PREVOST®

H5-60

Operator's Manual

PA-1125

H5-60

Operator's Manual

PREVOST CAR INC.
Technical Publications
After-Sales Service Department

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Note to owner

Congratulations for purchasing our new articulated coach. This H5-60 coach is the result of many years of technical research and endurance testing. It is a sophisticated product of engineering, a vehicle designed for maximum comfort, roominess, driveability and operating economy. Moreover, this vehicle was designed with your safety in mind.

You can now experience the advanced technology of Prevost Car and rediscover the pleasure of driving.

Your vehicle may not have all the equipment described in this manual. Therefore, you may find explanations of equipment not installed on your vehicle.

However, it has always been Prevost's policy to continuously improve its products. Therefore, we reserve the right to make changes in design and specifications, and to improve the quality of our product anytime without notice.

Note to operator

This operator's manual has been prepared to give you the necessary information to operate the H5-60 articulated coach. It is important to understand the complete operation of the vehicle to assure maximum comfort and safety. The more you know about your H5-60 coach, the more you will enjoy driving it. Although the mere reading of information does not eliminate the unforeseen, your understanding of this manual will ensure the correct use of the vehicle. We suggest that this manual remains in the vehicle at the time of possible resale, and that Prevost Car Inc be advised in order to update its records.

Text, figures and specifications throughout this manual are based on information available at the time of printing. This manual may not be reproduced or copied in whole or in part without the written permission of PREVOST CAR INC.

This manual is subject to change without notice.

The following words are used to emphasize a particular information.

WARNING: Identifies instructions which if not followed, could result in personal injury.

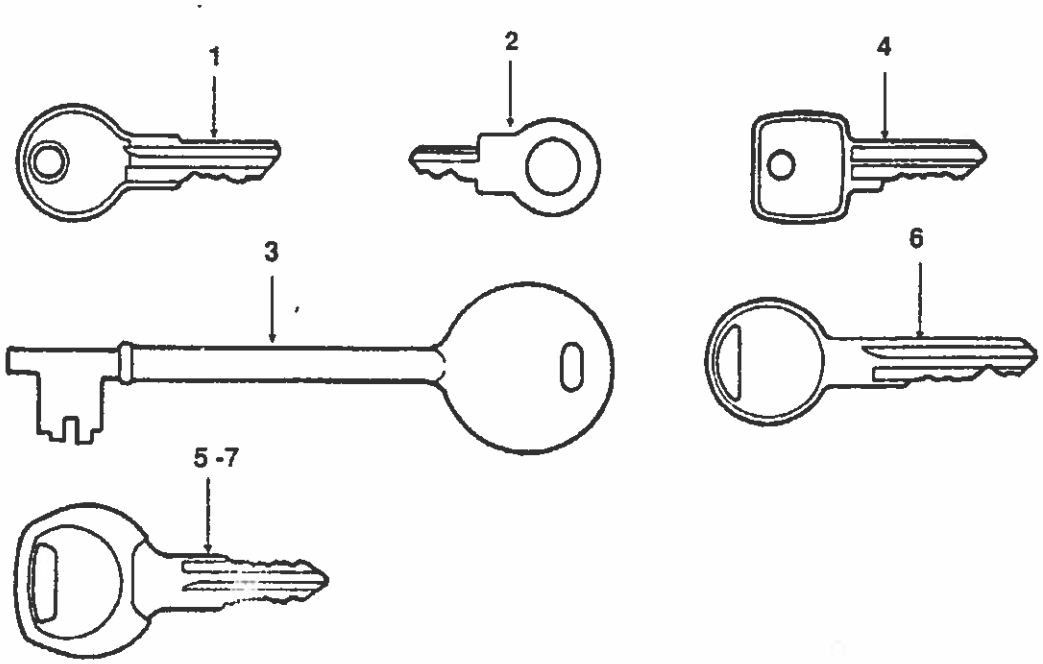
CAUTION: Denotes instructions which if not followed, could cause serious damages to vehicle components.

NOTE: Indicates supplementary information needed to fully complete an instruction.

For your own protection and to ensure a longer service life of your coach, heed our cautions, warnings and notes. Ignoring them could result in extensive damage and/or serious personal injury.

Keys

Seven (7) different key models are provided with the new H5-60 articulated coaches and are used as described hereafter:



1- Ignition

Use this key to activate electrical circuits and/or to start engine.

2- Tachograph

Use this key to open the tachograph cover for card replacement.

3- Lavatory door lock

Use this key to unlock the lavatory door or to prohibit access to lavatory.

4-Towel and toilet tissue dispenser locks

Use this key (LF #92201-England) when both dispensers must be refilled.

5- Entrance door locks, luggage compartment door locks, front electrical and service door locks

Use this key to lock or unlock the front and rear doors. This same key is used to unlock manually the baggage compartment doors. Note that all compartment doors can also be locked or unlocked electrically, using a switch (see page 2-4 #15) located in the driver's compartment.

6- Driver's personal compartment lock

Use the appropriate key (Chrysler) to lock or unlock the driver's personal compartment.

7-Surge coolant tank fill door and fuel fill door locks

Use this key to lock or unlock the surge coolant tank fill door in order to ensure proper maintenance, and to lock or unlock the fuel fill door.

NOTE: For your protection against theft:

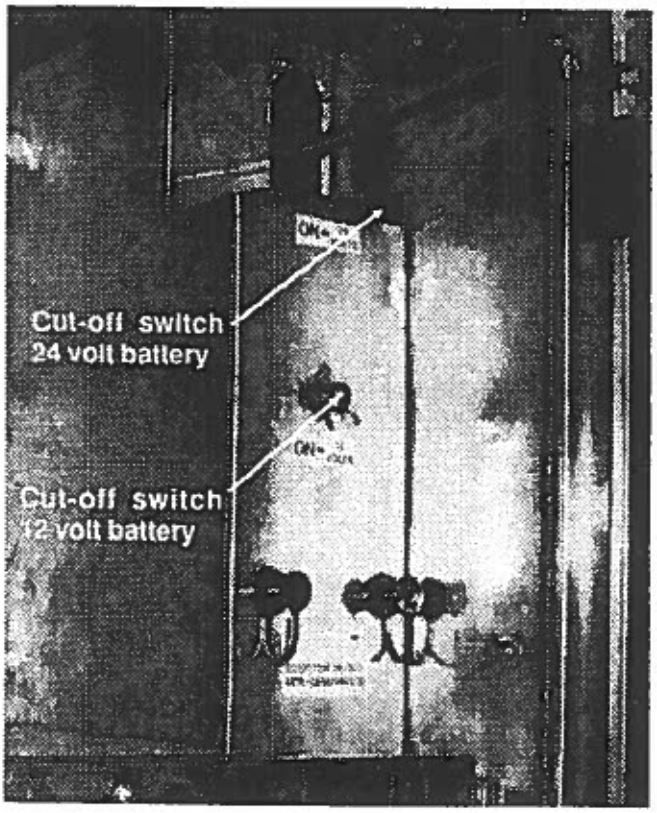
a) Record the key numbers and keep them in a safe place. Do not keep them in the vehicle.

b) It is advisable to deposit a duplicate of each of these keys in a safe place, so they can be obtained without difficulty in case of loss.

Main battery cut-off switches

A 24 volt electrical system manual cut-off switch is located in the upper R.H. corner of the second R.H. baggage compartment. Move this switch to the "ON" position to energize all interior lighting and accessory electrical circuits.

A 12 volt electrical system manual cut-off switch located just under the other one enables the energizing of all exterior lighting circuits.

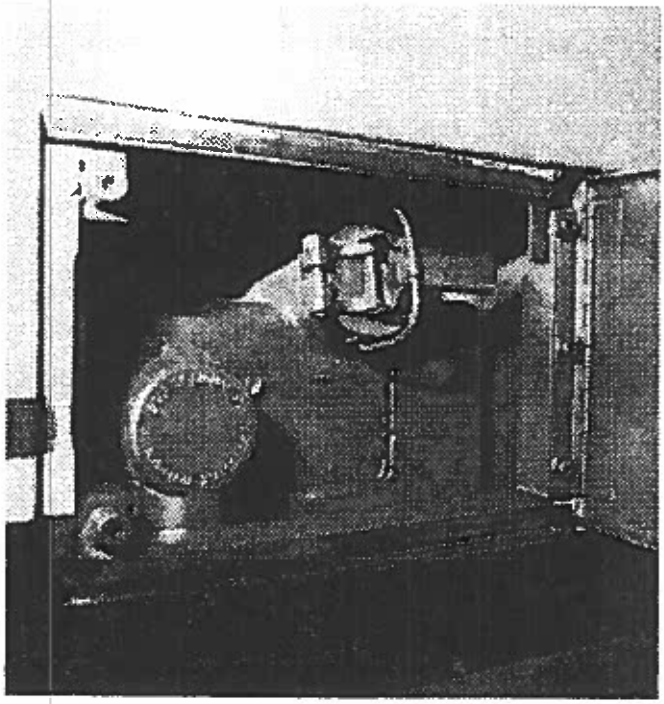


CAUTION: When coach is parked overnight or for a longer period of time, main battery cut-off switches should be set to "OFF" position.

NOTE: When main battery cut-off switches are turned to "OFF" position, all electrical supply from the batteries is cut off, with the exception of tachometer clock, fire detectors, and radio programming memory.

Fuel tank filling

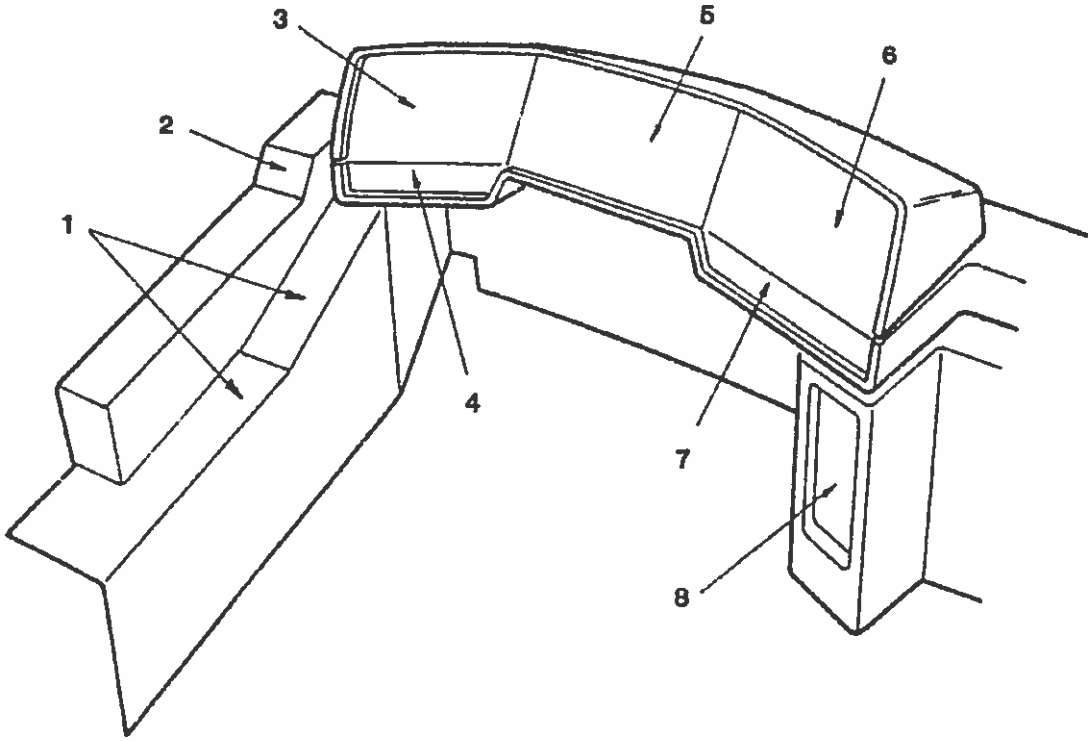
Fuel filler neck is accessible by opening a small door located on R.H. side of vehicle above the front wheels.



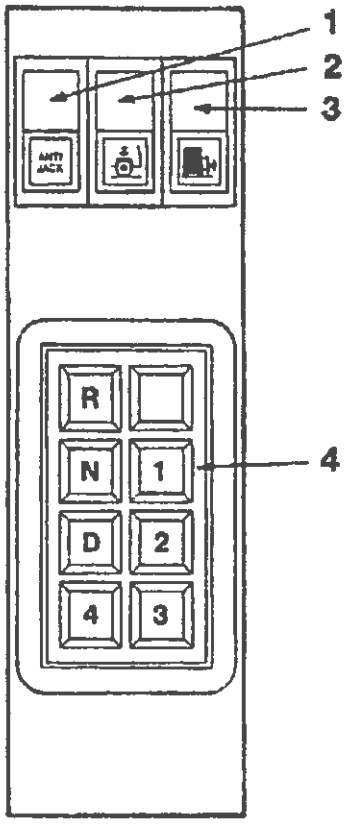
NOTE: Provided coach is parked level, whistle will sound and automatic nozzle will shut off when tank will be approximately 95% full.

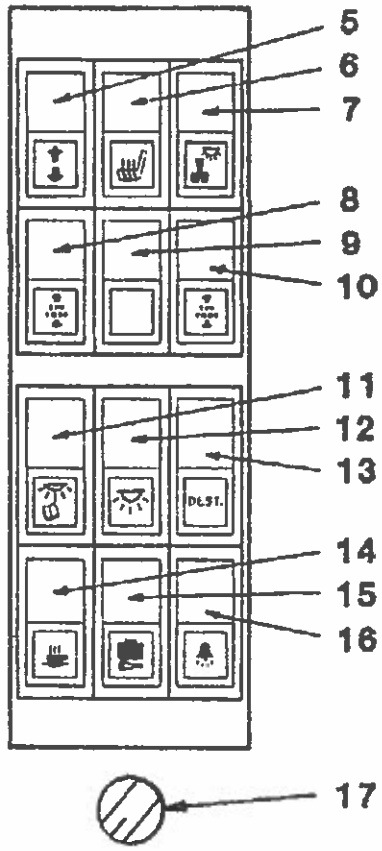
CAUTION: Do not fill to more than 95% of the tank capacity.

Dashboard



L.H. side control panel





Switches

1- Anti-jacknife

Push down rocker switch and hold in position to operate the anti-jacknife system.

2- Kneeling/hi-buoy

Push up rocker switch and hold in position to raise front of vehicle.

Push down rocker switch to lower front of vehicle.

3- Front and rear doors

Push up rocker switch to open the front door and push again to close.

Push down rocker switch to open rear door and push again to close.

4- Transmission push button selector

To select forward, neutral or reverse range of transmisson.

5- Driver's window

Push up rocker switch and hold in position to raise the driver's window.

Push down rocker switch and hold in position to lower the driver's window.

6- Driver's seat heating

Push down rocker switch to activate heating system inside driver's seat cushions.

7- Driver's lights

The "ON" position will activate the two front ceiling lights above driver. These lights are frequently used for nightime operation when passengers board of leave coach.

8- Left sun visor

Push up rocker switch and hold in position to raise left sun visor.

