exists in a group of vehicles, it may order a recall and remedy campaign. However, NHTSA cannot become involved in individual problems between you, your dealer, or Sterling Truck Corporation.

To contact NHTSA, you may either call the Auto Safety Hotline toll-free at 1-888-327-4236 (TTY: 1-800-424-9153); go to <a href="www.safercar.gov">www.safercar.gov</a>; or write to: Adminstrator, NHTSA, 1200 New Jersey Avenue, SE, Washington, DC 20590.

You can also obtain other information about motor vehicle safety from <a href="www.safercar.gov">www.safercar.gov</a>.

Canadian customers who wish to report a safety-related defect to Transport Canada, Defect Investigations and Recalls, may telephone the toll-free hotline 1-800-333-0510, or contact Transport Canada by mail at: Transport Canada, ASFAD, Place de Ville Tower C, 330 Sparks Street, Ottawa, Ontario, Canada K1A 0N5.

For additional road safety information, please visit the Road Safety website at: <a href="https://www.tc.gc.ca/road-safety/menu.htm">www.tc.gc.ca/road-safety/menu.htm</a>.

## **Obtaining service**

#### **Customer Assistance Center**

Having trouble finding service? Call the Customer Assistance Center at **1-800-785-4357** or **1-800-STL-HELP**. Call night or day, weekdays or weekends, for dealer referral, vehicle information, or breakdown coordination. Our people are knowledgeable, professional, and committed to following through to help you keep your truck moving.

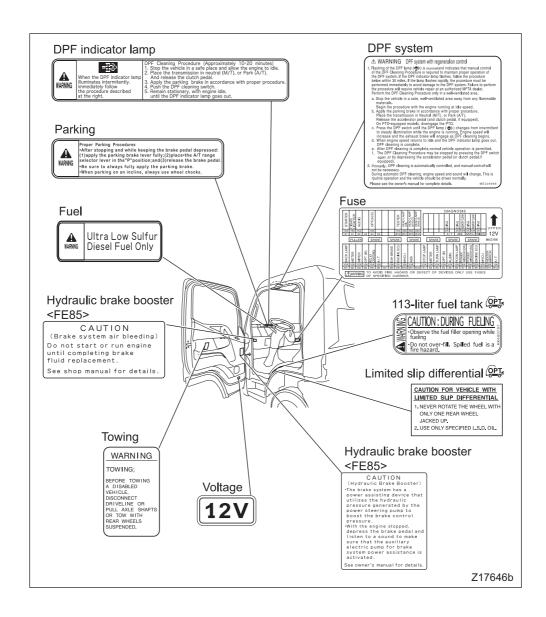
# 2. Warning labels

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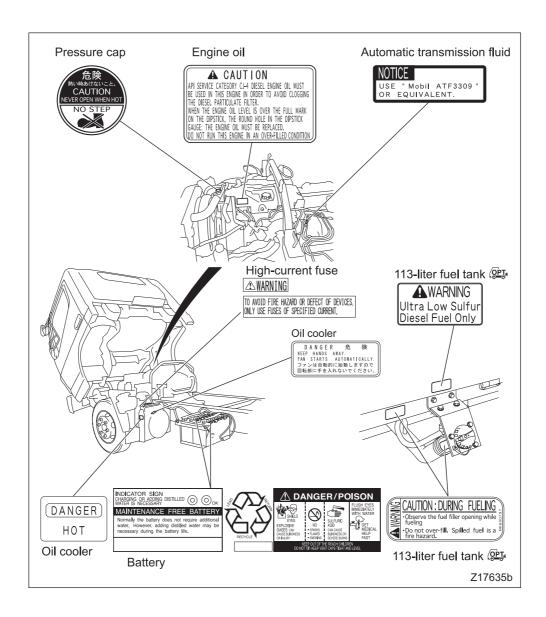
## **General information**

