• Contact Phone Numbers
• Tire Care
• Weight Distribution
• Air Brake System
• Chassis Lubrication
• Pre-Trip and Scheduled Maintenance
• Allison Transmission Operation
• Misc.
If you should require chassis service, you should first contact your nearest Freightliner Chassis service center. If for some reason this is not possible or if you would like to call the manufacturers direct, you can contact them at the following telephone numbers:

**FREIGHTLINER CUSTOM CHASSIS CORPORATION**
1-800-FTL-HELP (800-385-4357)
(Please have your VIN# ready)

**CATERPILLAR RV ENGINE SUPPORT**
1-877-777-3126

**CUMMINS ENGINE COMPANY**
1-800-DIESELS (800-343-7357)

**ALLISON TRANSMISSIONS**
1-800-524-2303

**MICHELIN**
800-TIRE-HELP
(800-847-3435)

Visit our web site at www.freightlinercrashasis.com
Tire Care

• What is the most important component of tire care?
  TIRE PRESSURE

• Why?
  • Improved Ride
  • Improved Tire Wear
  • Improved Road Handling
  • Improved Braking

The most important factor in maximizing the life of your tires is maintaining proper inflation pressure. An under inflated tire will build up excessive heat that may go beyond the prescribed limits of endurance of the rubber and the radial cords. Over inflation will reduce the tire's foot print on the road, reducing the traction, braking capacity, and handling of your vehicle. An over inflated tire will also cause a harsh ride, uneven tire wear, and will be more susceptible to impact damage.

Keep in mind that the pressure rating on the side wall of your tire is the maximum pressure for that tire. This is not necessarily the correct pressure for the tires when installed on your vehicle. Maintaining the correct tire pressure for your vehicle’s loaded weight is extremely important and must be a part of regular vehicle maintenance.
To determine the correct air pressure for your tires, load your motor home as you would normally travel, including water and fuel. Go to a truck scale as found at most truck stops and weigh each wheel position independently, with driver and passenger or passengers in the vehicle as described in the *Michelin Recreational Vehicle Tire Guide* (MDL40660 Rev. 1/03) to determine the correct air pressure for the weight on each wheel position. Then use the charts in the guide and adjust the pressure accordingly when the tires are cool or have not been driven for more than one mile. **Never reduce the air pressure in a hot tire.**

*Remember*: For control of your RV, its critical that the tire pressure be the same on both sides of the axle!

**For a copy of the Michelin RV Tire Guide, call 1-800-847-3435.**
Weight Distribution

The distribution of weight in your motorhome is a very important factor. Too much weight either on one side of the vehicle or too much weight in the rear compared to the front axle can adversely affect the handling characteristics of the vehicle and in some cases can result in overloading the tires or axle components. Care should be taken to assure that you maintain as much of an equal balance as possible when loading your equipment, food and other supplies into the vehicle.

The front to rear weight balance should be as close to equal percentages of each axle weight rating as possible (Example: Front GAWR = 10,410 lbs. / 80% = 8,328 lbs. Rear GAWR = 17,500 lbs. / 80% = 14,000 lbs. ) This type of balance provides the best handling characteristics of the vehicle. Small percentage differences will not make a great deal of difference. A unit that is too light on the front axle and heavy on the rear axle can result in wandering and porpoising, or a continued bouncing of the front of the coach after hitting a bump in the road.

By knowing what your vehicle weighs, you can determine the best location for your belongings. Simply because you can fit everything in one compartment for easy access, does not mean that this is OK. Your house is now moving down the road, so the little things like location of heavy items becomes important from more than an accessibility standpoint.
Brake System

- Rear brakes act as parking brake.
  - Spring applied
  - Holding power of two large drum brakes
  - Park brake will not release in event of air pressure loss
- In the event of an air pressure loss
  - Warning lamp and buzzer will warn you

- Equipped with automatic slack adjusters

The rear brakes on the Freightliner chassis are also used as the parking brakes. This gives you the holding power of two large drum brakes to keep your coach from rolling even when fully loaded on a 20% grade.