Push down rocker switch and hold in position to lower left sun visor.

9- Blank for additional switch

10- Right sun visor

Push up rocker switch and hold in position to raise right sun visor.

Push down rocker switch and hold in position to lower right sun visor.

11- Reading lamps

Reading lamps are controlled by two different switches. "Reading" switch on L.H. side control panel energizes the whole reading lamp circuit when in "ON" position. Individual reading lamp can then be activated by each passenger using switch incorporated in reading lamp body.

Reading lamps are mounted under parcel racks and prefocused to provide proper illumination for each passenger.

12- General lighting

Push down three position rocker switch to first position to operate aisle dome lights, and push to second position to energize the fluorescent lighting and aisle dome lights simultaneously.

The aisle dome lights are located on front of parcel racks, while fluorescent lights are located under the parcel racks. Use of lights should be avoided when engine is not running.

13- Destination sign light

Push down rocker switch to illuminate the destination sign light.

14- Galley

Push down rocker switch to operate galley refrigerator unit.

15- Baggage door lock

Push up rocker switch to unlock the doors and push down to lock.

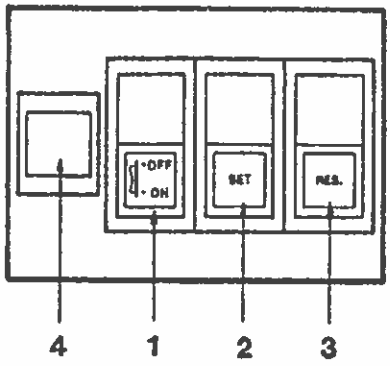
16- Passenger and hostess chime:

Push down rocker switch to activate chime systems allowing operation of chime and hostess buttons by passenger.

17- Instrument & control lighting dimmer

The control and instrument panel brightness can be adjusted by turning the dimmer clockwise. Lighting is progressively dimmed as dimmer is further rotated in clockwise direction.

Cruise control panel



1- On Off
2- Set
3- Resume
4- Kill

Introduction

The cruise control is an automatic speed control system that allows you to maintain a constant cruising speed above 30 m.p.h. (50 km/h) without depressing the accelerator pedal. The control switches are located on the cruise control panel in driver's compartment (see page 2-3 #2) and consist in four (4) setting switches.

WARNING: Do not use the cruise control system when driving conditions do not permit maintaining a constant speed, such as in heavy traffic or on roads that are winding, icy, snow covered, slippery, or with a loose driving surface.

Setting vehicle speed

To turn the system on, depress "ON/OFF" rocker switch from "OFF" to "ON". Set the vehicle speed by accelerating to the desired speed and momentarily depress and release the "SET" switch, then remove your foot from accelerator pedal. This sets the cruising speed and stores it in a memory, thus maintaining speed automatically.

NOTE: Cruise control system will not accept speed settings, nor will the "RESUME" switch operate, below approximately 30 m.p.h. (50 km/h).

Increasing set speed

Vehicle speed setting may be increased by one of two methods:

1. Depress and hold the "RESUME" switch until the desired speed is obtained. Releasing the "RESUME" switch will set the new higher speed.

2. Depress accelerator pedal until the desired speed is obtained, then depress and release the "SET" switch.

NOTE: When driving with cruise control in use, the speed may be increased for passing, etc., by depressing the accelerator in the usual manner. Once the foot is removed from the accelerator pedal, the cruise control will return to the set speed.

Decreasing set speed

Vehicle speed setting may be decreased by one of two methods.

1. Depress and hold the "SET" switch until the desired speed is obtained. Releasing the "SET" switch will set the new speed.

NOTE: Each pulse decreases the speed by one (1) m.p.h. (0.625 km/h) approximately.

2. Lightly depress the brake to disengage the system. To resume the speed after a brake or "KILL" switch application with cruise control engaged, you may return at the previously set speed by depressing and releasing the "RESUME" switch, provided the speed is higher than 30 m.p.h (50 km/h).

Cancelling set speed

The cruise control automatic operation may be cancelled by one of three methods.

1. Depress the "ON/OFF" switch to "OFF" position.
2. Make a slight brake application.
3. Depress the "KILL" switch. This switch is used to cancel temporarily the cruise control system without a brake application or switching the "ON/OFF" switch to "OFF" position; depress and release, and vehicle speed will drop until you push the "RESUME" switch, then the vehicle will automatically accelerate to the speed setting.

NOTE: "RESUME" switch feature may be used again when automatic operation is cancelled with step 2 or 3. The "RESUME" switch will automatically return the vehicle speed to the setting prior to a brake or "KILL" switch application, and maintain the set speed.

If the speed drops below 30 m.p.h. (50 km/h), the setting instructions must be repeated, because the cruise control is inoperative below this speed.

When the cruise control automatic operation is cancelled, any objectionable vehicle motion can be minimized by depressing accelerator lightly before disengaging cruise control.

Automatic transmission (ATEC)

The operation and driving of the H5-60 coach with an automatic transmission is similar to the driving of an automobile equipped with automatic transmission. Proper ranges should be selected according to driving speeds to improve vehicle performance and control. The transmission is fully automatic. Speed ratio of power converter changes automatically as vehicle speed increases and direct-drive goes in and out as necessary, modulated by vehicle speed, and accelerator position.

Range selector

The push-button type range selector is totally electronic. The range selector displays seven push-button pads:

R (reverse), N (neutral), D (drive), 4 (fourth), 3 (third), 2 (second), and 1 (first). The range selector also has a "DO NOT SHIFT" light and a warning tone or buzzer.

Operation

When any of the push-button pad is pressed, a "click" is felt and the pad lights up to indicate the transmission is ready to operate in the selected range. When the ATEC detects a serious problem in the system, a buzzing tone sounds for 5 seconds, and a "DO NOT SHIFT" light turns on to warn the driver that the transmission is held-in-gear. If another pad is depressed, the buzzing sound will continue until the original range is selected.

a) Reverse (R)

Use this position to back the vehicle. Stop the vehicle completely before shifting from forward to reverse or from reverse to forward. Touch the reverse (R) pad, the light under the (R) pad will turn on and the reverse warning signal will be activated.

B) Neutral (N)

Use this position to start engine. Select neutral (N) when checking vehicle accessories, and for extended periods of engine idle operation; parking brake must then be applied. The push-button range selector will automatically select neutral when the master switch is turned on.

WARNING: Always apply parking brake before leaving driver's seat.

C) Drive (D)

Use this higher range for all normal driving conditions. Touch this pad, the vehicle will start in first or second range and will automatically upshift to a higher range as output speed increases. As the vehicle slows down, output speed decreases, and the transmission automatically downshifts to the correct range.

If a slick surface condition should occur, the ECU (Electronic Control Unit) will command converter operation (disconnect lockup) and inhibit downshifts for a period of time or until normal wheel speed has been restored.

NOTE: Manual shifting should be done only when required by the traffic situation.

D) Third (3) and fourth (4) ranges

Select these ranges when driving on moderate grades, or when load and traffic conditions require the use of restricted speed. Upshifting and downshifting are automatic.

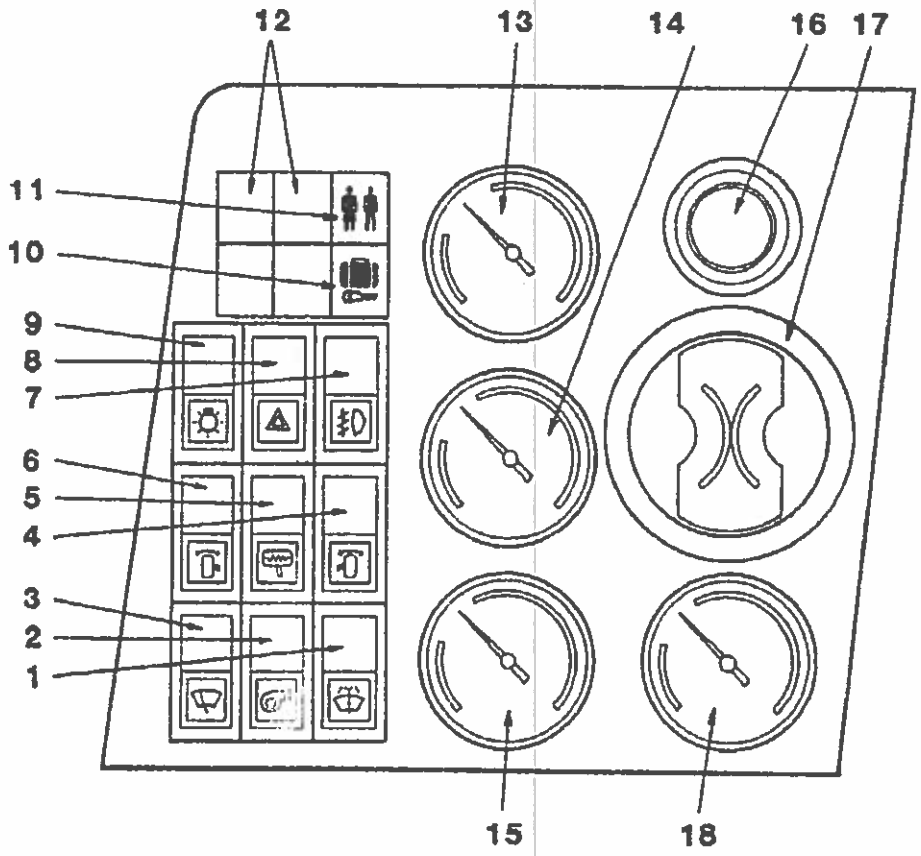
E) Second (2) Range

Select this range when operating in heavy and congested traffic. The transmission will start in first and automatically upshift second. When slowing , the in transmission will automatically downshift to first range. Low ranges provide progressive greater engine and retarder braking power (the lower the range, the greater the engine and retarder braking effect).

F) First (1) Range

Select this range when pulling through mud and snow or when speed control is needed for driving up steep grades. This range also provides maximum engine braking power. In the lower ranges (1,2,3, and 4), transmission will not upshift above the highest gear selected unless recommended engine governed speed for that gear is exceeded.

L.H. dashboard control panel



1- Upper windshield washer switch

Push on rocker switch and hold in position to operate windshield washers.

2- Upper windshield defroster switch

Push on rocker switch to first position to operate the blower in low speed and push to second position to obtain the high speed.

3- Upper windshield wiper switch

Push on rocker switch to first position to operate the intermittent mode and push to second position to obtain a constant speed.

4- R.H. side adjustable mirror switch

Push up or down rocker switch to rotate mirror as desired.

5- Exterior mirror heating switch

Push down rocker switch to heat both exterior mirrors.

6- L.H. side adjustable mirror switch

Push up or down rocker switch to rotate mirror as desired.

7- Fog lamp switch

Push down rocker switch to activate fog lamps as well as tail and marker lights.

Before using fog lamps, remove plastic protective fog lamp covers by pulling on their edge.

8- Hazard flasher switch

Push down rocker switch and all turn signal lights will flash simultaneously. Indicator lights will also flash.

9- Exterior lighting switch

Push down rocker switch to activate marker lights and push again to turn on headlamps.

10- Baggage door lock indicator light

Illuminates when one or more baggage doors are unlocked.

11- Lavatory door lock indicator light

Illuminates when the lavatory door is locked.

12- Blanks for additional indicator lights.

13- Transmission oil temperature gauge

Indicates transmission oil temperature. Normal reading should range between 160° and 250° F (70-120°C).

NOTE: A maximum temporary high temperature of 330°F (166°C) may be reached when retarder is operated for extended periods.

14- Turbo boost pressure gauge

Indicates turbo boost vacuum in inches of Hg or pressure in psi. Reading depends on engine rpm and load conditions.

15- 24 volt voltmeter

Indicates electrical system voltage. With engine operating, normal reading should range between 24 and 27.5 volts.

16- Adjustable ventilation louvers

Two (2) heater and air conditioner vent louvers are installed on the dashboard panel. Both are manually adjustable, so the heated or cooled air flow can be directed in all directions. To obtain the appropriate air flow, rotate counterclockwise the exterior ring of the louvers.

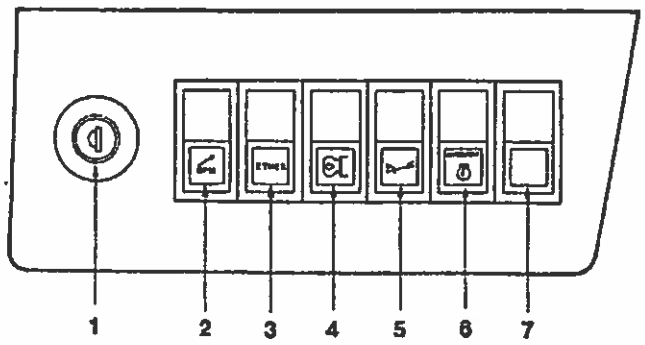
17- Pyrometer gauge

Indicates left and right exhaust manifold temperature in hundreds of °F. Normal reading should vary between 500 and 1100°F depending on operating conditions.

18- 12 volt voltmeter

Indicates electrical system voltage. With engine operating, normal reading should range between 12 and 13.75 volts.

L.H. lower control panel



Switches

1- Ignition

This switch will activate electrical circuits when key is in the "ON" position. To start engine, rotate key to "START" position, then release it as soon as engine starts. Turn key to "OFF" position to stop engine and cut all electrical circuits. Ignition key must be returned to "OFF" position before trying to restart.

2- Fast idle

Push down rocker switch to engage fast idle, thus increasing idle to approximately 950 rpm; it should be used when stopping for a short period.

NOTE: When the engine of vehicle is stopped with the fast idle switch in the "ON" position, this control will be automatically cancelled when restarting the engine; operator must depress, then reset the rocker switch to actuate fast idle again.

3- Ether starting aid

Activates ether cold starting device in engine compartment. (see "Cold Weather Starting" page 4-8).

4- Webasto heating system

Push down rocker switch to start the pre-heating system (Webasto).

CAUTION: The pre-heating system should not operate for more than twenty (20) minutes before starting the engine as this could discharge batteries.

NOTE: The Webasto pre-heating system will turn off when coolant temperature reaches 170°F (77°C), but indicator light will stay "ON" reminding you to turn the switch "OFF".

5- Transmission retarder

Push down rocker switch to activate the transmission hydraulic retarder system, which operates when the accelerator pedal is released.

WARNING: Never use the retarder system on slippery roads. This additional braking system could interfere with the ABS system. So, the retarder system must remain shut off in favor of the service brake system; failure to do so could result in loss of vehicle control.

