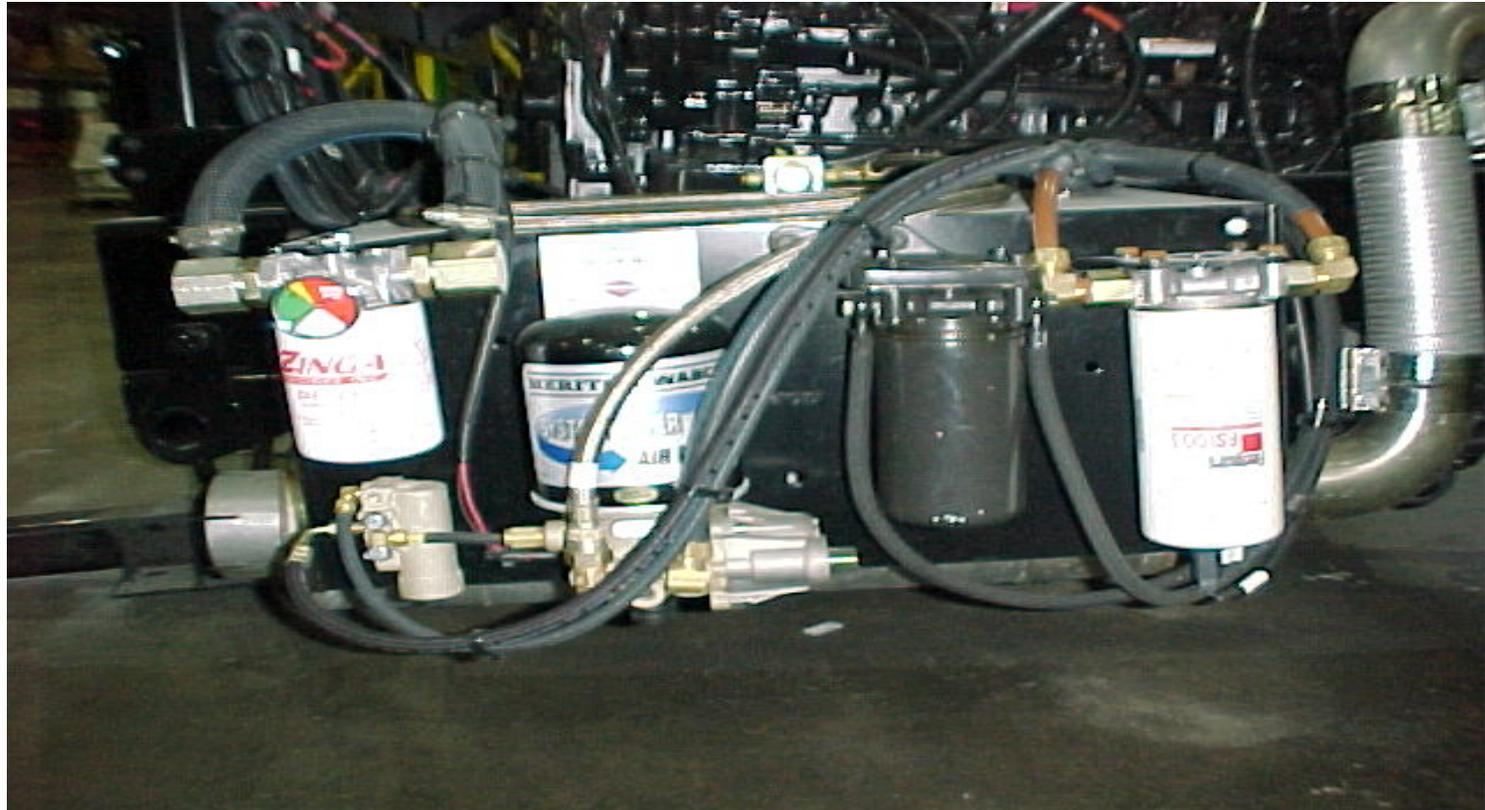


MOTOR HOME MAINTENANCE



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Motor Home Maintenance

- Proper Maintenance is important to the longevity of your motorhome.
- Secure the copy of the Recommended Scheduled Maintenance Chart from your Owner's Manual.
- Sit down with the Service Advisor after the work is done to ensure that all maintenance was performed.