A loss in air pressure will not result in an immediate loss of brakes. If a leak develops in the air system while driving, (at approximately 60 to 65 PSI) you will be alerted by a light on the instrument panel and an audible alarm. As you apply the brakes, the air supply holding the brakes in the released position will gradually be depleted. When fully depleted, (approximately 40 PSI) the rear brakes will set. This gives you plenty of time to pull over to the side of the road. **NOTE: (The rear brakes on Freightliner chassis are spring applied and air released.)**

Equipped with automatic slack adjusters that eliminate the need to manually adjust your brakes. Each time you step on the brake pedal, if adjustment is needed, the adjusters take up the slack. That is all there is to it.
Freightliner chassis air brake systems are equipped with an air dryer to remove the condensed moisture from compressed air. The air dryer is equipped with a spin-on desiccant cartridge that is scheduled to be changed every 18 months. Inside this is a coalescing filter that should be changed every 18 months. The dryer is located either on the right hand frame rail (behind the rear axle) or between the frame rails (behind the rear axle) on later models.

(WARNING: Air Tanks should be bled of all pressure any time you work on the air system)
Brakes - cont.

- Heated automatic moisture ejector system
  - Inside air dryer
  - On the wet tank

- Drain lanyards should be pulled every 6 Months for 10 to 15 seconds.
- Manual drain lanyards

NOTE: There are three drain lanyards only two are shown.

Freightliner chassis are equipped, as standard equipment, with a heated automatic moisture ejector on the wet tank in addition to one built into the air dryer. This eliminates the need to climb under the coach to drain air and water from the tanks daily. You still must pull all three drain lanyards for 10 to 15 seconds every 6 Months to drain moisture. A fine mist is normal due condensation. If a large amount of moisture is present it should be completely drained, and the air dryer serviced. Moisture in the braking system can cause brake system failure and is not covered by the manufacturers warranty.
Exhaust & Compression Brake & Variable Geometry Turbo

- Improves braking power
- Reduces chances of overheating brakes on steep grades
- Works in conjunction with Allison electronic transmissions
- Illuminates brake lamps with 5 & 6 Speed Allison
- Compression brake allows for 3 or 6 cylinder use.

Cummins ISB VGT  Exhaust Brake  Compression Brake

All brakes build up heat when being used due to friction, this is normal. However, excessive use of the brakes when descending a grade can result in excessive heat and can cause “brake fade” or a loss of braking power, even with disc brakes. The correct way to use your brakes is to go slowly enough that a fairly light occasional use of the brakes will keep your speed from increasing. **Do not maintain continual brake pedal pressure when descending a hill with any type of brake system.** Instead, down shift the transmission to slow the vehicle and make light, intermittent brake applications to control down hill speeds. By utilizing the transmission gears and/or the VGT, Exhaust Brake, or Compression Brake (if so equipped), continual use of the brakes will not be necessary. When using the transmission’s lower gears to slow the vehicle on hills, be careful not to exceed the governed speed of your engine. If engine-governed speed is exceeded, the transmission will shift up to the next range, rapidly increasing the speed of your vehicle. If you find that you are continually using the brakes to maintain a safe speed and to keep the RPMs within this range, slow the vehicle down even further and shift the transmission to a lower gear.

**Caution: Do Not Use the VGT, Exhaust Brake, or Compression Brake on wet roads or slippery conditions.**
### Scheduled Maintenance

- **Grease fittings**
  - Front oil filled bearing
  - Fill plug
  - Minimum oil level line
  - Drain plug