6- Engine override

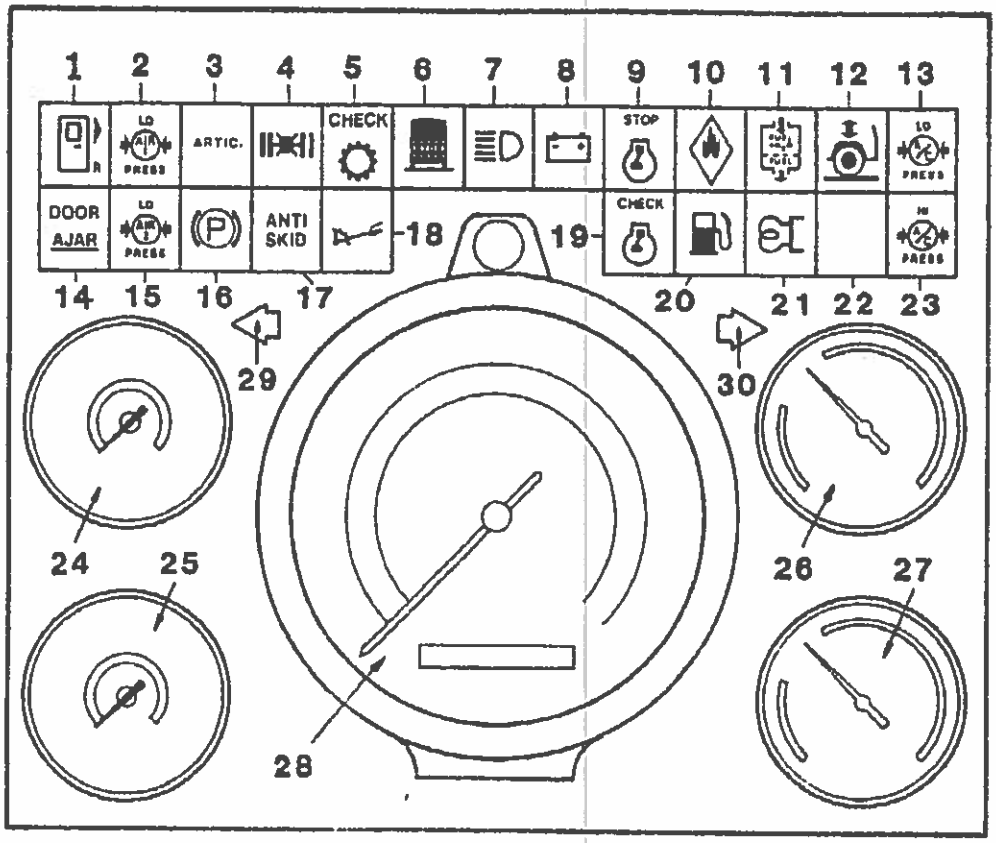
Push down rocker switch to cancel shut-down system and activate ignition switch to restart engine; press until the vehicle pulls off the road.

NOTE: Engine will initially provide 80% of its power, which will gradually decrease to 40% in order to protect the engine components.

CAUTION: The engine override must be used only in emergency cases, as to move vehicle out of traffic. Excessive use of this switch could cause serious damage to the engine.

7- Blank for additional switch

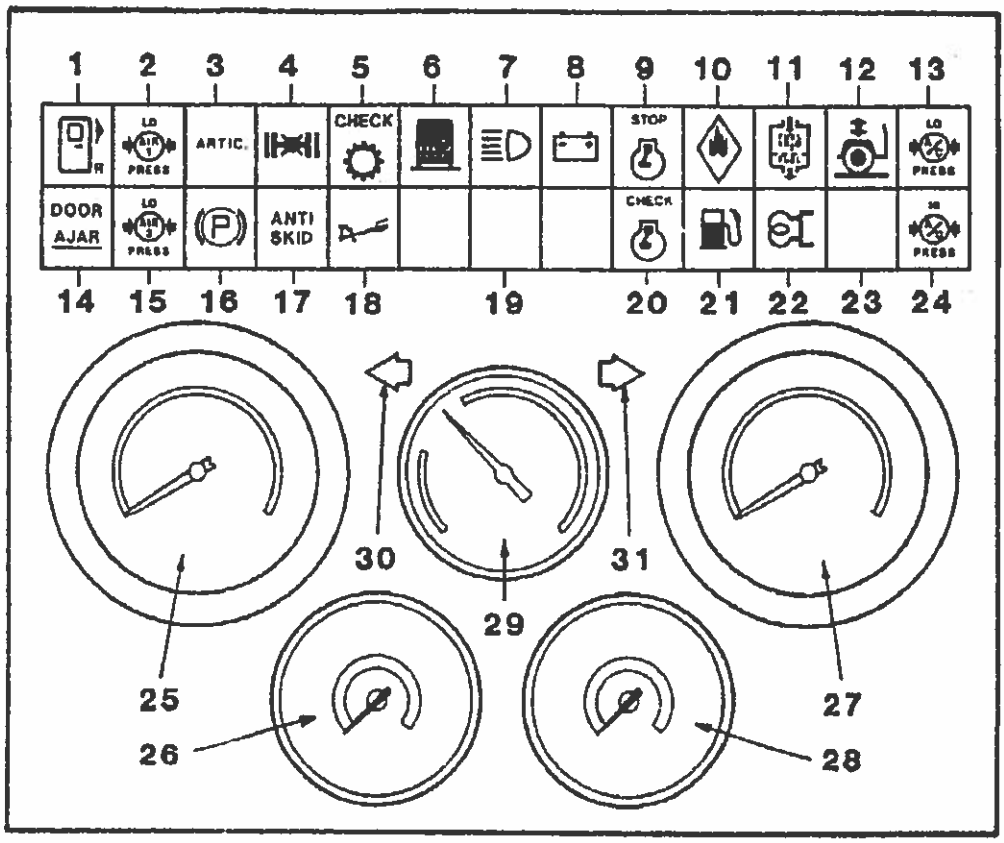
Central dashboard panel (with tachograph)



Indicator/warning lights

1- Rear door opening
2- Low primary air pressure
3- Articulation limit
4- Differential lock
5- Check transmission
6- Stop lights
7- High beams
8- Battery
9- Stop engine
10- Fire detectors
11- Water separator
12- Kneeling/hi-buoy
13- Low A/C pressure
14- Door baggage ajar
15- Low secondary air pressure
16- Parking brake
17- Anti-skid braking
18- Transmission retarder
19- Check engine
20- Low fuel level
21- Webasto heating system
22- Blank for additional indicator light
23- Hi A/C pressure
24- Primary air pressure gauge
25- Secondary air pressure gauge
26- Oil pressure gauge
27- Oil temperature gauge
28- Tachograph
29- Left turn signal
30- Right turn signal

Central dashboard panel (without tachograph)



Indicator/warning lights

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14- Door baggage ajar
15- Low secondary air pressure
16- Parking brake
17- Anti-skid braking
18- Transmission retarder
19- Blanks for additional indicator lights
20- Check engine
21- Low fuel level
22- Webasto heating system
23- Blank for additional indicator light
24- Hi A/C pressure
25- Tachometer
26- Primary air pressure gauge
27- Speedometer
28- Secondary air pressure gauge
29- Oil pressure gauge
30- Left turn signal
31- Right turn signal

Central dashboard panel (standard & optional)

Indicator/warning lights

Rear door opening

Lights when rear door is opened.

Low primary air pressure

Lights when primary system pressure becomes too low.

Articulation limit

Lights when the articulation angle reaches 30 degrees on the horizontal plane, or 10 degrees on the vertical plane (see page 3-4).

Differential lock

Lights automatically when engaging differential lock control in the "LOCK" position.

Check transmission

Lights and stays on until the transmission is warm enough to operate safely in all gear ranges, and flashes when the test switch is "ON" to indicate transmission malfunction (see page 4-9).

Stop lights

Illuminates when stop lights are activated.

High beams

Lights when headlight high beams are selected (see page 2-16).

Battery

Lights when alternator is not operating properly.

Stop engine

Lights when major engine problem occurs. Engine will shut off after 15 seconds.

Fire detectors

Lights when fire is detected in engine compartment.

Water separator

Lights when water separator must be drained (see page 6-6).

Kneeling/hi-buoy

Lights when kneeling or hi-buoy system is operating (see page 3-1).

Low A/C pressure

Lights when A/C system low-side pressure is too low. Compressor clutch will be disengaged and compressor fan will shut off.

Door baggage ajar

Lights when one or more baggage doors is (are) ajar.

Low secondary air pressure

Lights when secondary air pressure is too low.

Parking brake

Lights when parking brake is applied (see page 2-16).

Anti-skid braking

Lights until vehicle speed reaches 3 mph (5 km/h) and when the anti-skid system is not working properly.

Transmission retarder

Lights when transmission retarder system is set to "ON" position (see page 3-1).

Check engine

Flashes for any malfunction of the engine.

Low fuel level

Lights when approximately 18 U.S. gallons (68 liters) remain in the fuel tank. You should add fuel as soon as possible.

Webasto pre-heating system

Lights when Webasto pre-heating system is operating.

Hi A/C pressure

Lights when A/C system Hi-side pressure becomes too high. Compressor clutch will be disengaged, but compressor fan will remain activated.

Primary air pressure gauge

Indicates air pressure in the primary system. Normal reading should vary from 90 to 125 psi (620 to 860 kPa).

Secondary air pressure gauge

Indicates air pressure in the secondary system. Normal reading should vary from 90 to 125 psi (620 to 860 kPa).

Oil pressure gauge

Indicates engine oil temperature. Normal reading should range between 35 and 75 psi (240-516 kPa) at full throttle.

Oil temperature gauge

Indicates engine oil temperature. Normal reading should range between 200 and 250°F (94-120°C).

Left & right turn signals

Flashes "ON" and "OFF" when left or right turn signal is selected on multifunction lever.

Tachometer

Indicates engine speed in hundreds of revolutions per minute (rpm).

Speedometer

The speedometer indicates the vehicle speed. The odometer indicates the distance driven.

U.S. models: Miles

Canada models: Kilometers

NOTE: Dashboard panel gauges should not be used for mechanical adjustments.

Tachograph

This multi-purpose tachograph includes:

Speedometer

Indicates driving speed in m.p.h. or km/h.

Odometer

Indicates the accumulated vehicle mileage.

Tachometer

Indicates engine speed in hundreds of revolutions per minute (rpm).

Clock

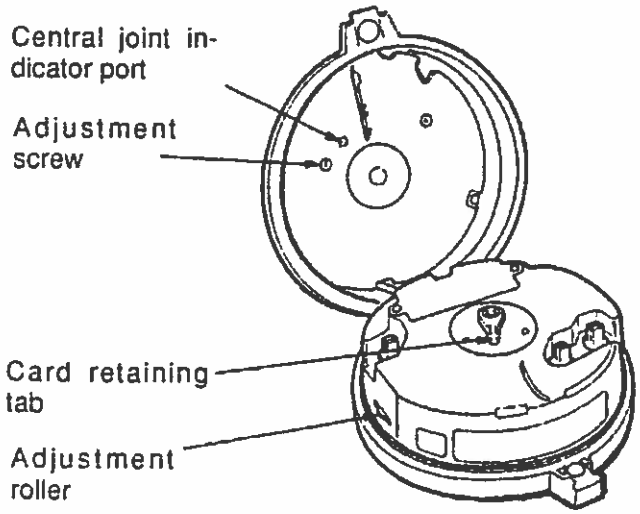
Operates even if the main battery cut-off switches are set to "OFF" position.

Central joint indicator light

Lights when pressure is applied on the central joint to improve roadability of articulated coach.

Paper recording of speedometer and tachometer for a 24 hour or seven day period.

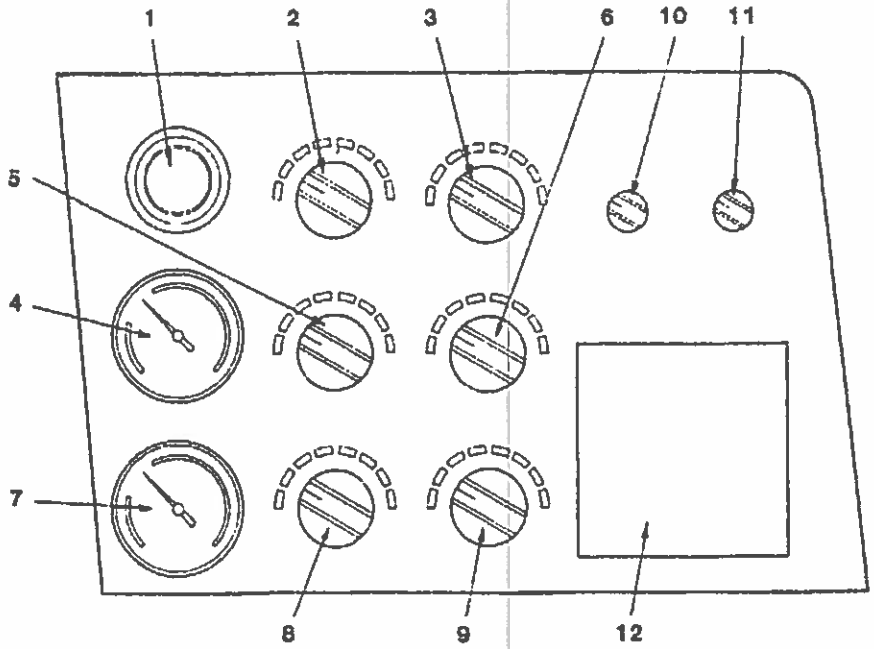
To change card inside tachograph, open the tachograph cover using the key provided; lift the card retaining tab, and replace card with the m.p.h. or km/h. side facing the tab. Then replace retaining tab and close cover.



CAUTION: Do not run engine without card or with damaged card in tachograph as it may damage tachograph mechanism. Replace card as required.

To reset the clock, open the tachograph cover using the key provided, and turn the adjustment roller on L.H. side of tachograph.

R.H. dashboard control panel



1- Adjustable ventilation louver

Refer to number 16 in L.H. dashboard control panel.

2- Driver's A/C - heating air recirculation

This control should normally be set to "FRESH AIR" position. If the system does not provide desired temperature under extreme weather conditions, the control should be turned left to "RECIRC" position.

3- A/C - heating main windshield defroster

This control is used to direct air flow in main windshield defroster or dash louvers or both together. Turn knob clockwise to increase air flow in main windshield defroster and turn counterclockwise to increase air flow in dash louvers. Turn knob to center position to direct air flow simultaneously in defroster and dash louvers.

4- Engine coolant temperature gauge

Indicates engine coolant temperature. Normal reading should range between 170 and 195°F (76-90°C).

5- Driver's A/C - heating temperature control

Regulates temperature for A/C - heating mode in driver's section. Turn knob clockwise to raise and counterclockwise to lower the temperature. At extreme clockwise position, full heat will be maintained.

6- Driver's A/C - heating ventilation speed control

Turn knob clockwise at the first position to activate driver's A/C - heating system, and turn clockwise again to obtain the desired ventilation speed.

7- Fuel level gauge

Indicates approximate quantity of fuel remaining in fuel tank. It is not recommended to operate the vehicle when the reading is below 1/8 full.

NOTE: Taking into account the tank has an irregular form, the needle moving towards the quarter zone (1/4) of the gauge will drop very quickly to reach the limit zone for refilling. Consequently, you must fill the tank before beginning a long trip. In the limit zone, a maximum of 60 miles (100 kilometers) may be covered, depending on speed and load.

8- Front section A/C - heating control

Regulates temperature for A/C - heating mode in first section of passengers.

Turn knob clockwise to raise and counterclockwise to lower the temperature.