Engine Oil Change



ENGINE	
ISC 270-380 HP	
SERVICE	OIL FILTER
15,000 miles or yearly	Fleetguard LF-9009
OIL TYPE	2010 Engines
SAE 15W40	



Engine Oil Change



ENGINE	
ISL 345-450 HP	
SERVICE	OIL FILTER
15,000miles or yearly	Fleetguard LF-9009
OIL TYPE	2010 Engines
SAE 15W40	



Engine Oil Change



ENGINE	
ISM 400-500 HP	
SERVICE	OIL FILTER
15,000 miles or yearly	Fleetguard LF-9001
OIL TYPE	
SAE 15W40	



Engine Oil Change



ENGINE	
ISX 500-650 HP	
SERVICE	OIL FILTER
15,000 miles or yearly	Fleetguard LF-9001
OIL TYPE	
SAE 15W40	



Engine Oil Change



ENGINE	
C7 300-350 HP	
SERVICE	OIL FILTER
11,000 miles or yearly	1R-1807
OIL TYPE	OIL CAPACITY
SAE 15W40	19 Quarts (US)



Engine Oil Change



ENGINE	
C9 400 HP	
SERVICE	OIL FILTER
20,000 miles or yearly	1R-1808
OIL TYPE	OIL CAPACITY
SAE 15W40	34 Quarts (US)



Engine Oil Change



ENGINE	
C13 470-525 HP	
SERVICE	OIL FILTER
20,000 miles or yearly	1R-1808
OIL TYPE	OIL CAPACITY
SAE 15W40	36 Quarts (US)



Oil Check and Fill



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RACOR



Air Filters

- Check the service indicator regularly.

5-10" is normal

15-18" OK, but nearing service

20-25" is out of service



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Air Filter Minder



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Fuel Filters



ENGINE	
ISC	
FILTER TYPE	PRIMARY FILTER
Fleetguard	FS-1003/ FS-1065 <i>Pre-fill</i>
SERVICE	SECONDARY FILTER
Filter should be changed at <u>every</u> oil change	FF-5488/FS-5636 <i>Install Dry</i> 2010 Engines change every other oil change <i>Install Dry</i>



Fuel Filters



ENGINE	
ISL	
FILTER TYPE	PRIMARY FILTER
Fleetguard	FS-1003/FS-1065 <i>Pre-fill</i>
SERVICE	SECONDARY FILTER
Filter should be changed at <u>every</u> oil change	FF-5488/FF-5636 <i>Install Dry</i> 2010 Engines change every other oil change. <i>Install Dry</i>



Fuel Filters



ENGINE	
ISX12	
FILTER TYPE	PRIMARY FILTER
Fleetguard	FF5756 <u>Pre-Fill</u>
SERVICE	SECONDARY FILTER
Filter should be changed at <u>every</u> oil change	<u>S3238 Raycor</u> <u>Pre-Fill</u>



Fuel Filters



ENGINE	
ISX15	
FILTER TYPE	PRIMARY FILTER
Fleetguard	FF2200/FF5686 <i>Pre-Fill</i>
SERVICE	SECONDARY FILTER
Filter should be changed at <u>every</u> oil change	<u>S3238 Raycor Pre-Fill</u>



2010 Engine Filters



ENGINE	
All 2010 Emission	
FILTER TYPE	Coalescing Filter
Fleetguard	Every 3 rd or 4 th oil change
DEF Filter	DEF Fluid
Every 200,000 miles or 2 years	If not used, should be drained and install new every year.