<table>
<thead>
<tr>
<th>Oil and filter change</th>
<th>Engine fuel filter change</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Caterpillar 3126 &amp; 3126B</strong> 19 Qt Pan</td>
<td><strong>Caterpillar 3126 &amp; 3126B</strong> 19 Qt Pan</td>
</tr>
<tr>
<td>Serial # Prefix 1WM &amp; 7AS</td>
<td>Serial # Prefix 1WM &amp; 7AS</td>
</tr>
<tr>
<td>9,000 miles or 1 year which ever occurs first.</td>
<td>9,000 miles or 1 year which ever occurs first.</td>
</tr>
<tr>
<td><strong>Caterpillar 3126B &amp; 3126E &amp; C7</strong> 22 Qt Pan</td>
<td><strong>Caterpillar 3126B &amp; 3126E &amp; C7</strong> 22 Qt Pan</td>
</tr>
<tr>
<td>Serial # Prefix 7AS, 8YL, 9SZ &amp; CKM</td>
<td>Serial # Prefix 7AS, 8YL, 9SZ &amp; CKM</td>
</tr>
<tr>
<td>11,000 miles or 1 year which ever occurs first.</td>
<td>11,000 miles or 1 year which ever occurs first.</td>
</tr>
<tr>
<td><strong>Cummins B5.9L &amp; C8.3L</strong></td>
<td><strong>Cummins B5.9L &amp; C8.3L</strong></td>
</tr>
<tr>
<td>6,000 miles or 6 months which ever occurs first.</td>
<td>6,000 miles or 6 months which ever occurs first.</td>
</tr>
<tr>
<td><strong>Cummins ISB &amp; ISC</strong></td>
<td><strong>Cummins ISB &amp; ISC</strong></td>
</tr>
<tr>
<td>15,000 miles or 1 year which ever occurs first.</td>
<td>15,000 miles or 1 year which ever occurs first.</td>
</tr>
<tr>
<td><strong>Cummins ISL</strong></td>
<td><strong>Cummins ISL</strong></td>
</tr>
<tr>
<td>18,000 miles or 1 Year which ever occurs fist.</td>
<td>18,000 miles or 1 Year which ever occurs fist.</td>
</tr>
<tr>
<td><strong>Cummins ISM</strong></td>
<td><strong>Cummins ISM</strong></td>
</tr>
<tr>
<td>7,000 miles or 6 months which ever occurs fist.</td>
<td>7,000 miles or 6 months which ever occurs fist.</td>
</tr>
</tbody>
</table>

### Recommended Fluid Types

- **Engine Oil**
  - Caterpillar & Cummins Engines
  - Outside air temperature between + 5 F & + 122 F
  - SAE 15W-40 CH-4, CG-4 or CF-4

- **Transmission Fluid**
  - MT643, MD3060, 1000/2000 Series, 3000/4000MH
  - Dexron III or TransSynd

- **Rear Axle Differential & Front Wheel, Oil Lubricated Wheel Bearings**
  - SAE 80-90W Gear Lubricant

- **Hydraulic System Reservoir**
  - Dexron III

- **Front Axle Spindle Pins, Tie Rods, Drag Link, Intermediate Steering Shaft & Gear**

- **Front & Rear Wheel Bearings, Brake Camshafts, Auto Slack Adjusters & Universal Joints.**

- **Brake Caliper Slides (Hydraulic Brakes)**
  - Aeroshell Grade 5 (ES-1246) Grease

- **Pac Brake Exhaust Brake**
  - Multi-Purpose Grease NLGI Grade 1 or 2

- **Pac Brake Synthetic Lube or Synco Super Lube**
One very important area of regular, scheduled maintenance, is the lubrication of various points on the chassis steering, braking and suspension systems. The above chart points out these locations. The lubrication intervals and lubricant specifications are listed in your owner’s manual and on the attached pages for your particular chassis. Lubrication does not have to be performed by an authorized service dealer, but the dates and mileage of lubrication and general service should be recorded for future reference.