A red LED located in center console under front thermometer will light when the heating mode is in operation, while A/C mode will be indicated by a green LED.

9- Rear section A/C - heating control

Regulates temperature for A/C - heating mode in second section of passengers.

Turn knob clockwise to raise and couterclockwise to lower temperature.

A red LED located in center console under rear thermometer will light when the heating mode is in operation, while A/C mode will be indicated by a green LED.

10- Brightness control

Adjust as required.

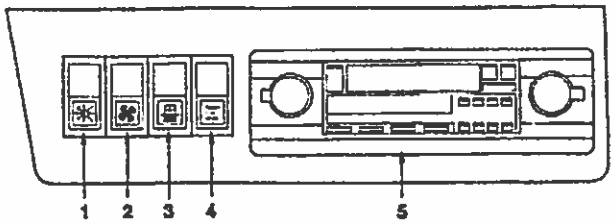
11- Contrast control

Adjust as required.

12- T.V. monitor

Switches on automatically on reverse range.

R.H. lower control panel



1- Passenger A/C - heating switch

Push down rocker switch to activate A/C - heating system in both front and rear sections. The ventilation system will operate automatically.

2- Passenger ventilation switch

Push down rocker switch to activate ventilation only. Use this position to avoid continuous engaging and disengaging of compressor clutch when A/C - heating system is not working properly.

3- Fresh air damper switch

Push down rocker switch to close partially both fresh air dampers.

4- Speaker selector switch

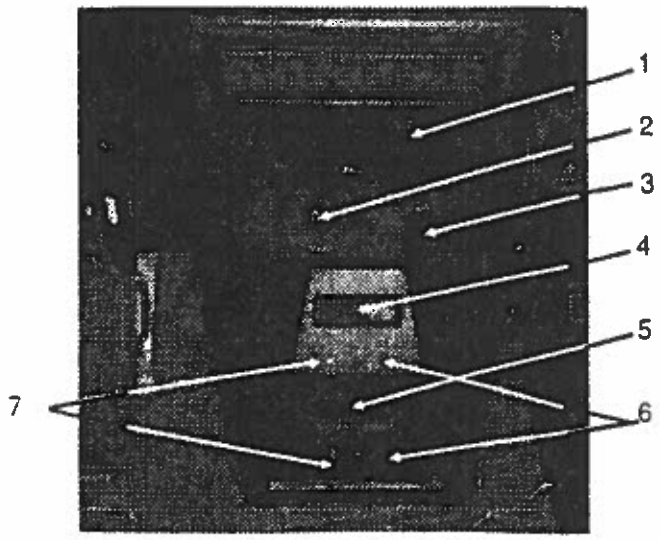
Push up rocker switch to operate the speakers in driver's section.

Push down rocker switch to operate the speakers in passenger sections. The center position operates front and rear speakers simultaneously.

5- AM/FM stereo cassette receiver

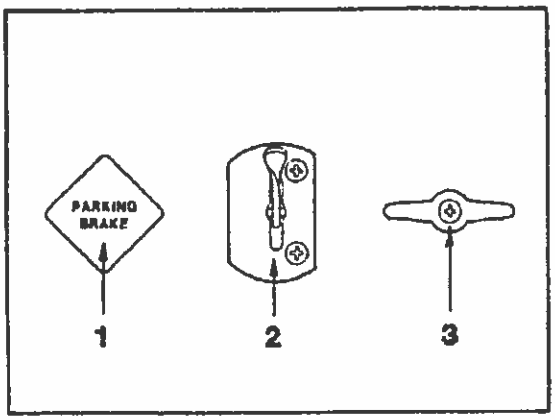
Includes AM/FM radio, cassette tape player and P.A. system. Instructions for proper utilization of the sound system are included in the technical publication box delivered with the vehicle.

Center console



1- Ashtray
2- Cigarette lighter
3- P.A. volume control
4- Front section thermometer
5- Rear section thermometer
6- Red (heating mode) LEDs
7- Green (A/C mode) LEDs

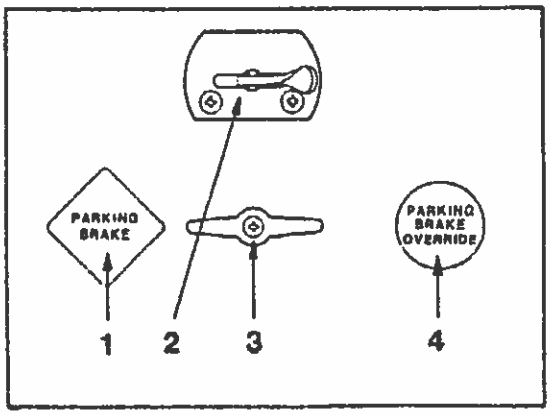
R.H. lateral console (standard)



Control valves

1- Parking brake
2- Differential lock
3- Front door emergency exit

R.H. lateral console (optional)



Control valves

1- Parking brake
2- Differential lock
3- Front door emergency exit
4- Parking brake override

1- Parking brake

The vehicle is equipped with spring loaded parking brakes on both drive axles. The control valve knob is located at right of driver's seat on the R.H. side lateral console.

Spring loaded parking brakes are applied by pulling up control valve knob. They are not designed to be used in normal braking. When vehicle is moving in normal conditions, control valve knob should be pushed all the way down.

NOTE: Parking brakes can supplement service brakes to stop the vehicle in an emergency condition only. The stopping distance will be considerably longer than the normal brake application.

Before releasing parking brakes by pushing down control valve knob, air pressure gauges should be checked to make sure that brake system air pressure has built up to a minimum of 95 psi (655 kPa).

If, during normal operation with full air pressure, application of service brakes should fail to stop the vehicle for any reason whatsoever, emergency brakes should be applied by pulling the parking brake control valve knob; spring loaded brakes will then be applied on both drive axles.

2- Differential lock control

In normal driving conditions, traction is distributed between the four (4) wheels of the two (2) drive axles. Each axle is thus floating, and rotation speed of each wheel is independent from the others. When wheel spinning occurs on slippery road conditions, it is possible to increase vehicle traction by holding the differential lock control in the "LOCK" position. The differential lock system provides positive traction to at least one wheel of each drive axle.

CAUTION: The differential lock control should be released as soon as the vehicle is freed from snow or mud.

Do not shift inter-axle differential in the "LOCK" position while rear wheels are slipping or spinning. Moreover, do not permit rear wheels to spin freely. As soon as traction is lost, shift unit into "LOCK" position to prevent damage to inter-axle or to the main differentials.

3- Front door emergency exit

In the event of possible malfunction of the front entrance door and air lock mechanism or of its internal components, a front door emergency control is provided.

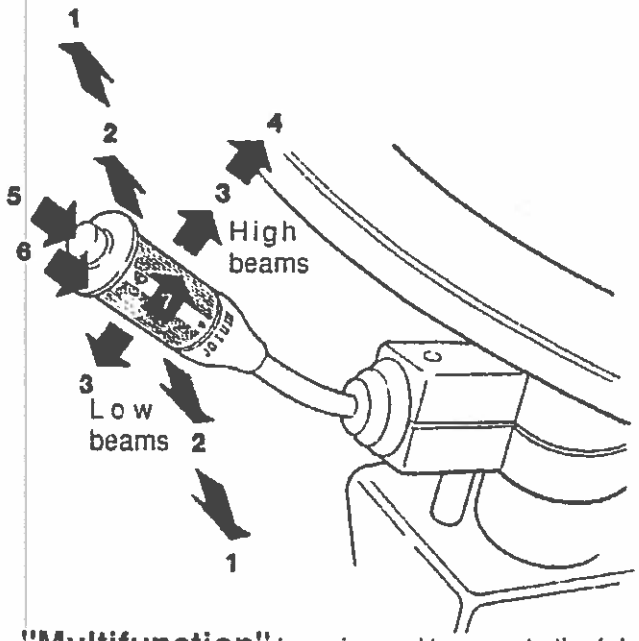
To operate, rotate counterclockwise the handle of control valve located on R.H. lateral console beside parking brake control knob.

4- Parking brake override

If, during normal operation, air pressure in the three brake systems drops below 40 psi (276 kPa), spring loaded emergency parking brakes will immediately be applied at full capacity on drive axles to stop vehicle. Cause of pressure loss should be determined and corrected before proceeding.

However, vehicles may be equipped with an optional parking brake release system, which will permit to drive the vehicle for a short period of time to a safe parking place. To operate, push down the control knob located beside the front door emergency handle control, and hold it down while moving vehicle.

Steering column controls



A. "Multifunction" lever is used to operate the following accessories:

1. Turn signal: Move the lever up to the second stop to signal a right turn, and down to the second stop to signal a left turn. When the turn is completed, the signal will cancel and lever will automatically return to horizontal position.

2. Lane change signal: Move the lever part way to the first stop, and hold it there. The lever will return to horizontal position, when it is released.

3. Headlight beam changer: High beams or low beams can be selected by respectively pushing the lever towards the dashboard or pulling it towards the driver.

4. Headlight flasher: High beams can be flashed momentarily by pulling the lever completely towards the driver and then releasing it.

5. Courtesy type blinkers: Blinkers can be operated by pressing the button located at the lever tip.

6. Washer controls: Push the external ring at the end of lever towards the steering column to activate windshield washers. When the external ring is released, washers stop immediately but wipers will continue to run twice over to dry the windshield.

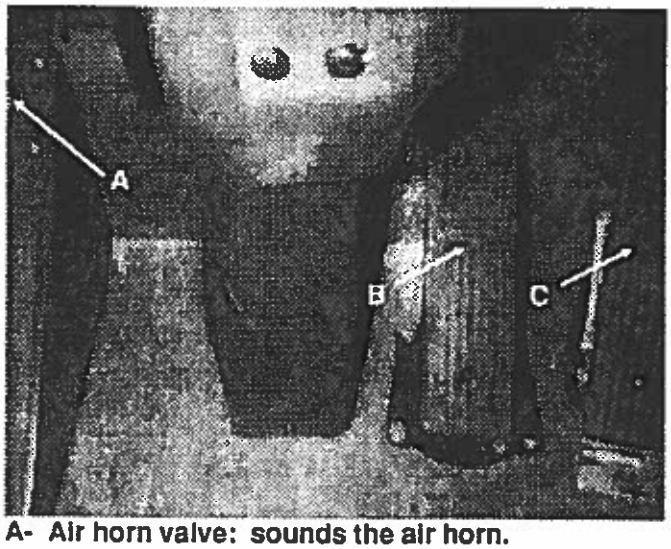
7. Windshield wipers: Turning lever forward activates two electrical synchronized arms; the first position corresponds to low speed and the second to high speed. Turning lever backward activates intermittent mode.

CAUTION: Do not run wiper blades on dry windshield as this may scratch it.

Always loosen frozen blades on windshield before operating wipers to avoid damaging the wiping system.

B. Electrical horn: Can be operated by pressing button at center of steering wheel.

Foot operated controls



A- Air horn valve: sounds the air horn.

B- Brake pedal: applies service brakes

C- Accelerator pedal: controls engine rpm.

Entrance doors

Opening and closing

Inside operation

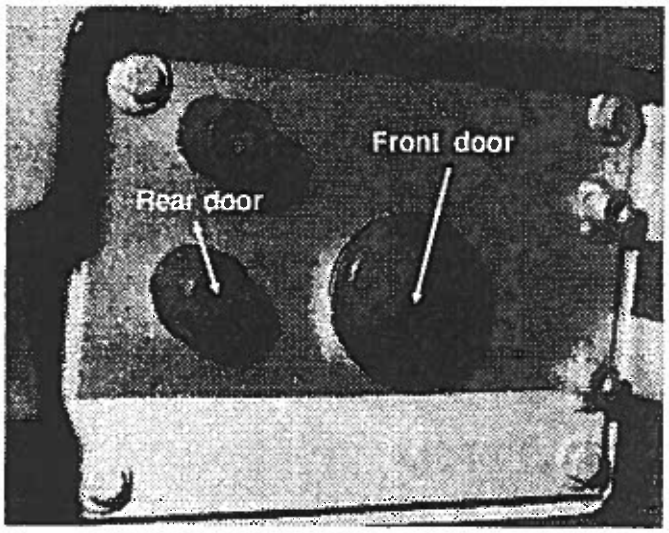
Front and rear entrance doors are provided with an air-operated closing device. A switch, located on upper L.H. side control panel, automatically activates an air system which assists the opening and closing of both doors. Rocker switch must be pushed down to open the rear entrance door and pushed up to open the front entrance door. Close the door(s) by pushing accordingly on the rocker switch.

NOTE: Both entrance doors are provided with a safety reverse mechanism in case of obstruction.

Outside operation

Front and rear entrance doors can be secured with two (2) locks. Both locks must be unlocked to permit operation of the pneumatic opening mechanism.

To open front entrance door from outside, depress the pneumatic valve located behind the access door above the right front wheel. To close the door, press on the pneumatic valve, which will be activated automatically until complete closing. Use appropriate key to lock door from outside.



Outside opening of the rear entrance door may be performed either from the rear or the front of vehicle.

To open the door from the front of vehicle, depress the smallest button located behind the access door above the right front wheel.

To open the door from the rear of vehicle, depress the pneumatic valve located in compartment above right rear wheel. Both locks must always have been unlocked previously.

CAUTION: Both locks must have been previously unlocked to prevent damage to the door lock mechanism.

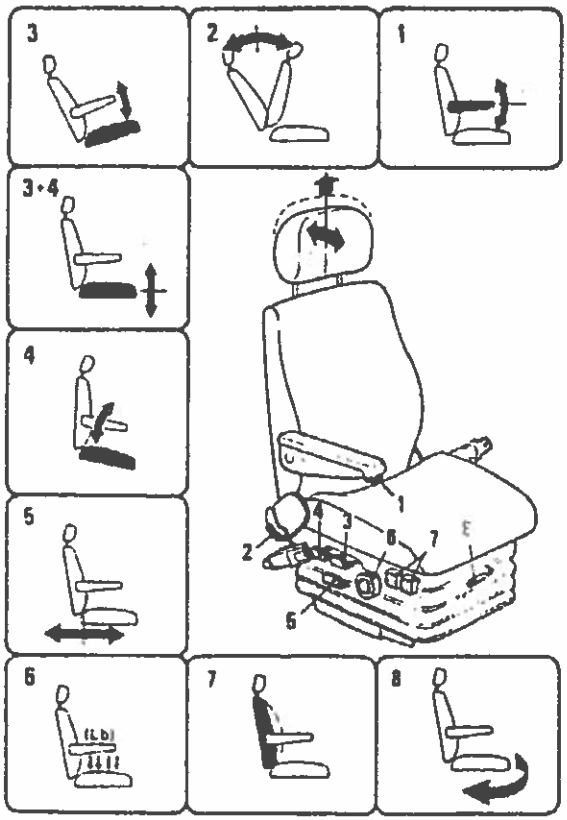
NOTE: The parking brake will automatically apply when rear entrance door is opened.

Outside closing of the rear entrance door may be performed by pressing again on pneumatic valve at rear, or on smallest button at front of vehicle.