Fuel Filters



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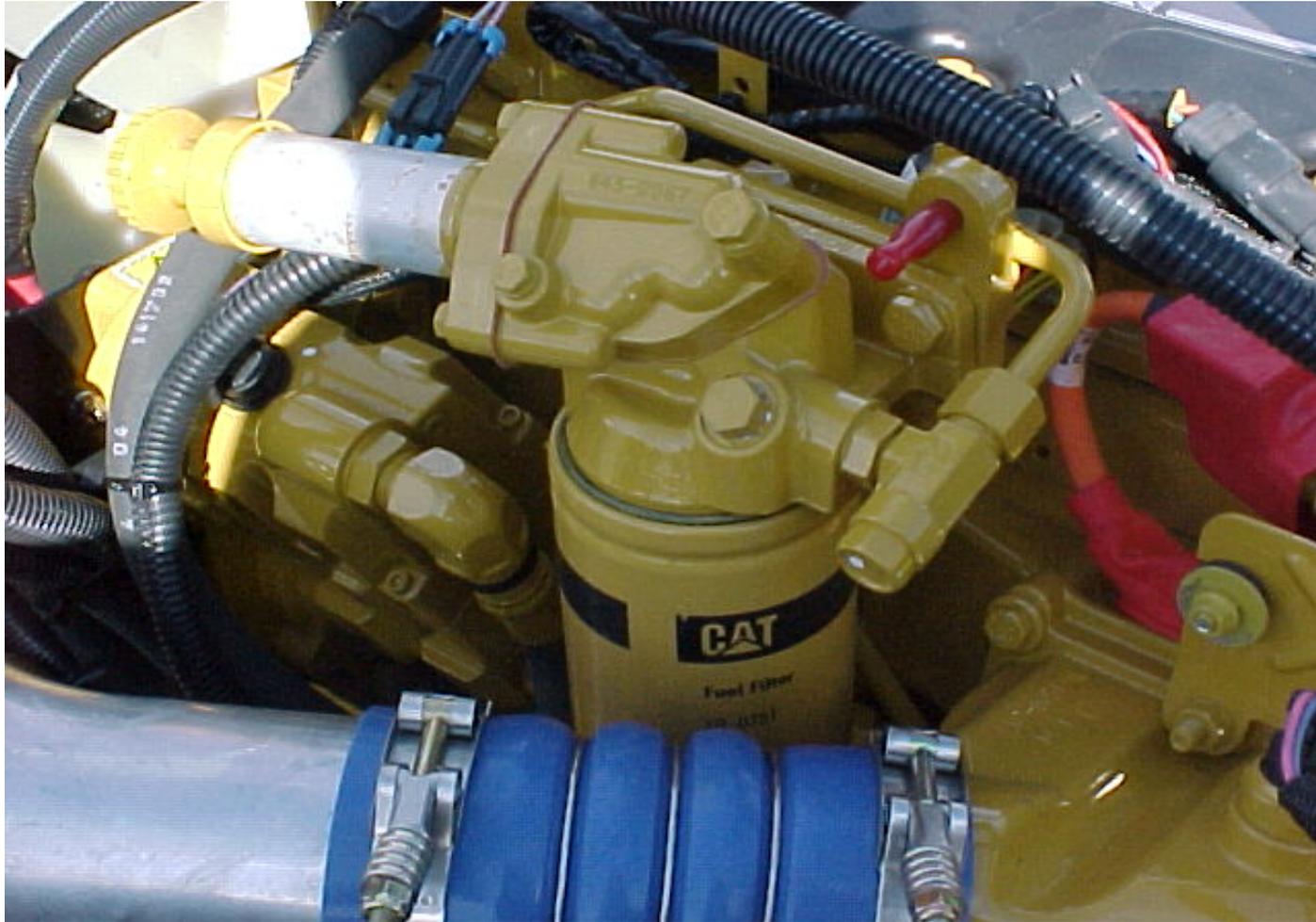
Fuel Filters



ENGINE	FILTER TYPE	SERVICE
Cummins ISM	FLEETGUARD FS-1003, Pre-fill FS1242B, Pre-fill RAYCOR Pre-fill	Every 15,000 miles
CAT 3126E 330 HP	CAT 1R-0751 Install Dry	Change filter at <u>every</u> oil change
CAT C7 & C9	CAT 1R-0751 Install Dry	Every 11,000 miles or 6 months
CAT C13	CAT 1R-0749 Install Dry	Every 30,000 miles or 600 hours



Fuel Filters



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Transmission Service

TRANSMISSION	
3000 MH – (2 Internal Filters)	
FLUID TYPE	CAPACITY
Transynd	Appx. 26 Quarts (US)
FILTERS	SERVICE
Allison High Capacity Filters	Transynd:Main and Lube filters 3 years or 75,000. Fluid 150,000 or 4 years.