<table>
<thead>
<tr>
<th>No.</th>
<th>Text Ref. No.</th>
<th>Components</th>
<th>Remarks</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>46-05</td>
<td>Steering Gear</td>
<td>One Grease Fitting</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>46-04</td>
<td>Steering Shaft</td>
<td>Three grease fittings; lubricate both universal joints and the slip joint spline</td>
<td>3</td>
</tr>
<tr>
<td>3</td>
<td>46-01</td>
<td>Drag Link &amp; Bell Crank</td>
<td>Two grease fittings per drag link; one on each end, and one on bell crank housing</td>
<td>5</td>
</tr>
<tr>
<td>4</td>
<td>33-01</td>
<td>Knuckle Pins</td>
<td>Two grease fittings; one on top and one on bottom of knuckle pin. Lubricate both sides of axle.</td>
<td>4</td>
</tr>
<tr>
<td>5</td>
<td>42-05</td>
<td>Automatic Slack Adjusters</td>
<td>One Grease Fitting; lubricate both sides of front and rear axle</td>
<td>4</td>
</tr>
<tr>
<td>6</td>
<td>33-04</td>
<td>Grease Lubricated Wheel Bearings, Front Axle</td>
<td>Inspect, repack and adjust inner and outer bearings on both sides of front axle</td>
<td>4</td>
</tr>
<tr>
<td>7</td>
<td>42-04</td>
<td>Brake Camshaft Bracket</td>
<td>One grease fitting; Pump in grease until it appears at the slack adjuster end of the bracket. Lubricate both sides of the front and rear axles.</td>
<td>4</td>
</tr>
<tr>
<td>8</td>
<td>33-02</td>
<td>Tie Rod</td>
<td>One grease fitting; one on each end of tie rod</td>
<td>2</td>
</tr>
<tr>
<td>9</td>
<td>35-01</td>
<td>Rear Axle</td>
<td>Check fluid level; add fluid if low (35-02)</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>41-01</td>
<td>Driveshaft</td>
<td>Three grease fittings; lubricate both universal joints &amp; slip joint spline</td>
<td>3</td>
</tr>
<tr>
<td>11</td>
<td>26-02</td>
<td>Automatic Transmission</td>
<td>Change fluid when required (35-01)</td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>33-02</td>
<td>Caterpillar Fan Drive Pulley</td>
<td>One grease fitting; on top of fan drive pulley</td>
<td>1</td>
</tr>
<tr>
<td>13</td>
<td>33-02</td>
<td>Pacbrake Exhaust brake</td>
<td>Lubricate the five points indicated</td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>32-04</td>
<td>Neway Ind. Front Susp.</td>
<td>Two grease fittings; One on top &amp; bottom of knuckle post, lubricate both side of suspension</td>
<td>4</td>
</tr>
<tr>
<td>15</td>
<td>ZF Ind. Front Susp.</td>
<td>Four grease fittings; one on top and bottom steering knuckle, and one on top and bottom control arm. Lubricate both sides of suspension.</td>
<td>8</td>
<td></td>
</tr>
</tbody>
</table>
### MAINTENANCE SCHEDULE

**SERVICE INTERVALS**

<table>
<thead>
<tr>
<th>MILEAGE INTERVALS</th>
<th>1,000</th>
<th>6,000</th>
<th>10,000</th>
<th>15,000</th>
<th>20,000</th>
<th>25,000</th>
<th>50,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Check and add lubricant if necessary to front oil filled wheel bearings. (Oil Seals)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Check and add lubricant if necessary to front wheel bearings. every (Grease filled bearings)</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Check air intake system for damage, cracked hoses, &amp; loose clamps.</td>
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<td></td>
<td>X</td>
</tr>
<tr>
<td>Check wheel lug nut torque the first 50 &amp; 500 mi. then every 5,000 mi.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Inspect fan &amp; fan shroud every 12 months or:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td>X</td>
</tr>
<tr>
<td>Check belt tensioner bearing.</td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Check air restriction indicator when refueling, replace air cleaner element when the indicator reaches 25&quot; or 2 Yrs which ever occurs first.</td>
<td></td>
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</tr>
<tr>
<td>Change automatic transmission fluid &amp; filters AT542 every 12 months or:</td>
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<td></td>
<td></td>
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<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Change automatic transmission fluid &amp; filters 1000/2000/2000MH Refer to Allison Owners Manual (1)</td>
<td></td>
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</tr>
<tr>
<td>Change automatic transmission filters MD3060 3000/4000MH the first 5,000 See Allison Op. Man. for Change Reccomendation (1)</td>
<td></td>
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<tr>
<td>Lubricate Brake Caliper slides the first 5,000 miles then every 12 months or: (Hydraulic Disc Brakes Only)</td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Lubricate steering linkage &amp; drive shaft U-joints, air brake camshafts slip yoke &amp; brake linkage.</td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Lubricate front axle king pins the first 5,000 mi. then every 12 mos.</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Lubricate PacBrake exhaust brake as needed, or every 6 months.</td>
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</tr>
<tr>
<td>Rotate tires if required</td>
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<td></td>
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<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Replace fuel water separator every 12 months or every oil change</td>
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<td></td>
</tr>
<tr>
<td>Check/Clean electrical ground connections every 12 months</td>
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<td>X</td>
</tr>
<tr>
<td>Inspect drive belts for condition &amp; tension every 6 mos. or 6,000 mi.</td>
<td></td>
<td></td>
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<tr>
<td>Check rear axle lubricant every 6,000 miles.</td>
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</tr>
<tr>
<td>Change rear axle lubricant (Meritor) every 12 mos.</td>
<td></td>
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</tr>
<tr>
<td>Check coolant SCA’s &amp; freeze point, hoses, clamps every 6 mos</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Replace coolant every 24 months or 60,000 mi 2001 MY and prior</td>
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<td></td>
</tr>
<tr>
<td>Replace coolant every 60 months or 100,000 mi 2002 MY chassis (2)</td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Replace air dryer coalescing &amp; desiccant filter every 18 months (3)</td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Replace desiccant cartridge every 36 mos (4)</td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Check hydraulic fluid reservoir level every 6 mos. or 6,000 mi.</td>
<td></td>
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</tr>
<tr>
<td>Change hydraulic fluid &amp; filter every 2 yrs. or 24,000 mi.</td>
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<tr>
<td>Check and clean charge air cooler as required.</td>
<td></td>
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</tr>
</tbody>
</table>