Seat

Driver's seat

Only one type of driver's seat is available on the new H5-60 articulated coach. The «ISRI» seat is offered in two (2) models. The standard model has a mechanical suspension while the other one is equipped with air suspension. Both of these seats may be equipped with lumbar supports.



«ISRI» seat

The «ISRI» seat can be adjusted to the most comfortable driving position by using the following procedure.

1- Turn control to adjust the desired height of the armrest.

2- Lift lever to allow proper adjustment of the backrest angle.

3- Pull handle up, and push or pull on seat cushion to raise or lower the front section of the seat cushion.

4- Pull handle up, and push or pull on seat cushion to raise or lower the rear section of the seat cushion.

3-4- Pull both handles up to adjust height of seat cushion.

5- Pull handle up and slide seat forwards or backwards to adjust distance between driver and dashboard.

NOTE: This control may also be located at the front of the seat (lever no.8)

6- This control is used to adjust the seat suspension. Turn control clockwise to increase suspension resistance and counterclockwise to decrease.

7- Push on upper section of rocker switches to inflate lumbar support bellows inside the seat backrest, and push on lower section of rocker switches to deflate bellows.

NOTE: Rear and front rocker switches are respectively for lower and upper lumbar support bellows.

8- Pull handle up to allow rotation or driver's seat.

NOTE: This control may also replace control no.5 on some seat models.

Height adjustment

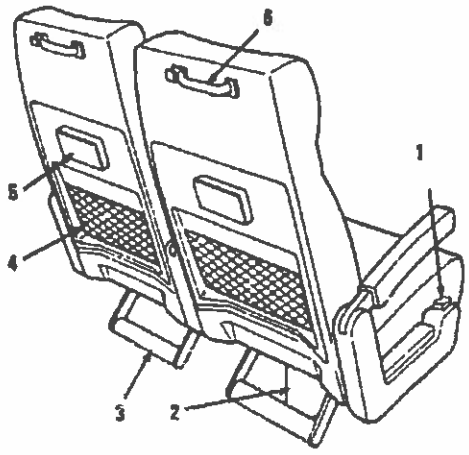
On an «ISRI» seat equipped with air suspension, the suspension is self-adjusting to the weight of the driver, thus deleting the suspension adjustment knob (6), while the mechanical suspension seat will be lowered by the driver's weight.

Heated cushions

The «ISRI» seat may also be equipped with back and seat heated cushions, operated by a dash panel mounted switch.

Passenger's seat

All seats are track mounted to facilitate change in seating arrangements. Each seat is mounted on an oval aluminum pedestal to provide sufficient space between pedestal and vehicle side wall for cleaning purposes.



Passenger's seat

1- Backrest setting push-button

2- Oval aluminum pedestal

3- Footrest

4- Newspaper holder

5- Ashtray

6- Passenger's grip handle

Passenger's seat back may be tilted and set conveniently by means of a reclining mechanism actuated by a push-button located on side of seat cushion. When push-button is depressed and held in this position, seat can be set as required by pressing backward the seat back to the desired position; the seat back will remain in the desired position when push-button is released. Seat back can be returned to initial position by simply depressing the push-button. Seat back adjustment mechanism is hydraulic and equipped with a pull-off spring.

A fold-down type armrest is installed on the aisle side to ease passenger circulation. This armrest is spring loaded, thus returning automatically to its lower position. The return mechanism is installed in the armrest pivot. Between passenger seats, the same armrest type is installed but is not spring loaded, thus allowing the armrest to stay in a lifted position for passenger's convenience. Another armrest is installed on the window side, but this one is fixed.

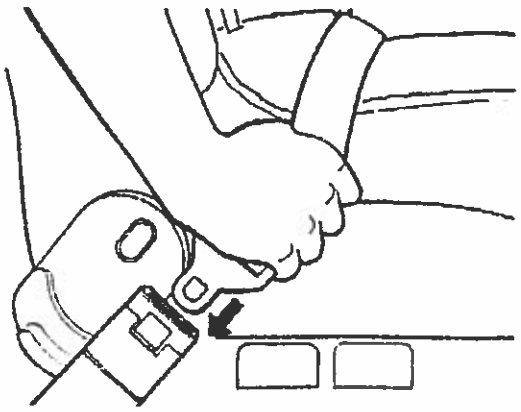
Passenger's seat may be equipped with the following options: ashtray, newspaper holder, grip handle and footrest.

Swivel seats

Vehicle may be equipped with two (2) swivel seats located at the beginning of rear section, in front of both card table locations, in order to offer privacy to passengers. To operate swivel seats, remove both seat cushions and the four (4) retaining wing screws. Then, pull seat towards aisle and rotate seat counterclockwise. Finally, align mounting holes and reinstall wing screws before replacing cushions. Instructions are affixed on seat frame under seat cushion.

Seat belt

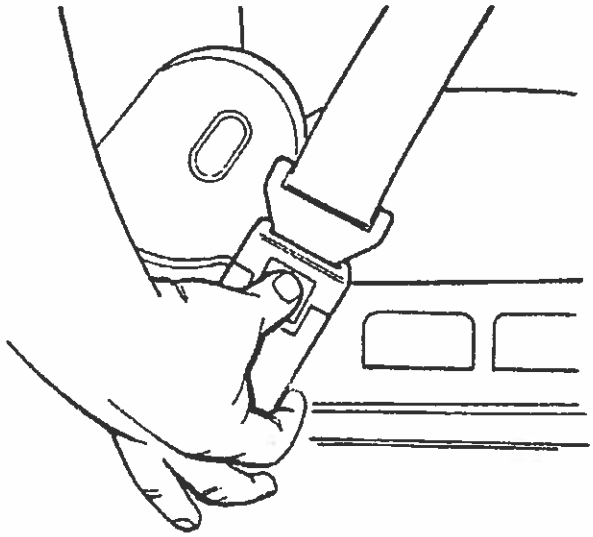
Driver's seat is equipped with a retractable seat belt as required by State and Federal regulations. To fasten seat belt, pull it out slowly of the retractor and insert the latch plate into the buckle until it clicks. No special adjustment is required as the reel device is self adjusting. If seat belt operation becomes defective, report to maintenance personnel.



NOTE: The seat belt must be pulled out without interruption as this will lock the reel before the latch plate reaches the buckle. If this happens, allow the belt to retract completely and repeat the procedure correctly.

WARNING: A snug fit with the lap belt positioned low on the hips is necessary to prevent the possibility of severe injuries in case of an accident. Also, belt should not be worn twisted; do not let belt or belt hardware become damaged by pinching it in the seat. Do not wear belt over rigid or breakable objects in or on your clothing, such as eyeglass, pens, keys, etc. as these may cause injuries.

CAUTION: Belt must not rub against sharp objects. Never bleach or dry safety belt.



To unfasten belt, press button in center of buckle and allow belt to retract. If belt does not fully retract, pull it out and check for kinks or twists. Make sure that it remains untwisted as it retracts.

Mirrors

Exterior mirrors

Your vehicle is provided with two motorized exterior mirrors. These mirrors can be easily adjusted from the inside by operating the two switches located on L.H. dashboard control panel.

These mirrors are electrically heated to provide a good visibility in all weather conditions. Furthermore, integral thermostats are installed in the mirrors to avoid continual heating. Use the appropriate switch on L.H. dashboard control panel to activate the defroster system on both mirrors simultaneously.

NOTE: Adjust the outside and inside mirrors before driving and after adjusting your seat to a proper driving position. It is important for a safe driving that you have a good vision on each side of vehicle.

CAUTION: Do not install a convex mirror over the heated mirror glass. This prevents even distribution of heat in the heated mirror and could cause the glass to break.

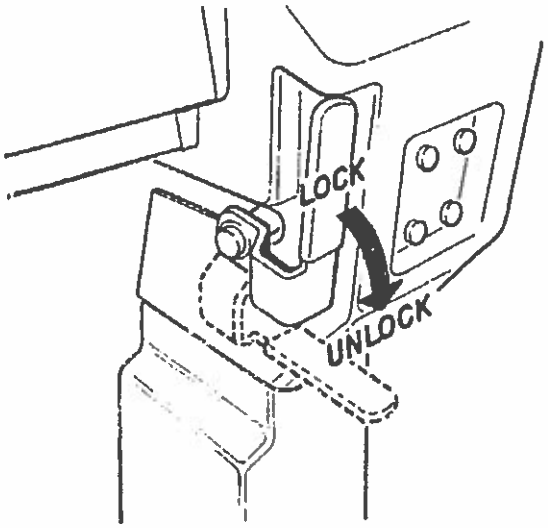
Interior mirrors

The driver's compartment is also equipped with two additional interior mirrors. The first mirror is located in the upper L.H. corner and is used to watch the entrance door access, while the other is at the upper center of coach, and enables the driver to watch circulation in the aisle.

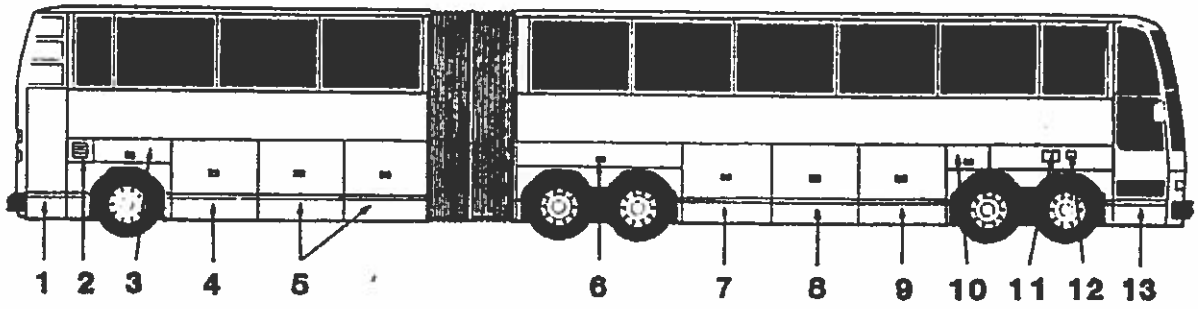
Tilt steering wheel and telescopic steering column

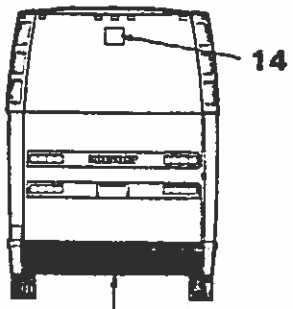
To unlock, use the handle located to the left of steering column. Pull handle down to permit a variation of 11 degrees in steering wheel angle, and a telescopic steering movement of two inches (5 cm). Push handle up to lock tilt and telescopic mechanism.

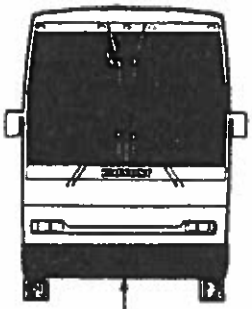
WARNING: Never try to adjust the mechanism while the vehicle is in motion. Your steering may move unexpectedly and could cause sudden loss of vehicle control, thus resulting in personal injuries for you and your passengers.

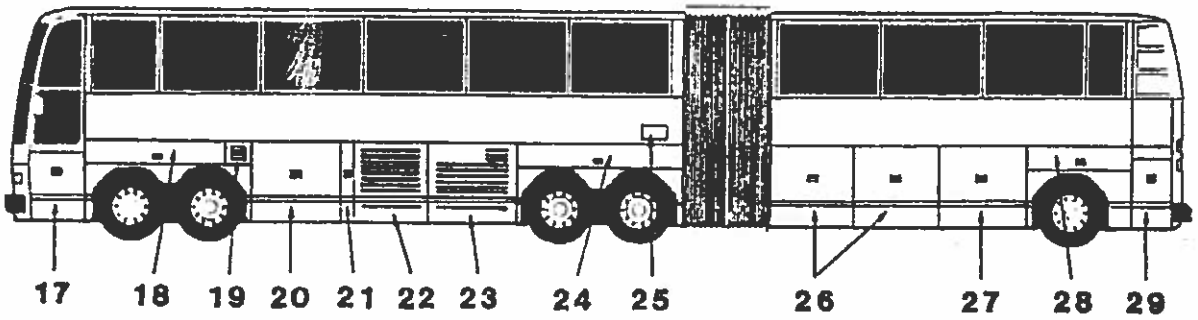


Exterior compartments









1- Rear entrance door
2- Fresh air inlet duct
3- Utility compartment
4- A/C - heating unit & baggage compartment
5- Baggage compartment
6- Ski compartment
7- A/C breaker & engine junction box & baggage compartment
8- Battery main cut-off switches & compressor & baggage compartment
9- A/C - heating unit & baggage compartment
10- Battery sliding compartment
11- Fuel tank filling
12- Front & rear entrance door access switches
13- Front entrance door
14- Back up camera
15- Spare wheel compartment
16- Reclining bumper compartment
17- Front service compartment
18- Front electric junction box compartment
19- Fresh air inlet duct
20- A/C - heating unit & baggage compartment
21- Refrigerant dryer compartment
22- Condenser & engine compartment
23- Radiator
24- Ski compartment
25- Surge coolant tank filling
26- Baggage compartment
27- A/C - heating unit & baggage compartment
28- Utility compartment
29- Lavatory tank compartment

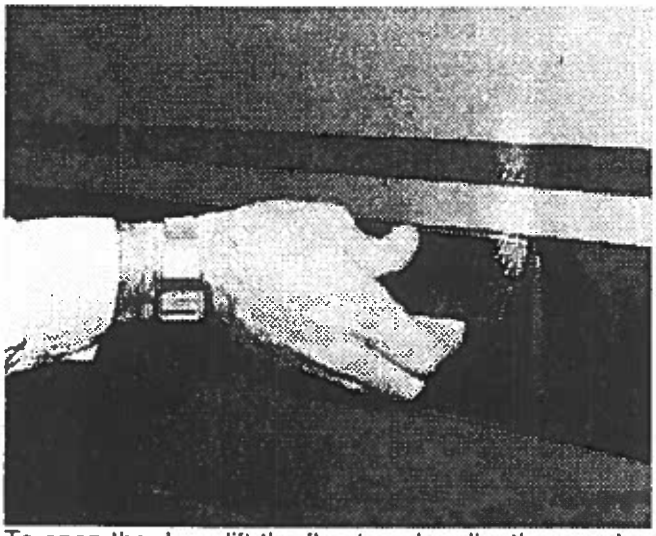
Baggage compartments

A central electric door lock system is provided as standard equipment on the ten (10) larger baggage compartment doors only. The switch is located on L.H. side control panel. To operate, push up rocker switch to unlock the doors from inside and push down to lock.

The doors may also be unlocked from outside using the key (see #5 page 2-1). To lock door without using electric switch, open door, lower latch in center of inner panel, and close door. The door can now be unlocked with the key or with the electric switch.

An indicator on L.H. dashboard control panel will light if one of more larger baggage compartment doors stay unlocked.

CAUTION: If vehicle is stopped for a short period, the battery main cut-off switches and compressor door (see #8 page 2-21) must be unlocked in order that main battery cut-off switches be rapidly accessible in case of fire.