Transmission Service

TRANSMISSION	
4000 MH – (2 Internal Filters)	
FLUID TYPE	CAPACITY
Transynd	Appx. 37 Quarts (US)
FILTERS	SERVICE
Allison High Capacity Filters	Transynd: Main and Lube filters 3 years or 75,000. Fluid 150,000 or 4 years.



Transmission Service



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Air System

AIR DRYER

Wabco – Filter R950011

2-3 years service interval
for preventive
maintenance

Check tanks if water is
present and change filter
(Likely contaminated)



Air System



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Air System

- Remove moisture in the air reservoir by opening the valves once a month with auto moisture ejectors.



Suspension

IMPORTANT!

AIR SUSPENSION

Ride height should be checked at every oil change.

Incorrect ride height will affect front end alignment and rear driveline angles.

Ride height tolerance
+/- 1/8"



Suspension

AIR SUSPENSION

Reyco

Torque on the suspension hardware should be rechecked at 1,000 to 3,000 miles.

Granning IFS (*Independent Front Suspension*):
Lubricate every 50,000 miles or once a year.



Suspension

AIR SUSPENSION	
HENDRICKSON	
A visual inspection of fasteners and components is required every 6 months or 25,000 miles.	IFS, AIRTEK. Lubricate every 25,000 miles or 90 days.



Axles

WHEEL SEAL OIL LEVEL FRONT AXLE AND TAG AXLE	
Fill to oil-fill line on hub oiler	
LUBE TYPE: 80-90 Gear Lube	Change lube every year



Axles

MERITOR REAR AXLES	
FLUID TYPE	MODEL # RS-19-145
85W140	Capacity 33.2 pints
SERVICE	MODEL # RS-23-160
50,000 miles or yearly	Capacity 41-43 pints <i>(Proper oil level to be level with bottom of fill hole plug.)</i>



Cooling System

- Extended Life Coolant (ELC)
- Check coolant quality by taking sample from coolant surge tank and visually inspecting for any deposits. If color is close to the original “red” and no deposits are found, coolant is suitable to be run to the next maintenance interval.



Cooling System

- Extended Life Coolant (ELC)
- 12 months check
- 24 months check
- 36 months add extender
- 48 months check
- 60 months check
- 72 months replace



Cooling System

- Radiator should be cleaned out yearly. Spray out with water, then use low pressure air to blow out the fins of coolers.