Note: This is a list of the most common maintenance items. Additional maintenance may be required. Check the appropriate operation and maintenance manuals for more information.
**Authorized Service Parts**

- Customers may perform their own service
  - Maintain accurate records
  - Does not void warranties
- Genuine parts ensure quality

Parts should be ordered using your chassis VIN to ensure correct parts.

**Note:**
Part numbers are accurate at time of printing and subject to change without notice!

<table>
<thead>
<tr>
<th>Part Description</th>
<th>Manufacturer</th>
<th>Part Number</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Engine Oil Filter</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cummins B5.9L</td>
<td>Fleetguard</td>
<td>LF 3349</td>
</tr>
<tr>
<td>Cummins C8.3L, ISC, ISL, &amp; ISM</td>
<td>Fleetguard</td>
<td>LF 3000</td>
</tr>
<tr>
<td>Cummins ISB</td>
<td>Fleetguard</td>
<td>LF 3970</td>
</tr>
<tr>
<td>Cummins ISB 02</td>
<td>Fleetguard</td>
<td>LF3729</td>
</tr>
<tr>
<td>Caterpillar 3126, 3126B &amp; 3126E</td>
<td>Caterpillar 1R-0739</td>
<td></td>
</tr>
<tr>
<td><strong>Air Cleaner Element</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cummins B5.9L; ISB; Caterpillar 3126, 3126B &amp; 3126E</td>
<td>Farr</td>
<td>End Inlet 114500-003</td>
</tr>
<tr>
<td>C8.3L</td>
<td>Farr</td>
<td>Side Inlet 114880-003</td>
</tr>
<tr>
<td>Cummins ISC &amp; ISL</td>
<td>Farr</td>
<td>Side Inlet 099842-009</td>
</tr>
<tr>
<td>Cummins ISM</td>
<td>Farr</td>
<td>Side Inlet 062891 001</td>
</tr>
<tr>
<td><strong>Fuel Filter (Engine Mounted)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cummins B5.9L &amp; C8.3L</td>
<td>Fleetguard</td>
<td>FF 5052</td>
</tr>
<tr>
<td>Cummins ISB</td>
<td>Fleetguard</td>
<td>Spin-On FS 19519</td>
</tr>
<tr>
<td>Cummins ISB</td>
<td>Fleetguard</td>
<td>Top Load FS 1268</td>
</tr>
<tr>
<td>Cummins ISC &amp; ISL &amp; Remote Mtd</td>
<td>Fleetguard</td>
<td>Spin On FS 1022</td>
</tr>
<tr>
<td>Cummins ISM</td>
<td>Fleetguard</td>
<td>Spin On FS 1003</td>
</tr>
<tr>
<td>Caterpillar (Secondary - Engine Mtd)</td>
<td>Caterpillar 1R-0759</td>
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<tr>
<td>Caterpillar (Fuel Filter/Water Sep)</td>
<td>Caterpillar 198-6378</td>
<td></td>
</tr>
<tr>
<td>Caterpillar (Fuel Filter/Water Sep)</td>
<td>Alliance</td>
<td>ABP-32FRT03</td>
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<td>Spin On FS19596</td>
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<td>Fuelguard</td>
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<td><strong>Cooling System</strong></td>
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<tr>
<td>SCA Coolant Filter 8 to 20 Gallons</td>
<td>Penray</td>
<td>PIC NF 2088</td>
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<td>SCA Liquid 1 Pint Bottle</td>
<td>Penray</td>
<td>PIC 3000 16</td>
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<tr>
<td>SCA Test Strips (Bottle of 10)</td>
<td>Penray</td>
<td>PIC TS 102</td>
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<td>SCA Pre Charged 50/50 Pre-Diluted Antifreeze 1 Gallon</td>
<td>Old World Ind.</td>
<td>OWI ALAWS3</td>
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<td>Allison 1000, 2000 &amp; 2000MH</td>
<td>Allison</td>
<td>Spin On 29537268</td>
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<td>Allison MD3060, 3000MH, HD4060, 4000MH</td>
<td>Allison</td>
<td>Internal 29540493</td>
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<td>Allison 3000MH &amp; 4000MH Deep Sump</td>
<td>Allison</td>
<td>Internal 29540494</td>
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<tr>
<td>Allison MT643 (Remote Mounted)</td>
<td>Fleetguard</td>
<td>Spin On LF3342</td>
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<td><strong>Air Dryer Filter</strong></td>
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<tr>
<td>Midland or Haldex Pure Air Plus</td>
<td>Haldex</td>
<td>Kit# DQ6026</td>
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<tr>
<td>VC &amp; VCL Chassis</td>
<td>Chicago Rawhide</td>
<td>T224</td>
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Pre-Trip Inspection

