



SCHOOL BUS CHASSIS MAINTENANCE MANUAL

**Models: Type C SB
FS65**

Foreword

Scheduled maintenance provides a key element for safe operation of your vehicle. A proper maintenance program also helps to minimize downtime and to safeguard warranties. This maintenance manual provides information necessary for years of safe, reliable, and cost-efficient vehicle operation.

Perform daily pretrip inspection and maintenance as outlined in the vehicle operator's manual. Perform the operations in this maintenance manual at scheduled intervals based upon distance traveled or months of operation. Your authorized servicing dealer has the qualified technicians and equipment to perform this maintenance for you. Your dealership can also set up a scheduled maintenance program tailored specifically to your needs. Optionally, your dealership can assist you in learning how to perform the maintenance procedures in this manual.

IMPORTANT: Descriptions and specifications in this manual were in effect at the time of printing. Freightliner Custom Chassis Corporation (FCCC) reserves the right to discontinue models at any time, or change specifications and design without notice and without incurring obligation.

For additional information, please contact Freightliner LLC, Service Systems and Documentation, P.O. Box 3849, Portland, OR 97208-3849, U.S.A. or refer to <http://www.Freightliner.com> and <http://www.FreightlinerChassis.com>.

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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Descriptions of Service Publications

Freightliner LLC distributes the following major service publications.

Workshop Manual

Workshop manuals contain service and repair information for all vehicle systems and components, except for major components such as engines, transmissions, and rear axles. Each workshop manual section is divided into subjects that can include general information, principles of operation, removal, disassembly, assembly, installation, specifications, and troubleshooting.

Maintenance Manual

Maintenance manuals contain routine maintenance procedures and intervals for vehicle components and systems. They have information such as lubrication procedures and tables, fluid replacement procedures, fluid capacities, specifications, procedures for adjustments and for checking the tightness of fasteners. Maintenance manuals do not contain detailed repair or service information.

Operator's Manual

Operator's manuals contain information needed to enhance the driver's understanding of how to operate and care for the vehicle and its components. Each manual contains a chapter that covers pretrip inspection and daily maintenance of vehicle components. Operator's manuals do not contain detailed repair or service information.

Parts Technical Manual

Freightliner LLC publishes this manual to aid in the identification of serviceable replacement vehicle parts. This manual is used in conjunction with the parts book and the service parts catalog microfiche.

Service Bulletins

Service Bulletins provide the latest service tips, field repairs, product improvements, and related information. Some service bulletins are updates to information in the workshop manual. These bulletins take precedence over workshop manual information, until the latter is updated; at that time, the bulletin is usually canceled. The service bulletins manual is available only to dealers. When doing service work on a vehicle system or part, check for a valid service bulletin for the latest information on the subject.

IMPORTANT: Before using a particular service bulletin, check the current service bulletin validity list to be sure the bulletin is valid.

Recall Bulletins

These bulletins pertain to special situations that involve service work or replacement of parts in connection with a recall notice. Recall bulletins pertain to matters of vehicle safety. All bulletins are distributed to dealers; customers receive notices that apply to their vehicles.

Field Service Modifications

This publication is concerned with non-safety-related service work or replacement of parts. All field service modifications are distributed to dealers; customers receive notices that apply to their vehicles.

For a page example of the printed manual, see Fig. 1.

A
B
C

Suspension
32

32-01 Suspension Inspecting, Freightliner Spring

FRONT AND REAR SUSPENSION SPRING ASSEMBLIES

Inspect the front and rear suspension spring assemblies for pitted, cracked, broken, or abnormally bent leaves and extreme rust. If any of these conditions exist, replace the spring assembly. See Group 32 of the vehicle workshop manual for instructions.