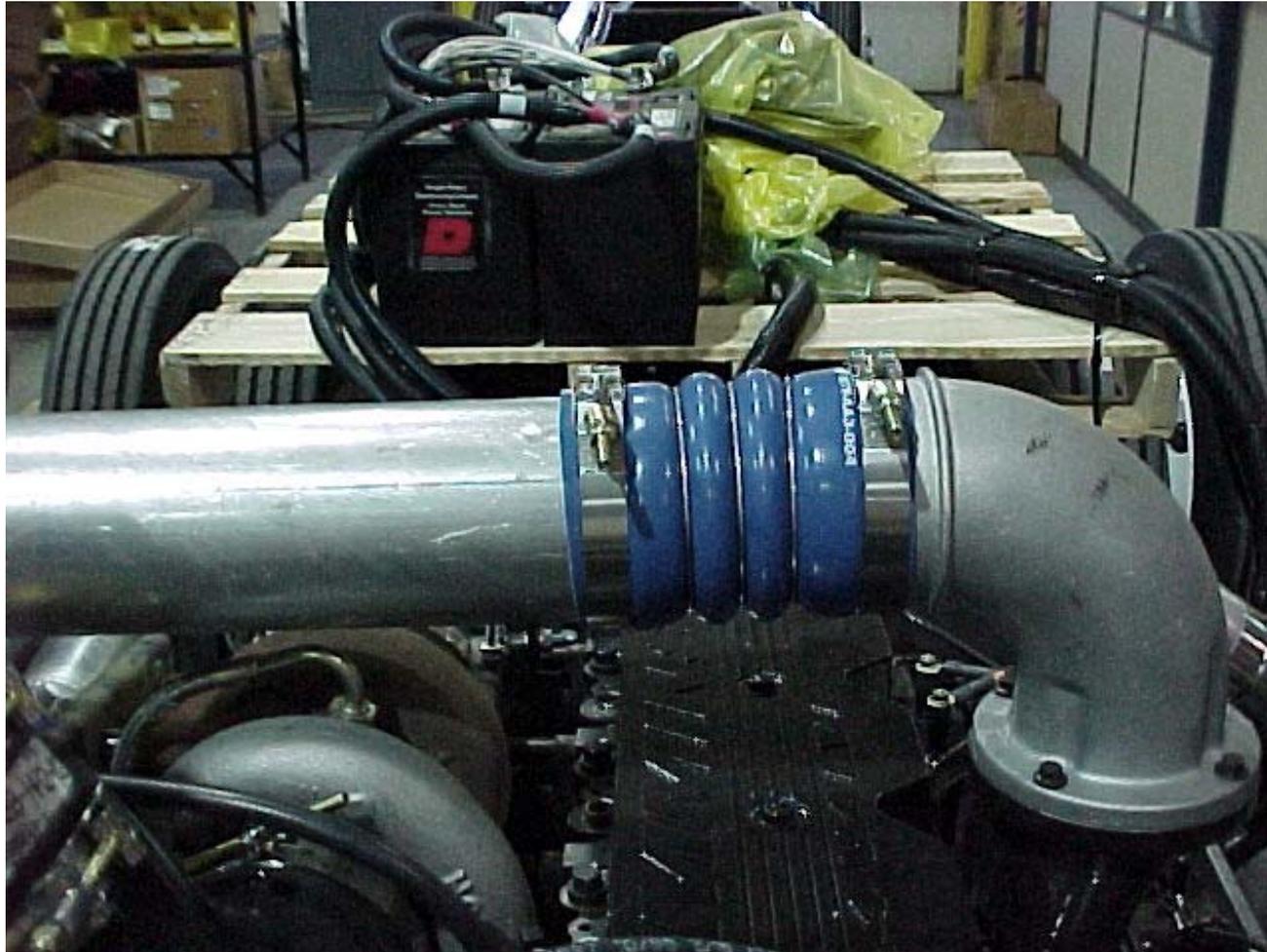
Cooling System



- Check the torque on CAC hose clamps at every oil change.
- Recommended torque is 45-50 lbs/in.