- Check tires
- Look for fluid leaks

Please take some time, if you have not already done so, to read through the operator’s manual provided with your chassis. Familiarization with this book and your chassis is the best possible way to ensure that you can safely operate your vehicle and extend its useful life.

Prior to starting your vehicle each day, there are a few things that should be checked. Taking the time to follow these recommendations could mean the difference between having a wonderful vacation and spending your time on the side of the road or in the lobby of a repair shop.

- Check the tires for proper inflation pressure and for damage. Don't forget to check the inner duals. Refer to the air pressure charts in the beginning of this handout for proper inflation pressures.
- Look for fluid leaks under the Motorhome. (The simple act of tightening a hose clamp could prevent a serious problem.)
Pre-Trip Inspection

• Check coolant level

Check the coolant level in the reservoir and add a 50/50 mix of coolant and water if needed. This reservoir is located at the rear of your vehicle. Be careful not to confuse it with the hydraulic fluid reservoir though, they look very much alike.

• Check SCA (supplemental coolant additive) and freeze point every 6 months or 25,000 miles. Recharge as required.

IF THE WATER TEMP IN YOUR ENGINE IS GREATER THAN 120 DEGREES, DO NOT REMOVE THE RADIATOR CAP!

YOU COULD BE SEVERLY BURNED !!!

• Approximate COOLING SYSTEM CAPACITIES  Does not include heater core or other auxiliary system’s added by Coach Manufacturer.

• Cummins ISB - Rear Radiator  36 Qt. or  9 Gallons.

• Cummins ISC - Rear Radiator  42 Qt. or  10 ½ Gallons.

• Cummins ISC & ISL - Side Radiator  42 Qt. or  10 ½ Gallons.

• Cummins ISM – Side Radiator  50 Qt. or 12 ½ Gallons.

• Caterpillar 3126, 3126B & 3126E Rear Radiator  38 Qt. or  9 ½ Gallons.

• Caterpillar 3126, 3126B & 3126E Side Radiator  38 Qt. or  9 ½ Gallons.

Note: If you have trouble getting Alliance Brand Coolant ALAWS3 Detroit Diesel Brand Powercool 50/50 pre mixed is the same coolant .Part # PCA053. Fleetcharge coolant is also the same and sold through some PEP BOY’S, NAPA, and Tractor Supply under Fleetcharge FCA053.
Pre-Trip Inspection

- Check transmission fluid level
- Check engine oil level
- Check for animals in engine compartment
- Check hydraulic fluid

- Check transmission fluid level add fluid if needed
- Check your engine oil level and add oil if needed
- Check the engine compartment for squirrels, cats, etc. They like the warmth of the engine compartment, but make a real mess if caught in the belts.
- Check the hydraulic fluid in the hydraulic reservoir and add fluid if needed.
• Check fuel/water separator and drain any water or contamination that may be present.