WARNING: Do not replace individual leaves of a damaged leaf spring assembly; replace the complete spring assembly. Visible damage (cracks or breaks) to one leaf causes hidden damage to other leaves. Replacement of only the visibly damaged part(s) is no assurance that the spring is safe. On front spring assemblies, if cracks or breaks exist in the two top leaves, a loss of vehicle control could occur. Failure to replace a damaged spring assembly could cause an accident resulting in serious personal injury or property damage.

IMPORTANT: On multi-leaf suspensions, closely inspect each component of the leaf spring assemblies, including the brackets, U-bolts, and related parts.

REAR SUSPENSION SPRING BRACKETS

Inspect the forward and rear spring brackets and the wear pads, for wear, cracks, and other damage. If any of these conditions exist, replace the damaged bracket(s) and wear pad(s). See Group 32 of the vehicle workshop manual for instructions.

WARNING: Replace worn, cracked, or damaged spring brackets. Failure to do so could result in bracket breakage, possibly leading to loss of vehicle control and resulting in personal injury or property damage.

32-02 Suspension Lubricating, Freightliner Spring

FRONT SUSPENSION

Wipe all dirt from the grease fittings at the forward spring pin and the spring shackle pins; then apply multipurpose chassis grease with a pressure gun until the old grease is forced out.

REAR SUSPENSION

Lubricate the spring pin by applying multipurpose chassis grease at the grease fitting. See Fig. 1. Lubricate with a grease gun until grease appears at the base of the fitting.

32-01 U-Bolt Torque Checking, Freightliner Spring Suspension

Check the U-bolt torque of both the front and rear axles.

CAUTION: Failure to retorque the U-bolt nuts could result in spring breakage and abnormal tire wear.

In a diagonal pattern, tighten all 5/8-18 U-bolt nuts 205 lbf-ft (278 N.m); tighten all 3/4-16 U-bolt nuts 300 lbf-ft (407 N.m); and tighten all 7/8-14 U-bolt nuts 460 lbf-ft (624 N.m).

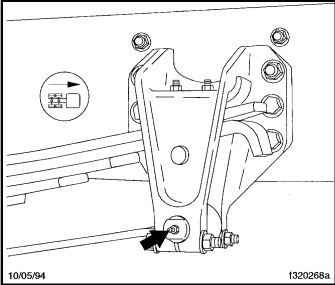


Fig. 1, Forward Spring Bracket Spring Pin Grease Fitting

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A. Maintenance Operation Number consists of the Group Number followed by the Sequence Number
 B. Group Title
 C. Group Number
 D. Release Date
 E. Group Number/Page Number

Fig. 1, Page Example of the Printed Manual

Maintenance Manual Contents

Group No.	Group Title
00	General Information
01	Engine
09	Air Intake
15	Alternators and Starters
20	Engine Cooling/Radiator
25	Clutch
26	Transmission
31	Frame and Frame Components
32	Suspension
33	Front Axle
35	Rear Axle
40	Wheels and Tires
41	Driveline
42	Brakes
46	Steering
47	Fuel
49	Exhaust
54	Electrical, Instruments, and Controls

Title of Maintenance Operation (MOP)	MOP Number
Determining Scheduled Maintenance Intervals.	00-01
Initial Maintenance (IM) Operations.	00-06
Lubrication and Fluid Level Check	00-04
M1 Maintenance Interval Operations.	00-07
M2 Maintenance Interval Operations.	00-08
M3 Maintenance Interval Operations.	00-09
Maintenance Interval Table.	00-03
Maintenance Operation Sets.	00-05
Metric/U.S. Customary Conversion Table.	00-12
Noise Emission Controls Maintenance.	00-10
Torque Specifications Tables.	00-13
Vehicle Maintenance Schedule Table	00-02
Verification of Inspections Log.	00-11

Determining Scheduled Maintenance Intervals: 00–01

Description

Category I (urban transport) applies to vehicles that annually travel *up to* 20,000 miles (32 000 kilometers).

Category II (rural transport) applies to vehicles that annually travel *over* 20,000 miles (32 000 kilometers).