Cooling System



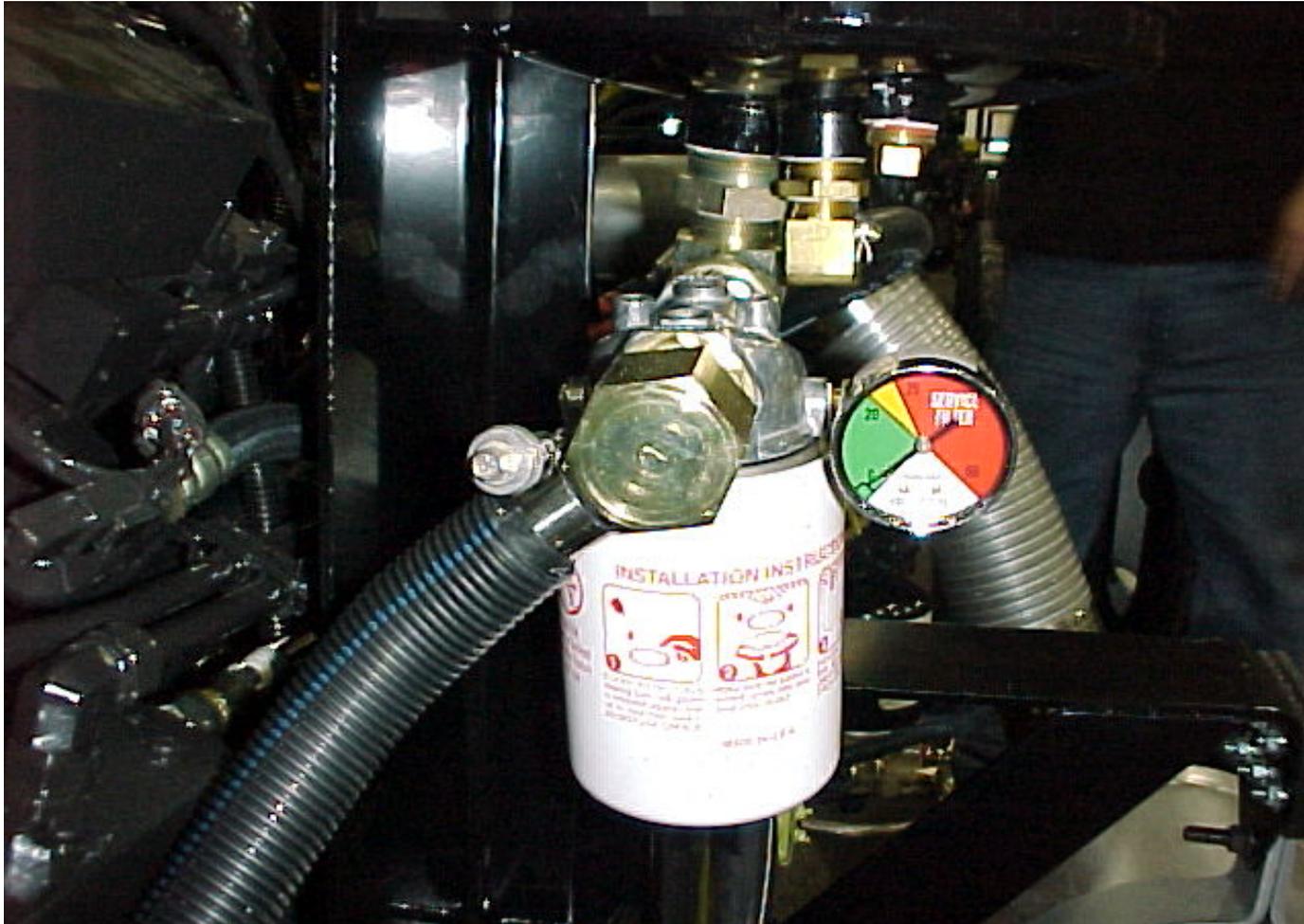
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Hydraulic System

- Change spin on synthetic filter every 12,000 miles or yearly.
- Change in-tank filter every 24,000 miles or 2 years.
- All current production uses AW32 or AW 46 hydraulic oil.



Hydraulic System



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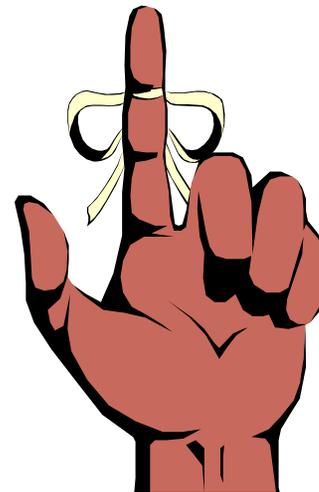
Hydraulic System

- In-tank filter should be changed with the fluid change. Every 2 years or 24,000 miles. Filter part #87610A Nelson.
- Filter is in the bottom of the reservoir.