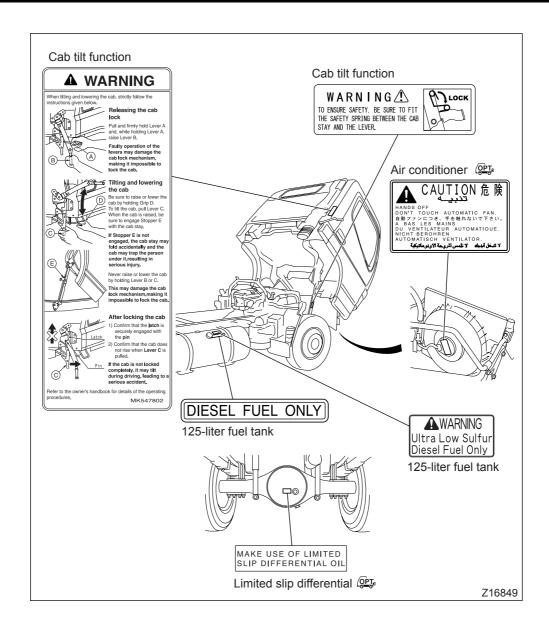
- The caution and warning labels give important information. Be sure to read them before using the vehicle.
- If any label has become so damaged or dirty that it is difficult to read, please inform an authorized Sterling dealer. The warning and caution labels apply only to the vehicle itself. For vendor equipment mounted on the vehicle, please refer to the equipment manufacturer's manual.
   The locations of the caution and warning labels
- The locations of the caution and warning labels are shown in the following illustration. Samples of each label are supplied on this and the following pages.

### Locations in cab



### Locations outside cab





# 3. Vehicle access

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#### **Doors**

# WARNING /

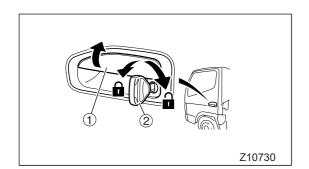
- To prevent injuries, before opening either door, check for vehicles and pedestrians approaching from behind.
- Driving with a door ajar can cause an injury. Make sure the doors are completely closed before starting the vehicle.
- Exercise caution when opening a door in strong wind. Otherwise, the wind could catch the door and suddenly blow it open, causing a personal injury.
- Exercise caution when opening a door on a downward slope. Otherwise, the inclination of the vehicle could cause the door to suddenly fall open, causing a personal injury.
- Never leave a child alone in the cab. A child left in the cab could inadvertently operate the controls, causing an accident or injury. Be particularly careful in hot weather, because a child left in the cab could suffer heatstroke.

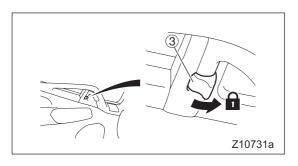


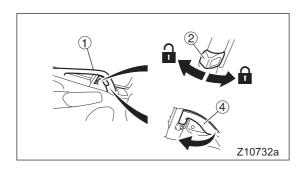
- To open, pull the outer handle ① toward you.
- Use the ignition key ② to lock or unlock the door
- It is possible to lock each door without using the ignition key. On the driver's door or passenger's door, push the lock button <sup>®</sup> forward, then close the door as you pull out on the exterior door handle.

#### NOTE:

- If you lock the driver's door using the ignition key or lock button, the passenger's door locks automatically.
  - However, if you unlock the driver's door using the ignition key or lock button, the passenger's door remains locked. Only the driver's door is unlocked.
- When you leave your vehicle, be sure to remove the ignition key from the ignition switch to prevent theft
- Be careful not to lock the doors with the ignition key inside the vehicle.





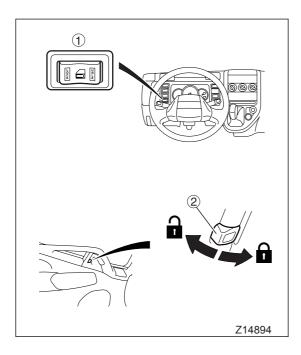


#### 2 From the inside

- To close, use the door grab handle ①. Close the door completely.
- To lock the driver's door or passenger's door, push the lock button @ forward.
- To unlock and open the driver's door or passenger's door, push the lock button toward the rear of the vehicle, and then pull the interior door handle 4.



Use the grab handle to close the door. Closing the door in any other way could damage the door mechanism.



#### **Master door locks**

- When the "LOCK" side of the switch ① is pressed, both doors are locked. When the "UNLK" side of the switch is pressed, both doors are unlocked.
- When the lock button ② on the driver's door is pushed forward, the passenger's door is also automatically locked. If the lock button on either door is subsequently pushed rearward, only that door is unlocked.
- When the driver's door is locked from the outside using the ignition key, the passenger's door is automatically locked at the same time. If the ignition key is subsequently used to unlock either door, the other door remains locked.