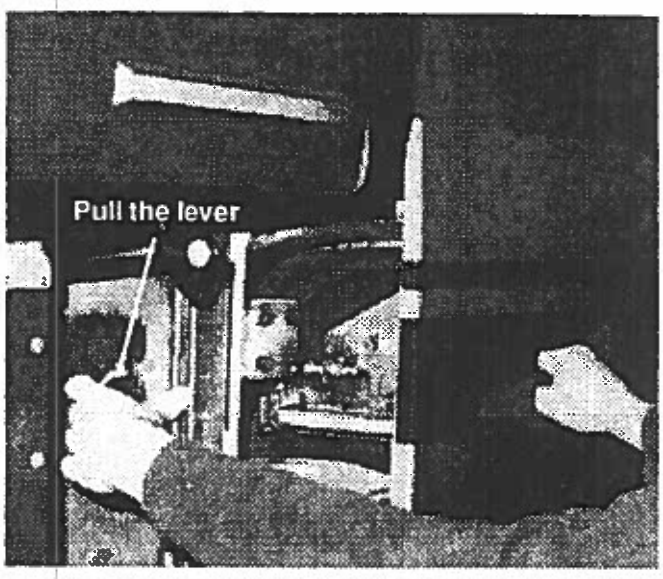


To open the door, lift the flap type handle; the opening action is assisted by gas cylinders which also hold the door in the open position.

NOTE: Keep in mind that the doors (see #3,6,18,24,28, page 2-21) can only be locked or unlocked with the key. To prevent theft or vandalism, always lock baggage compartment doors before leaving the vehicle.

Battery compartment

Batteries are mounted inside a small sliding compartment located in front section over the second steering axle. Four maintenance free batteries are provided. This sliding compartment is always locked. To gain access, open the first R.H. side baggage compartment; pull and hold the lever in the upper R.H. corner, and with the other hand pull the compartment door, which will slide outwards. To close, push in the sliding compartment completely, and the door will lock automatically.

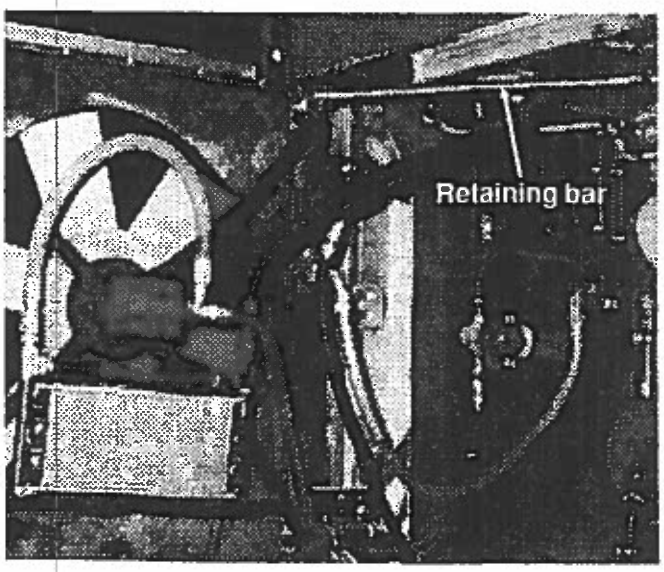


WARNING: Lead-acid batteries generate explosive gases. Keep sparks, flame and lighted cigarettes away from battery compartment.

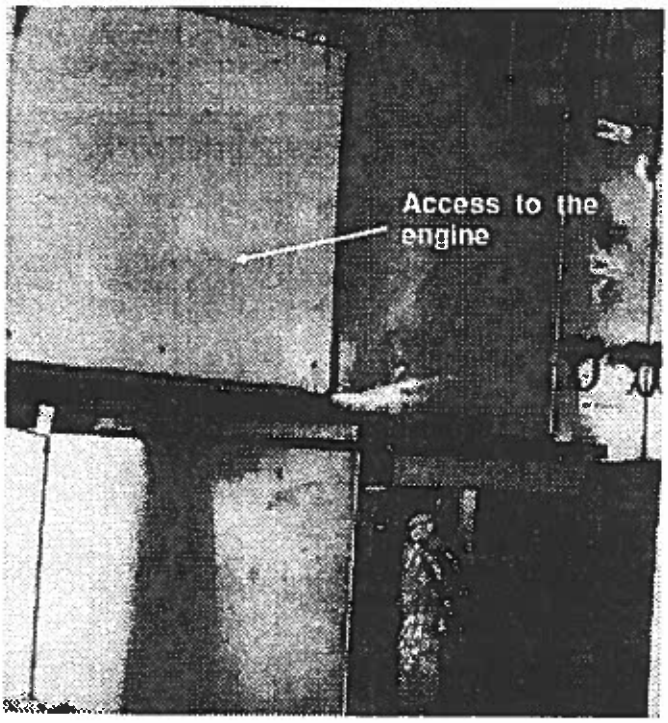
Engine compartment

To have acces to the engine for service and maintenance, two doors must be opened: the condenser and the radiator doors (#22 & #23). To open condenser door, pull the handle located in the refrigerant dryer compartment (#21). Opening instructions are affixed to the back of refrigerant dryer compartment door.

This door is of the "hinge" type, while radiator panel is of the bolt on type (4 bolts). The condenser door is equipped with a retaining bar, which automatically locks in position when door is fully opened. To unlock, push upwards the retaining bar and close the condenser door.



Another door can be opened from the R.H. side to have access to the engine. To open, the breaker compartment and battery main switch compartment doors (#7 & #8) must have been previously opened. This compartment also gives access to A/C compressor. Unscrew the1/4 turn screws and pull or lift the proper access door in R.H. corner to carry out service and maintenance on the A/C compressor.



WARNING: When working in engine compartment for service and maintenance, or when placing or retiring something in baggage compartments, special care must be taken to avoid injuries with the insulation celling.

General recommendations

1. Utility service door (#3) must stay closed when the rear entrance door (#1) is opened in order to avoid interference.

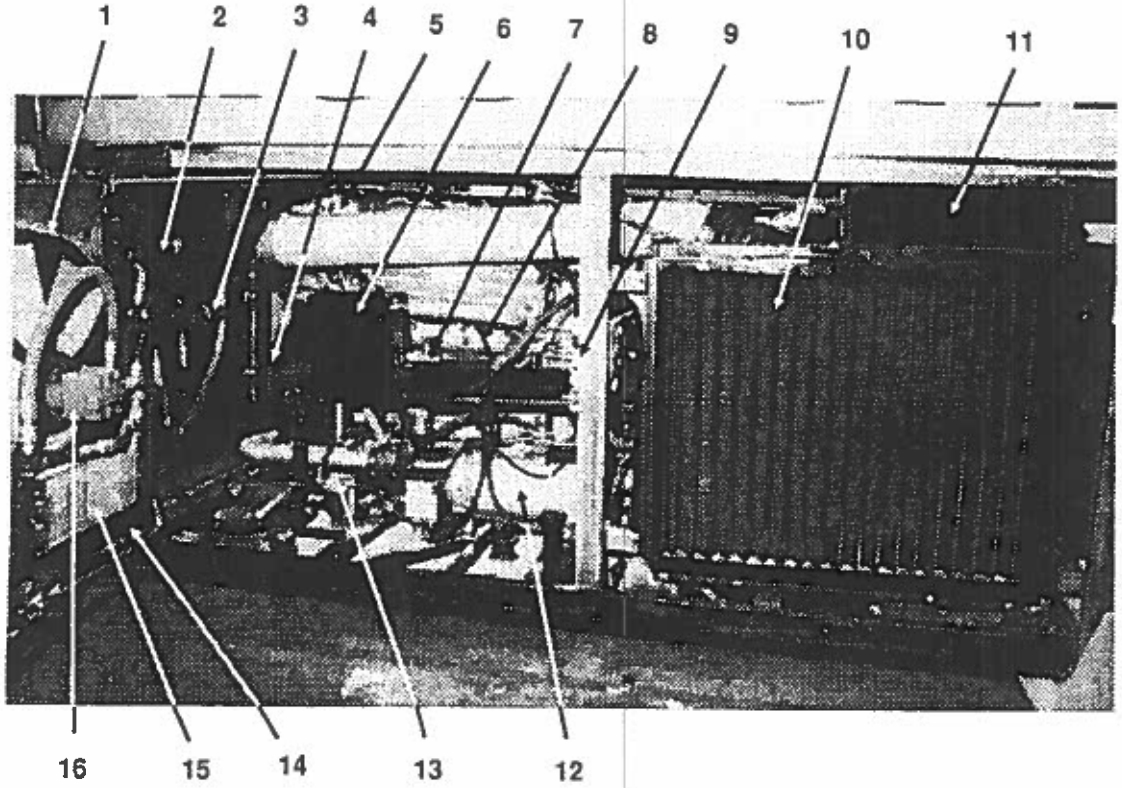
2. The surge tank door must be closed before opening the ski compartment door to avoid damaging it (refer to #24 & #25).

3. The interior access door to engine in breaker & battery main switch compartments must be closed when the breaker & battery main switch doors are closed.

4. When the condenser & engine compartment door is opened (#22), do not try to open the A/C-Heating unit & baggage compartment door (#20), as it could interfere with the refrigerant dryer compartment door (#21).

5. The refrigerant dryer compartment door must stay opened to permit opening of condenser door.

Engine compartment



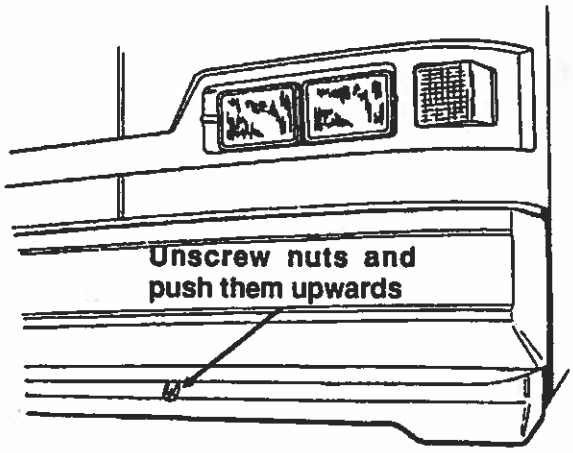
Component identification:

1- Condenser
2- Air emergency fill valve
3- Refrigerant dryer
4- Radiator fan transfer shaft
5- Cold weather starting fluid cup
6- Engine oil reserve tank
7- Engine oil reserve tank valve
8- Engine oil dipstick
9- Water separator
10- Radiator
11- Engine air admission box
12- Webasto heating system
13- Webasto fuel filter
14- Refrigerant receiver tank
15- Hydraulic oil cooler
16- Condenser fan motor (hydraulic)

Reclining bumper compartment

The front bumper is of the "reclining" type. To open for service and maintenance, unscrew the nut at each extremity, then push them upwards and the bumper can be inclined.

NOTE: Two persons are required to perform the above operation.



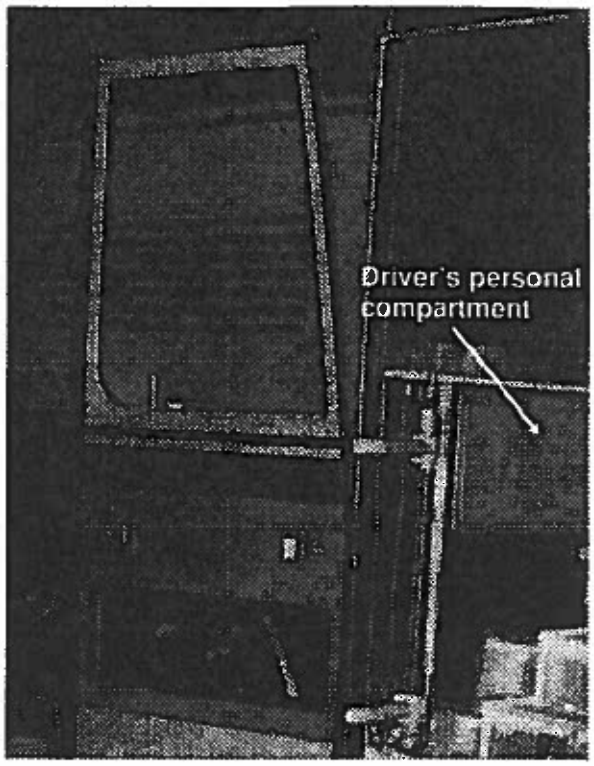
WARNING: This compartment has not been designed for storage. Never leave any loose object in this area as it may interfere with steering linkage mechanism.

CAUTION: Verify that the bumper is safely hooked in place, and that retaining nuts are firmly tightened after bumper compartment has been closed.

Interior compartments

Driver's personal compartment

A locking compartment is mounted in the left side of the front section stairway. To gain access, it should be unlocked using the appropriate key (see page 2-1). The compartment should be used for the personal effects of the driver and/or hostess.



Rear compartment

A rear compartment is also available in rear section beside the last seat. This compartment should be used to store cleaning products or hygienic paper and towel.

WARNING: Because the emergency rear door control is mounted in this compartment, it must be left unlocked. NEVER store toxic products in this compartment.

Accessories

Driver's accessories

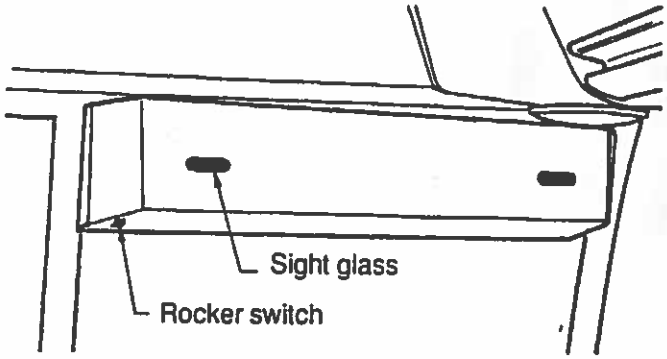
Destination Sign

Proceed as follows to operate.

1. Push on the rocker switch located on the L.H. side, under the destination sign.

2. Select the appropriate destination through the sight glass.

3. The selected destination will be displayed when the corresponding destination matches with the arrow as seen through the sight glass.