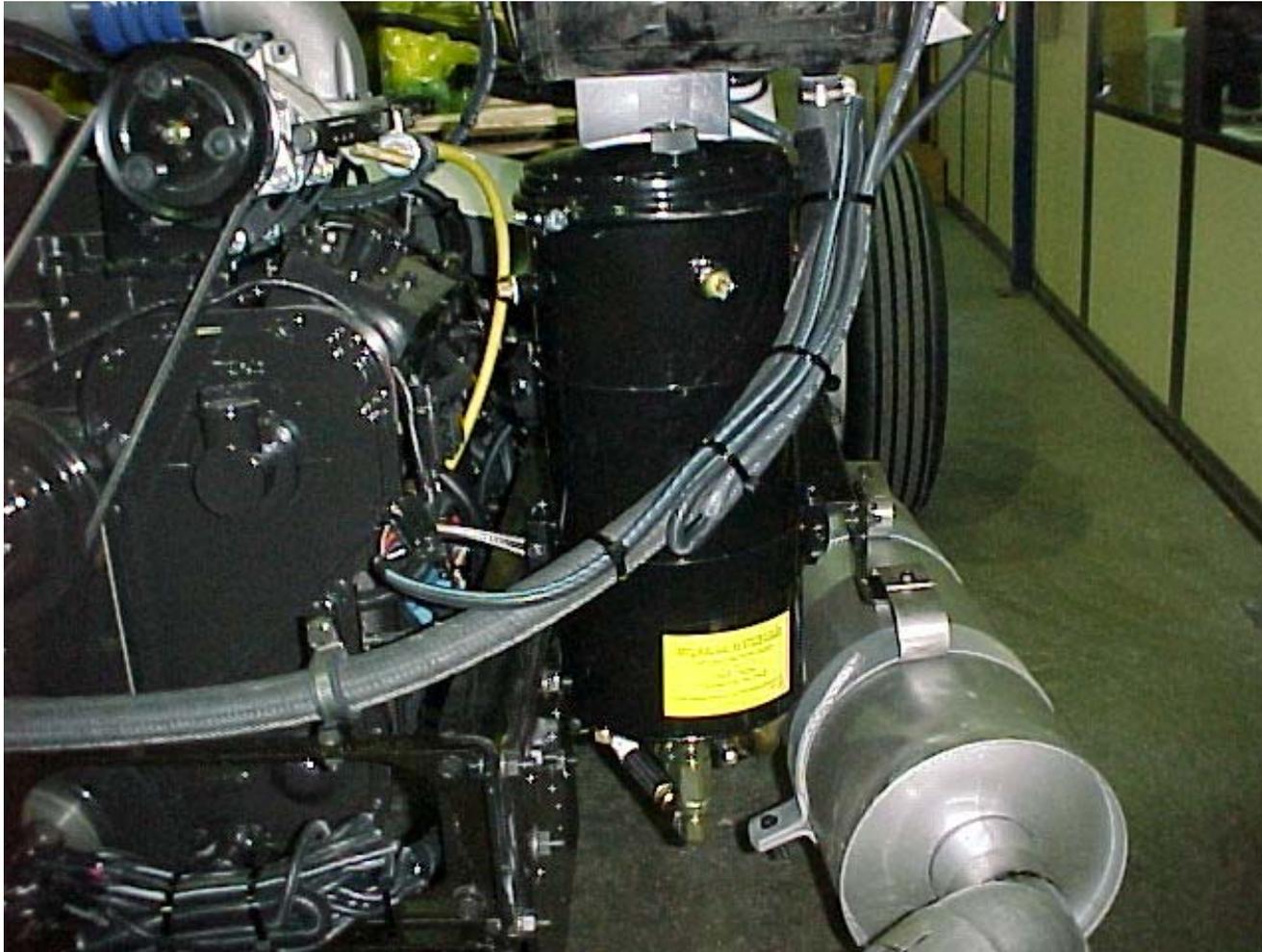


Hydraulic System

- If your chassis does not have the spin on filter, you must change the filter and fluid every 12,000 miles or yearly.



Hydraulic System



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Hydraulic System



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Tire Maintenance



- Check tire pressure as part of every service.
- Have motor home weighted like you travel.
- Adjust tire pressure to the axle weight.



Tire Maintenance



- Proper weight distribution will result in optimum performance and improved handling.
- Load unit equally side-to-side and front-to-rear.



G.V.W. R.

(Gross Vehicle Weight Rating)

- If a motorhome is rated at 23,000 pounds, then you have 23,000 pounds of stopping power.
- Spartan Chassis requires any object in tow to have its own braking system.



G.C.W.R.

(Gross Combined Weight Rating)

- Spartan policy G.C.W.R.:

(G.V.W.R.) + up to 15,000 pounds for Mountain Master and K2 Chassis.