After you have completed your inspection, you may now start your engine. If you have an electronic engine such as the Caterpillar 3126 or the Cummins ISB, turn the key to the run position and wait for the wait to start light (in some cases it may read “Inlet heater”) to turn off. You may now start the engine. **Never use ether or any other starting aid to start the electronic engine. The inlet heater can ignite the fumes and cause an explosion in the air inlet system.** Once you have started the engine, monitor your gauges closely. Make sure that the oil pressure rises within 15 seconds. If it does not, shut down the engine and call a repair facility to determine the cause.
Pre-Trip Inspection

- Check air filter restriction indicator

Brand New Air Cleaner

10" to 12" of Vacuum

- Engine Air Cleaner Element should be changed when the air inlet restriction indicator reaches 25 inches of vacuum or every two years whichever occurs first.
**Allison Transmission Operation**

- **Normal driving:** Best fuel economy
  - Select “D” and “Mode On”
- **Performance**
  - “Mode Off”
  - For mountain driving select lower gears to maintain 2000+ engine RPM.
- **Hill climbing on hot days**
  - Keep RPMs high to cool engine
- **Transynd used in 3000MH with chassis built date of 1/5/04**

**DRIVING TIPS WITH THE ALLISON MD3060 3000MH TRANSMISSION**

When driving under normal road conditions, the DRIVE mode is recommended for optimum performance and fuel economy. The MODE switch should be set to ON for economy mode but MODE off should be used when climbing hills and when extra performance is needed.

The display screen on the shift control pad will indicate the highest selected gear for the transmission. When mountainous or up and down terrain conditions occur, you should manually select a lower gear, preferably lower than 5th gear and turn OFF the mode switch. This can be done at any road speed by pressing the down arrow repeatedly until the desired gear is indicated in the window of the shifter pad and then pressing the MODE button. When your road speed decreases to a safe point, the transmission will downshift at a higher RPM than normal. This will limit the use of overdrive while pulling hills, which can produce excessive heat build-up in the transmission, and it keeps the engine operating at peak horse power and performance.

With the MT 643 and T-handle shifter, simply shift to a lower gear selection to keep the RPM’s in the upper range. The transmission will not shift into a lower gear until it is safe for it to do so.

When ascending a grade, maintain engine speed to within 400 - 500 RPM of governed engine speed. Governed speed will be 2400-2500 RPM depending on your engine model. Road speed may decrease, but the engine will be at its peak in the power curve.

It is especially important to monitor your water temperature gauge when climbing hills. Keep in mind, it is not unusual for the temperature to rise, especially in hot weather. If the gauge reaches the red zone or if the temperature warning light on the gauge panel should come on, reduce your road speed and shift to the next lower gear and keep your tachometer within 500 RPM of engine governed speed. In many cases this will stabilize the water temperature. If the temperature gauge continues to rise, pull over to the side of the road and shift the transmission into neutral. Bring the engine RPM to 1,700-2,000 RPM until the temperature drops down into the normal range. This should occur in a relatively short period of time. If the temperature gauge does not begin to drop and stays in the red zone or continues to rise, shut down the engine and allow it to cool. After the engine is allowed to cool, check the fluid level in the reservoir and add a 50/50 coolant and water mixture if needed.

A good “rule of thumb” for descending grades is to never use a higher gear than was used to climb the same or similar grade. Try to keep the engine within 500 RPM of governed speed. This will give the best engine braking and reduce the need to use the service brakes. Select a gear that will keep you at a safe speed with minimal brake application. Never ride your brakes when descending a grade since excessive brake heat will build up and your brakes could fade leaving you with little or no stopping power.

If your vehicle is equipped with an exhaust brake, this will also aid in slowing your vehicle on a down hill grade. With the exhaust brake switch in the ON position, when your foot is released from the accelerator, the transmission select number will change to “2”. The exhaust brake will engage and the transmission will begin to down shift as soon as road and engine speed will safely allow. This will produce a slowing effect and will remain engaged until either the exhaust brake switch is turned off, the accelerator is depressed or the transmission shifts to second gear. If your initial speed is high, you may have to step on the brake to slow the vehicle before the transmission will down-shift from 6th gear to 5th gear. This is normal.
Allison Transmission Fluid Level Check

- Transmission at operating temperature
- Press up and down arrow keys simultaneously
- Wait for 2 minute “count-down”
- Display indicates - OL
  - “OL - OK” indicates good oil level
  - “OL - HI” followed by number indicates quarts over-filled
  - “OL - LO” followed by number indicates quarts under-filled.
  - “OL – 70” transmission not up to operating temperature