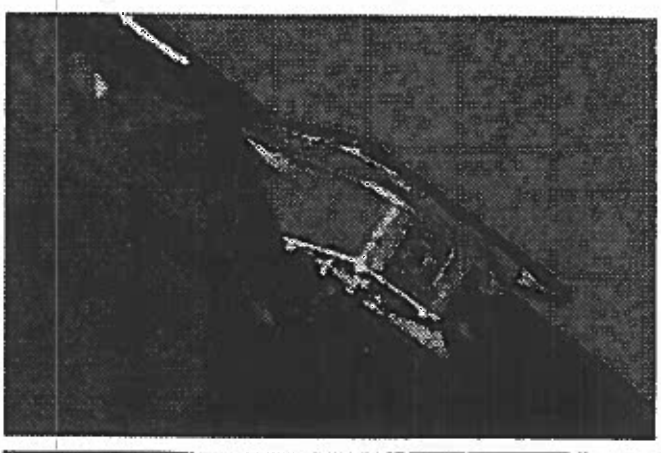
Driver's power window

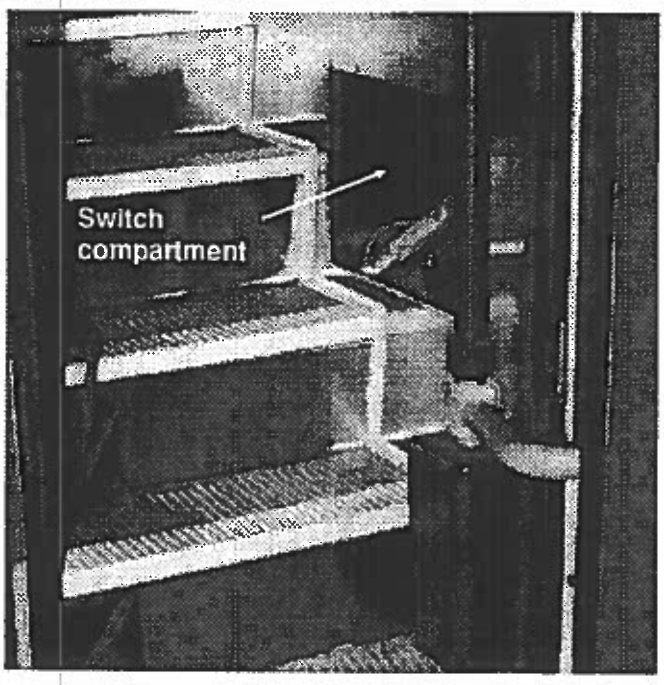
The H5-60 articulated coach is equipped with a power window in the driver's compartment. The window control switch is located on the L.H. side control panel.

Back-up camera

A back-up camera with a T.V. monitor is provided as standard equipment. When the driver selects the reverse range, the camera and T.V. monitor will automatically switch on, thus allowing driver to view behind the vehicle. The monitor will switch off as soon as the reverse range has been released.

This camera is retractable and is visible from the outside, only when it is functioning. A switch located in a small compartment on the R.H. side of rear section stairway, enables the extension of the camera for cleaning purposes.





To clean the camera protective glass, set the switch to the "ON" position. Spray with soapy water and wipe with a clean dry rag or wiper glass.

CAUTION: Do not clean the camera protective glass with only a dry rag as this may scratch glass.

WARNING: Do not clean the camera protective glass while transmission is in reverse range as severe injuries may occur.

Ashtray

Push slightly on one side to open it. To remove, press on tab located inside ashtray.

WARNING: Never use the ashtray as a waste paper receptacle as it could cause fire.

Cigarette lighter

The cigarette lighter is located under the ashtray. Push in to activate, and it will spring back when ready to use. Replace lighter to initial (non-activated) position.

The socket of the cigarette lighter may be used for 12 volt appliances with a maximum consumption of 130 watts, such as a hand spot light, a small vacuum cleaner, etc. Make sure the socket will not be damaged by appliances equipped with unsuitable plugs.

NOTE: Cigarette lighter and socket remain functional even after the ignition key is removed.

Tumbler holder

The H5-60 coach is equipped with a tumbler holder in the driver's compartment. It is located on the rear end of the L.H. side control panel. To place a tumbler in the holder, pull to open, and raise the holder. To close, reverse procedure.

Roadmap container

A small container, located at the end of L.H. side control panel, is provided in the driver's compartment and is used to store roadmaps.

Microphone outlets (for P/A unit)

Three (3) microphone outlets for the P/A system are installed in the H5-60 coach, and located as follows:

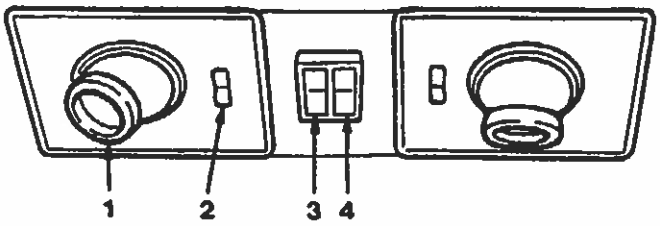
- One microphone outlet for driver located on L.H.side control panel

- Two microphone outlets for hostess located in the two first rows of front section.

NOTE: The P/A system is equipped with a stereo attenuator which can be used when adressing to the passengers for a better comprehension.

Passenger accessories

Reading lamp



1. Reading lamp
2. Reading lamp switch
3. Hostess signal switch: Push on rocker switch to activate chime located in driver's compartment. A light is provided inside rocker switch to indicate passenger's position to the hostess.
4. Driver's signal switch: Push on switch to activate chime located in driver's compartment, thus indicating that the passenger wants to get off at next stop.

Waste-paper container

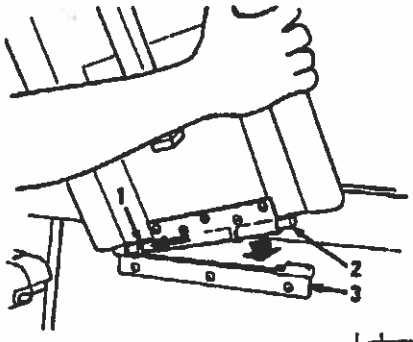
A waste-paper container for passengers is provided with the H5-60 coach, and is located behind the last L.H. side row of seats near the lavatory compartment.

Card tables

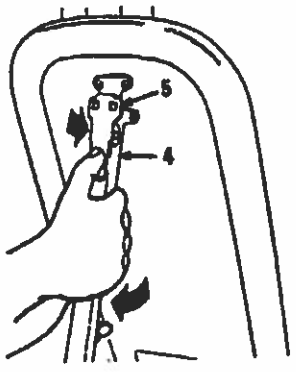
Several card tables are included as standard equipment for passenger convenience. When not in use, tables are stored in luggage racks in their own protective envelopes. Installation and removal are very easy.

To install card table, remove it from its protective envelope and hold at 45° with side wall. Card table spring loaded pin should be inserted into the vehicle side wall hinge. Card table spring loaded pin mechanism will automatically lock card table into side wall hinge.

When card table has been securely fastened to side wall hinge, leg can be brought down at right angle to open position by pushing down the leg locking clamp. Table is now set and ready to use.

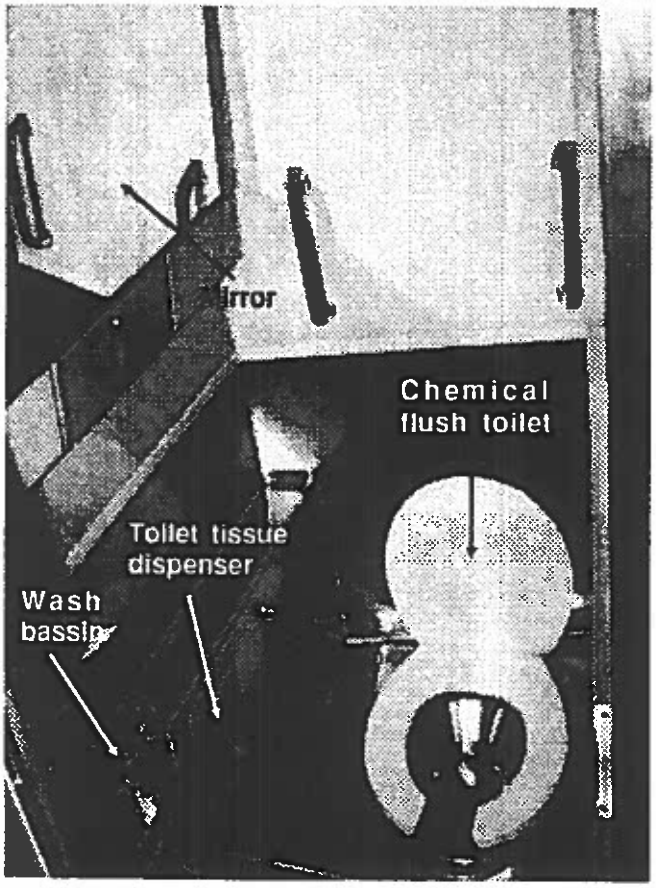


1. Spring loaded pin
2. Locking pin
3. Wall hinge
4. Leg
5. Leg locking clamp



Lavatory

The lavatory compartment, located in the rear section left corner, is equipped with a chemical flush toilet, washbasin, mirror, waste paper container, hygienic toilet tissue dispenser, liquid soap, and towel dispensers.



Closing and locking the door from inside will illuminate outside signs which are mounted on the rear wall of coach, over the windshield, and also the lavatory indicator light on the L.H. side dashboard control panel.

An emergency buzzer switch along with instructions located on the wall inside the toilet compartment is also provided for maximum passenger security. Buzzer will sound in driver's compartment if help is needed.

Ventilation of lavatory compartment is operative only when engine is running.

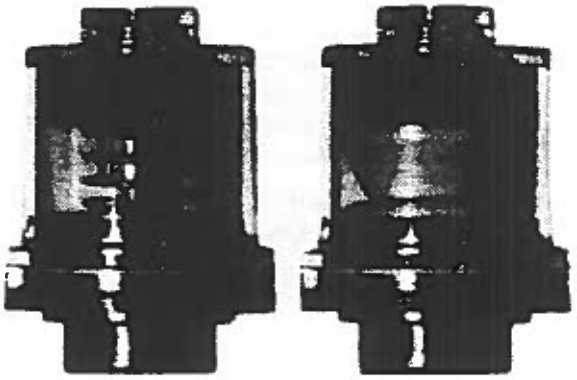
The fresh water reservoir is located over the lavatory compartment. An immersion heater for the fresh water reservoir is standard and operates on 110-120 volts A.C.. The switch is located in the electrical compartment under the driver's window, and the power source is the same as the one used for in-station fluorescent lighting and engine block heater.

For draining and filling reservoir procedures, see care and maintenance section.

Air cleaner restriction gauge

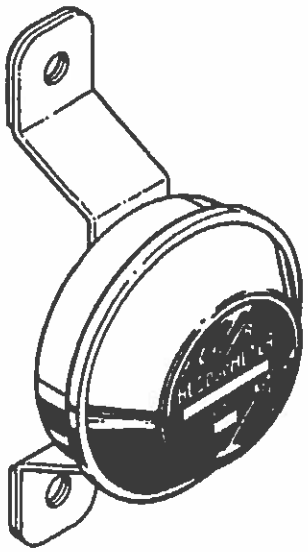
This device is connected into the air intake system to constantly monitor the level of vacuum between the air cleaner and engine, in order to detect and indicate an abnormal increase in vacuum due to a dirt-laden and therefore restricted air cleaner element.

To determine if the air cleaner requires servicing, a flag type air restriction gauge is installed directly into the air cleaner tubing. The flag type draws up a piston which indicates the amount of vacuum or restriction.



Flag type air restriction gauge

Hubodometer



A wheel hubodometer is installed on the R.H. side of the third axle. It indicates the total distance in miles or kilometers covered by the coach since leaving the factory, including road testing.

Compartment lights

Baggage, front service and electrical compartment lights are automatically illuminated when appropriate compartment door is opened.

Engine compartment lights are also illuminated automatically when the condensor door is opened.

Transmission retarder system

A retarder is not a brake but a device that helps in reducing the speed of a vehicle. It enables an easier control of the vehicle, a safer driving, and a more economical operation. Retarder provides slowing power when it is most needed, as driving down windy mountain roads, in stop and go traffic, on crowded freeways.

Maximum retarder effect occurs in a lower range, where the speed of the rotor can be constantly maintained. Depress accelerator pedal when the retarder is used. An extended use will raise the transmission oil temperature.

The retarder helps reduce speed on grades without using the vehicle conventional braking system. This virtually eliminates brake overheating and reduces the risk of a runaway vehicle. A retarder greatly increases brake pads and disc service lifes significantly, thus reducing brake maintenance costs.

CAUTION: Following vehicles may not be able to slow down as fast as you when the transmission retarder is used; depress slightly and sporadically the brake pedal to illuminate the stop lights.

ABS brake (anti-lock braking system)

The purpose of the anti-lock braking system is to preserve the stability and steerability of a vehicle during braking, and to minimise its stopping distance whatever the road conditions.

On slippery roads and more generally in emergency situations, over braking frequently induces wheel locking.

Anti-lock braking system provides maximum braking performance while maintaining adequate streerability on slippery roads.

Also, on smooth or slippery surfaces, the stopping distance with locked wheels is greatly extended; on rough surfaces the problem is tire abrasion.

The basis of ABS is constant monitoring of the wheel behaviour during braking. Sensors on each wheel (for axles 1,3,5,) continually measure the wheel speeds during braking and this information is transmitted to a 6 channel electronic processor which senses when any wheel is about to lock. Modulator valves quickly adjust the brake pressure (up to 5 times per second) to prevent wheel locking. Each wheel is therefore controlled according to the grip available between its tire and the road.

In this way the vehicle is brought to a halt in the shortest possible time, while remaining stable and under the control of the driver.

CAUTION: People following you may not be able to brake as fast as you on slippery roads so, where possible, give a prior warning before applying brakes.

Kneeling system

This system enables passengers to board or leave the vehicle without any difficulty. It lowers the front of the vehicle in such a way that the entrance step is easier to reach by the passengers. On the H5-60, this system is very quick, only 7 seconds to lower and 11 seconds to raise are needed.

NOTE: This vehicle is equipped with an interlock system which will automatically apply the parking brake when the kneeling system is activated.

To operate, stop the vehicle, set transmission to neutral position, then move kneeling system switch located on the L.H. side control panel to the appropriate position; the parking brake will automatically apply and a warning flasher will indicate that the system is in operation. Push down and hold rocker switch until the desired height is reached; the system will stop when the switch is released.

To disengage, push up rocker switch until the indicator light turns off; you can now release the parking brake and select the appropriate transmission range.

NOTE: The kneeling system does not operate when vehicle speed is over 5 m.p.h.. Consequently, the driver can not operate inadvertently the kneeling system at high speed.

Hi-buoy

This system is used to raise front of vehicle to allow an extra ground clearance to facilitate a down or up motion on loading dock of for a particular situation.

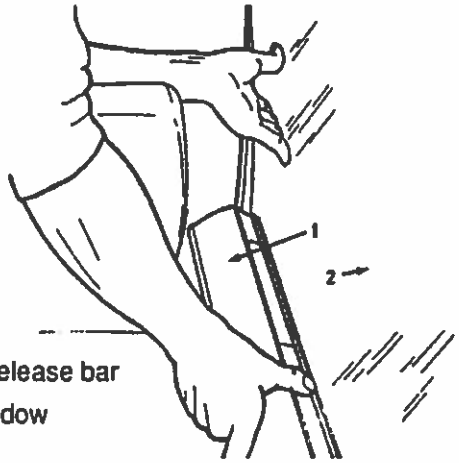
Emergency exits

Side window emergency escape

All side passenger windows can be opened from the inside for emergency escape with the exception of the front and rear small windows. A blue light is provided above each side window, and all blue lights are operated with the marker light switch on the L.H. side dashboard control panel.