DPF Lamps

- DPF

- Diesel Particulate Filter
- Indicates Regeneration required



- HEST

- High Exhaust System Temperature



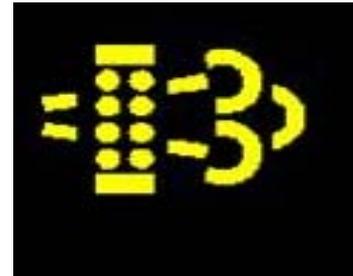
- MIL

- Malfunction Indicator Lamp



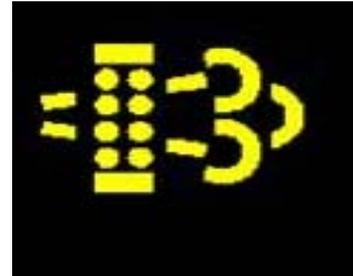
DPF Lamp

- Indicates need to regenerate DPF
 - Steady on indicates need to perform regeneration
 - Least serve level
 - Drive it hard



DPF Lamp

- Indicates need to regenerate DPF
 - Flashing indicates need to perform regeneration
 - Moderately severe level
 - Failure to regen will lead to potential engine derate



DPF Lamp & Check Engine Lamp

- Indicates **IMMEDIATE** need to regenerate DPF
 - High severity level
 - Failure to regen will lead to potential severe engine derate



Stop Engine Lamp

- Indicates DPF cannot be regenerated
 - DPF is too restricted to be regenerated
 - Must be serviced by authorized engine service center.



HEST Lamp

- Indicates high exhaust temperatures
- Temperatures vary with engine model
- Can come on during normal operation
- Will come on during regeneration



DEF Lights

% of Fluid Needed (Less Than or Equal To)	LED Indication	Message on LCD	Additional Notifications	Audible Alarm (active when DEF trigger is present)
100%				
75%				
50%				
25%				
10%		"LOW DEF"	DEF Lamp-solid on & Amber in color	Gauge Audible Alarm becomes active, but it is acknowledgeable.
5%		"ENG PERFORMANCE DERATE IMMINENT,LOW DEF"	DEF Lamp-flash on & off at 1 Hz & Amber in color	Gauge Audible Alarm becomes active, but it is acknowledgeable
3.0%		"ENG PERFORM DERATE ACTIVATED, LOW DEF***"	DEF Lamp-flash on & off at 1 Hz & Amber in color Check Engine Lamp solid on & Amber in color	Gauge Audible Alarm becomes active, but it is acknowledgeable
0%		"ENG PERFORM DERATE ACTIVATED, DEF REQ****"	DEF Lamp-flash on & off at 1 Hz & Amber in color MIL Lamp solid on & Amber in color & Check Engine Lamp solid on & Amber in color	Gauge Audible Alarm becomes active, but it is acknowledgeable
0%		"SPEED RESTRICTION ON, DEF REQUIRED"	DEF Lamp-flash on & off at 1 Hz & Amber in color MIL Lamp solid on & Amber in color & Check Engine Lamp solid on & Amber in color & Stop Engine Lamp solid on & Red in color	Gauge Audible Alarm becomes active, but it is acknowledgeable
*Speed Restriction will limit to 1000, 5 MPH vehicle speed, and 40% Torque Derate				
** Engine Performance Derate begins at 25%				
***Engine Performance Torque Derate to 40% ramped at 1% per minute				



On The Road

If the motor home is parked at the campground:

1. Start every 30 days.
2. Operate long enough to fully charge the air system and bring engine to operating temperature (180 to 190 degrees).
3. Release park brake and roll 25 ft. forward and then backwards 25 ft. to insure axle seals are fully lubricated.



Spartan Chassis Customer Service

(Information required by Spartan's Customer Service Representative)

<u>TOLL FREE:</u> (800) 543-4277	<u>HOURS:</u> 24 hours 7 days a week
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- Owner's Name
- Description of Problem
- SO# (Last 8 digits of chassis VIN)
- VIN# (17 Characters and starts with 4VZ or 4S7)
- Current Mileage
- Date of Purchase



Thank you for your time

Any Questions



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