Transmission must be at operating temperature. Coach must be on level ground.
**Trip Odometer & Odometer**

- **Trip Odometer & Odometer in Speedo**
  - A short press of Trip Reset (< 3 sec.) will toggle between Trip mode & Odometer mode
  - A long press of Trip Reset (>3 sec.) while in Trip mode will reset the Trip Odometer
  - A long press of Trip Reset (>3 sec.) while in Odometer mode will toggle between Miles & Kilometers

- **Trip Odometer in Tach**
- **Odometer in Speedo**
  - A short press of Trip Reset (<3 sec.) will reset the Trip Odometer
  - A long press of Trip Reset (>3 sec.) will switch the displays between Miles & Kilometers

The letter “K” & “M” appear to the left lower & upper left side of the Trip Odometer & Odometer indicating Kilometers or Miles on both systems

- (< 3 sec.) means less than 3 seconds
- (> 3 sec.) means more than 3 seconds
- A small triangle is displayed pointing to either the “K” or “M” telling you if its reading in Kilometers or Miles
- The Trip Reset switch may be located in different places on the dash depending on the Coach builder
LCD Info Center

Provides The Following Information

- Average Fuel Economy
- Instant Fuel Economy
- Fuel Level
- Trip Miles
- Odometer Miles
- Volt Meter
- Oil Pressure
- Engine Temperature
- Engine RPM
- Road Speed (MPH)
- Diagnostics
Auxiliary Air Supply

- Manifold provided for auxiliary air source
  - Up to 120 psi
- Can be used for:
  - Air horn supply
  - Fill tires
  - etc.
- The only approved location for tying into the air system.

This manifold is usually located somewhere toward the front of the coach ie. firewall, front compartment. The location depends on the coach manufacturer.

(WARNING: Air Tanks should be bled of all pressure any time you work on the air system)
Service With You Down the Road
350 + Locations US & Canada

Many open 24 Hrs/7 Days

Consult Your Service Directory For Authorized Locations

Dealer/Service Locator is Available on our WEB SITE at
www.freightlinercrasssis.com
WARRANTY

- Cummins Engine’s - 5 yrs. / 100,000 miles.
- Caterpillar Engine - 5 yrs. / 200,000 miles.
- Allison Transmissions:
  - 2500 MH - 5 yrs. / 200,000 miles.
  - 3000 MH - 5 yrs. / 200,000 miles.
- Chassis 3 yrs. / 50,000 miles
- Towing and Roadside Assistance included
- Frame rails & crossmembers - 5 yrs. / 100,000 miles.

All completely transferable.
Chapter of FMCA
First year’s membership free with the purchase of a new Motorhome built on a Freightliner Chassis
Membership dues $10 per year
Open to owners of John Deere, Oshkosh and Freightliner chassis
Approximately 4,000 members and growing
Two Rallies per year
Quarterly Newsletter (with technical info)
5% discount on parts and labor at FCCC Gaffney Svc Center
Purchase discounts on New Chrysler vehicles (Chrysler, Dodge, Jeep) Viper excluded

Must be a member of FMCA to be a Freightliner Chassis Owners Club Member
At least two rallies per year held in conjunction with FMCA International Conventions.
  - Rallies Include but not limited to
    - Freightliner Chassis display
    - Freightliner Show and Service Trailer
    - Freightliner Service Technicians
    - Technical Day with Freightliner and Component Manufacturer personnel
    - Fellowship with all
  - Quarterly Newsletter - with info on up coming rallies, technical articles from Freightliner, Allison, Caterpillar, Cummins, Michelin, etc.
  - 5% parts & service discount at Freightliner Custom Chassis Service Center at the plant in Gaffney, SC
  - Purchase Program of new Chrysler, Dodge, Jeep vehicles at below dealer invoice which also includes any cash rebates or special financing. Program excludes Dodge Viper and all Mercedes – Benz vehicles.
  - Web site www.freightlinerchassisownersclub.org
Please give us your suggestions on what you would like to see covered in this seminar. These should be operation or maintenance items. When you have completed your suggestions drop them off at our display or mail them to Freightliner Custom Chassis Corp. 552 Hyatt Street, Gaffney, SC 29341 Attention: Larry Dorer.

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