The table under *Vehicle Maintenance Schedule Table* shows the two categories of vehicle usage. For each category, the appropriate distance and time intervals are given for performing Initial Maintenance and for repeating each maintenance operation set (M1 through M3).

The table under *Maintenance Interval Tables* shows which maintenance operation set must be performed at the actual distances (miles and kilometers) or actual months of operation for each maintenance category. The schedule of actual distances (and months) is based on the intervals given in the *Vehicle Maintenance Schedule Table*.

The table under *Maintenance Operation Sets* lists, in numerical order, the text reference numbers and descriptions of *all* maintenance operations, and indicates all maintenance operation sets at which each operation must be performed.

Each *Maintenance Interval Operations* table (IM through M3) lists the appropriate text reference numbers and descriptions of only those maintenance operations that must be performed at that maintenance operation set. Each maintenance operation set is listed in a separate *Maintenance Interval Operations* table.

Use

Before placing your new vehicle in service, determine the maintenance category (Category I or II) that applies to your intended use of the vehicle. See the *Vehicle Maintenance Schedule Table* to determine the distance (or time) interval at which each maintenance operation set must be performed for your category of vehicle.

When the vehicle reaches the actual distance (or months) given for an interval, see the *Maintenance Interval Table* to find the maintenance operation set that applies to that interval. Then perform the maintenance operations listed in the applicable Maintenance

Interval Operations table. Use the maintenance operation reference numbers to find instructions in the manual for completion of each operation.

Complete each maintenance operation set at the required interval. Then, when you have completed maintenance operation set M3 under the 12th Maintenance Number listed in the *Maintenance Interval Table*, repeat the pattern. The 13th Maintenance Number will begin at maintenance operation set M1, under the 1st Maintenance Number listed in the *Maintenance Interval Table*.

NOTE: When performing operations for the 13th Maintenance Number, complete the M1 operations only, not the Initial Maintenance operations.

To determine the distance/months for the 13th Maintenance Number, add your category's distance/months for the 1st Maintenance Number to the distance/months for the 12th Maintenance Number, then perform the operations listed in the applicable table in the *Maintenance Interval Operations* tables. For the 14th Maintenance Number, add the distance/months for the 2nd to the distance/months for the 12th; continue this pattern for each successive Maintenance Number.

Vehicle Maintenance Schedule Table: 00–02
Vehicle Maintenance Schedule Table

Description	Maintenance Operation Set	Maintenance Intervals			
		Frequency	Miles	km	Months
CATEGORY I (Urban Transport) vehicles that annually travel up to 20,000 miles (32 000 km)	Initial Maintenance (IM)	first	2500	4000	3
	Maintenance 1 (M1)	every	2500	4000	3
	Maintenance 2 (M2)	every	10,000	16 000	12
	Maintenance 3 (M3)	every	30,000	48 000	36
CATEGORY II (Rural Transport) vehicles that annually travel over 20,000 miles (32 000 km)	Initial Maintenance (IM)	first	5000	8000	3
	Maintenance 1 (M1)	every	5000	8000	3
	Maintenance 2 (M2)	every	20,000	32 000	12
	Maintenance 3 (M3)	every	60,000	96 500	36

General Information

00

Maintenance Interval Table: 00–03

Maintenance Interval Table

Maint. No.	Maint. Oper. Set	Category I			Category II		
		miles x 100	km x 100	months	miles x 100	km x 100	months
1st	IM + M1	25	40	3	50	80	3
2nd	M1	50	80	6	100	160	6
3rd	M1	75	120	9	150	240	9
4th	M2	100	160	12	200	320	12
5th	M1	125	200	15	250	400	15
6th	M1	150	240	18	300	480	18
7th	M1	175	280	21	350	560	21
8th	M2	200	320	24	400	640	24
9th	M1	225	360	27	450	720	27
10th	M1	250	400	30	500	800	30
11th	M1	275	440	33	550	885	33
12th	M3	300	480	36	600	965	36