To operate, proceed as follows:

Window can be opened by lifting the window release bar and then pushing out window at bottom. Instruction decals are affixed to the release bar at each seat location.

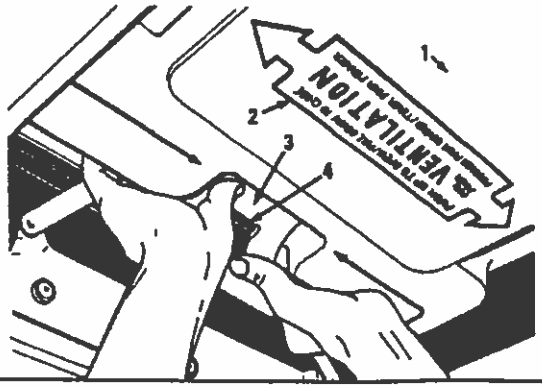


1. Window release bar
2. Side window

CAUTION: All emergency exits should be kept closed during normal operation to prevent damage. Windows should not be slammed closed to avoid impairment of emergency exit system.

Emergency roof escape

The emergency escape hatches, located in the roof at front of first section and rear of second section, are designed to be opened from inside by passengers. A rear emergency roof hatch located in front section may be provided as an option. To open in the event of an emergency, push out ventilation hatch fully, then press black tab backward and push out handle still pressing black tab, in order to release emergency hatch catch. Passenger instruction decal with complete operating instructions is affixed to escape hatch itself.

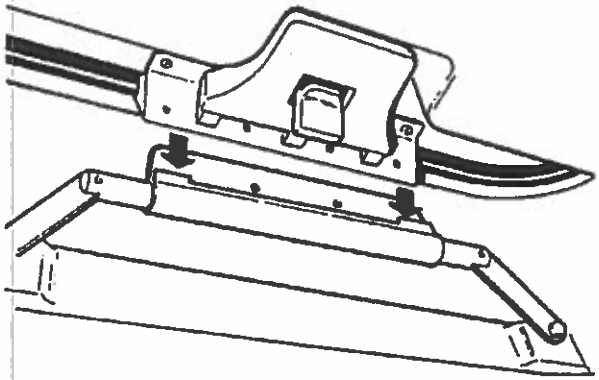


1. Emergency escape hatch
2. Passenger instruction decal
3. Hatch handle
4. Black tab

NOTE: Emergency roof escapes can be opened only by the driver to provide ventilation in the event of ventilation blower motor failure. Push upward, taking care not to release the lock.

CAUTION: Beware of low overhead clearances if running with roof hatches open.

To close, insert angle, located at rear of hatch handle, between the two sections of the white tab which has remained on the frame. Then pull in handle to lock hatch. Finally, pull hatch in to close, one side after another.



Safety equipment

A safety equipment kit for use in case of emergency is clamped under the first L.H. side seat in first section, and another one inside a small compartment located under the last R.H. side seat of second section near the lavatory. To open the access panel facing the rear wall, unscrew the 3/4 turn knurled screws, pull back and lift up the panel. Reverse procedure to close.

Safety equipment kit may contain a first aid kit, fire axe and fire extinguishers. Quantity, size of items, and in some cases storage location of safety equipment kit may vary according to State or Provincial legislations.

Jack/tools

A kit for jacking is located inside the L.H. side ski compartment. This kit is provided with a 12 ton hydraulic jack, a wheel nut wrench, spare belts and a kit of triangular reflectors.

Alarm system

As an added protection to indicator lights, Prevost coaches are equipped with an audible alarm system which informs the driver of the following operating conditions:

Indicator Light	Audible Alarm	Condition
air primary	buzzer	low air pressure
air secondary	buzzer	low air pressure
N/A	buzzer	lavatory emergency button is pushed
N/A	chime	button pushed by passenger
N/A	bell ringing	fire in engine compartment
front kneeling	buzzer	front kneeling position is selected
articulation	buzzer	articulation angle reaches 35°on horizontal plane or 10° on vertical plane
articulation	N/A	articulation angle reaches 30°
comfort indicator	buzzer	comfort in rear section altered

NOTE: All alarm units are located inside the front service compartment. The alarms for both primary and secondary low air pressure are produced by the same buzzer.

Back-up alarm

The back-up alarm alerts pedestrians that the vehicle will be moving in reverse range. Operators should take extra precautions when moving vehicle in reverse range. In case of doubt, ask somebody to guide you.

Pneumatic system emergency fill valve

This vehicle is equipped with an air system emergency fill valve to supplement the air system when air pressure is low and engine cannot be operated. The valve is located in the refrigerant dryer compartment just over the refrigerant drying bottle. This air system emergency fill valve can be connected to any regular size external air supply line and will supply air for all systems, (brakes, suspension, kneeling, accessories).

Fog lamps

Optional halogen fog lamps can be mounted on the H5-60 coach to allow the driver a better visibility in foggy weather, or to improve the range of vision just ahead of the coach. They are also a useful "active safety" factor.

NOTE: Some State or Province may restrict the use of these lamps. In the first place, verify the legislations governing each State or Province before using them.

Docking and cornering lamps

Four (4) halogen lamps are installed on the H5-60: two in rear section and two in front section.

Both lamps are mounted behind the rear section wheels and light automatically when reverse range is selected to facilitate reverse or docking procedure.

For the front section, one lamp is mounted on the L.H. side in steering compartment door, and the other lamp between the front wheel and the entrance door on the R.H. side. The principal function of these lamps is to increase lateral visibility when you turn a corner.

Mud flaps

The H5-60 is provided with mud flaps behind each wheel. These are made of heavy material to keep the stones off the lower panels of vehicle and to prevent stone projections on the following vehicles.

Sun visors & blinds

Electrically controlled sun visors and blinds are installed on both sides of vehicle. However, note that both have a separate control switch. To operate, push up the appropriate rocker switch to raise the sun visor or push down to lower it to the desired position.

Moreover, a spring release type blind is provided for the L.H. side driver's window to protect the driver from side glare. To operate, pull down blind by its hem to the appropriate position and release it; it will remain automatically in position. To lift, pull on the cord beside the blind.

Horns

Air horns

The air horns must be used on interstate highways only. When the push-button valve located on the floor at the driver's left is activated, the air valve releases air into the horn flutes which sounds the horn.

Electric horns

Use the electric horns in cities and suburban areas. They are activated by a button located in the center of the steering wheel.

Articulation safety system

Articulation angle (horizontal axis)

Some precautions must be taken when driving an articulated vehicle. Avoid reaching the 45° maximum angle limit between the front and rear sections in reverse range.

The vehicle is provided with integrated devices to protect the articulation. Two different warning signals advise the driver of rear end position in relation with front section of vehicle.

Signals are given as follows:

30 ° indicator light

35 ° audible alarm

Furthermore, the parking brake will automatically apply at a 40° angle to prevent damaging the articulation, and a mechanical stopper will stop the vehicle from exceeding the 45° angle limit.

CAUTION: It may be possible to damage the articulation with vehicle in jackknife position, so drive carefully when backing up.

Articulation angle (vertical axis)

On a vertical axis, the maximum limit is 11° corresponding to 38 inches on a level surface, between the front and rear sections. This limit must not be exceeded to avoid damaging the articulation. Special care must be taken particularly when lifting the vehicle for maintenance and service or when driving up or down an access ramp.

Comfort level indicator

A comfort level indicator (audible signal) advises the driver when rear roadhandling or road conditions cause poor comfort level to rear section passengers. In this case, the driver is invited to reduce speed.

Daily Inspection

A- Exterior of vehicle

With engine stopped

General

Check general vehicle condition and visually inspect for loose bolts and nuts. Verify all exterior lighting.

Tires and wheels

All tires should be checked, including the spare tire. Check all wheels for loose nuts. On both models, aluminum alloy and steel wheel nuts should be tightened to a torque of 450-500 lb-ft (610-680 N.m). Apply hand on wheel bearing cover and check for overheating. This should be done during a fuel stop, especially if a brake job has been performed a short time ago.

Leaks

Check thoroughly under coach and in compartments. Report any leak.

Doors

Make sure that all exterior doors and windows are closed.

Tools and spares

Check for wheel nut wrench, door, keys, spare belts, reflectors and jack.

Pneumatic system

Open drain valve on all air tanks each month and then close valve.

Water separator

Loosen bleed screw to drain separator; tighten screw.

Coolant level

The cooling system is completely filled when the coolant (cold) becomes visible in the filler neck of the surge tank. If topping-up is necessary, fill tne system with the same mixture ratio already used in the system (50-50).

WARNING: Hot engine coolant is under pressure. Allow engine to cool before checking coolant level.

Washer reservoir

Check that it is full. To prevent the windshield washer fluid from freezing during the winter, use anti-freeze windshield washer.

Engine oil

Check oil level; refill directly into engine or from reserve tank (see page 6-4).

NOTE: **Coach must be on level ground.**

Transmission

Check oil level (see page 6-3).

Hydraulic oil tank

Check oil level (see page 6-4).

NOTE: **Steering and condenser fan motor use the same oil.**

Belts

Check for worn belts.

Belt tensioners

Visually check belt tension and tensioner shaft lenght.

With engine running

Leaks

Listen for any air leak at all 10 wheels.

Turbo

Look for any oil leaks or unusual sounds coming from the turbo compressor.

B- Inside vehicle

With engine stopped

Extinguishers

Ensure that first aid kit is in place and that fire extinguishers are in working order.

Seats

Make sure all seats and seat cushions are firmly attached.

Escape hatch

Check that escape hatch can be easily opened.

Lavatory

Inspect for cleanliness, supply of paper, towels and water.

Driver's compartment

Adjust mirrors and seat.

With engine running

Gauges and buzzers

Gauges should be in normal position, indicator lights and buzzer off.

Fuel level

Be sure level is sufficient.

Service brakes

Check for pressure build-up. With engine stopped and no brake applied, loss should not exceed 3 psi (21 kPa).

Parking and emergency brakes

With air pressure above 65 psi (448 kPa), lower presssure with brake pedal applications, check that buzzer works and that control button lifts up. Wait until air pressure exceeds 85 psi (585 kPa) before releasing parking brakes.

Recommendations

- Make sure the basic principles of operation of the vehicle are understood.
- Maintain the vehicle in good running condition.
- Do not drive with an extremely low fuel level.
- Allow engine to run at slow idle for at least 30 seconds before turning it off.
- Engine should always be at idle speed when shifting from neutral to reverse or forward range.
- Automatic transmission shift pattern does not include a park position. Parking brake must therefore be applied to hold vehicle when it is unattended. Gearshift should then be in neutral position.
- Perform procedures as detailed in this manual.
- Unless otherwise specified, engine should be turned "OFF" for all lubrification and maintenance procedures.
- Do not attempt to push-start or pull-start the vehicle.
- Do not tow vehicle without first pulling the drive axle or disconnecting the drive shaft. Internal lubrication of the automatic transmission is inadequate when the vehicle is towed.
- Fire extinguisher (s) should be located just under first R.H. seat in the front section and in a small compartment under the last R.H. seat in rear section. In case of fire, get everyone out of the vehicle, then think twice before attempting to fight the fire.
- When driving on ice or snow, any acceleration or deceleration should be done gradually.

NOTE: Normal operation as well as emergencies or abnormal conditions are thoroughly covered in this booklet. Any malfunction interfering with satisfactory operation should nevertheless be immediately reported to the maintenance supervisor and/or service people, particularly when safety may be involved.

Heating, ventilation and air conditioning

The H5-60 interior is pressurized by its A/C - heating units. Air flow and controls divide the vehicle in three interrelated zones:

- Driver or defroster
- Front
- Rear

Keep in mind that vehicle interior should always be slightly pressurized to prevent dust and moisture from entering vehicle.

Each section has its own fresh air, returning air and discharge air ducting.

Driver's zone

Fresh air is taken from a plenum behind the bumper and enters the mixing box through an adjustable damper. Returning air is taken through a front dash panel into the mixing box. The control called "DRIVER A/C - HEATING AIR RECIRCULATION" is located on the R.H. dashboard control panel. Mixed air goes through a cooling and heating coil, two fans and a discharge duct.

The right discharge duct will defrost about 2/3 of the front windshield. The left discharge duct will defrost the rest of the windshield in front of the driver. The driver can also with the "A/C - HEATING MAIN WINDSHIELD DEFROSTER" control divert this air flow to the console, from which he can direct vent to his feet, knees and/or breast.

WARNING: Excessive high temperature in driver's zone could induce drowsiness, affecting driver's ability to operate the coach safely.

Front zone

Fresh air is taken from the left side through a two position damper to the mixing box. The pneumatic control damper can be fully open for normal operation or partially closed for extreme weather or highly polluted areas; the "FRESH AIR DAMPER" switch located in R.H. side lower control panel controls both front and rear dampers simultaneously.

Return air is drawn from two underseat air return boxes and through an entrance step riser. Mixed air then passes through cooling and heating coils and goes to two separate blowers just underneath the inside ventilation duct; then, it follows the usual path in the ventilation duct, between the walls and exhaust at the bottom of the window.

Rear zone

Air flow follows about the same path as in the front zone, except that the returning air is taken from the end of the ventilation duct, located on both sides of the floor near the articulation and in the step riser near the lavatory. Part of the air is also discharged to the articulation area.

In this zone, there is also an exhaust ventilator in the washroom that serves two purposes. First, it eliminates the odor and secondly, heats or cools the washroom with the vehicle ambient air. It also acts as the main exhaust for the whole vehicle.

The "PASSENGER A/C - HEATING" switch located on the R.H. side lower control panel operates the A/C - heating and ventilation systems in both front and rear zones simultaneously.

In addition, the "A/C HEATING TEMPERATURE" controls located on the R.H. side dashboard control panel enable the independent selection of the temperature in each of the three zones.

In case of air conditioning system failure, set to the "ON" position the "PASSENGER VENTILATION" switch on the R.H. side lower control panel to activate ventilation only. Furthermore, ventilation may be increased by opening roof mounted emergency vents.

NOTE: To operate air conditioning system when coach is stationary, engine should run at fast idle. During operation of air conditioning system, windows should be kept closed and doors not left open longer than necessary.

In order to prevent battery discharge, A/C & heating systems will not operate if vehicle charging system is not working properly.

While the A/C system is running, make sure the vehicle is parked at least 4 feet from other vehicles to allow sufficient air flow through the condenser core.

General information

Engine operation

Starting engine from driver's compartment

The following procedure is used to start and stop the engine from the driver's compartment.

Procedure

1. Make sure the remote control switch in engine compartment is set for front operation and the battery cut off switches (12 volts & 24 volts) are set to "ON" positon.

2 Make sure the parking brake control button is pulled all the way up, so that the spring loaded parking brakes are applied.

3. Turn ignition key to start position , then release it as soon as engine starts.

NOTE: If engine does not start, ignition key must be returned to "OFF" position prior restarting, otherwise key will not move to "START" position.

CAUTION: Special precautions are necessary with turbo-charged engines to avoid possible turbine damage. After starting, run the engine at low idle for two minutes to permit lubricant to flow to the turbocharger. Then run at fast idle and check oil pressure before attempting to drive the vehicle.

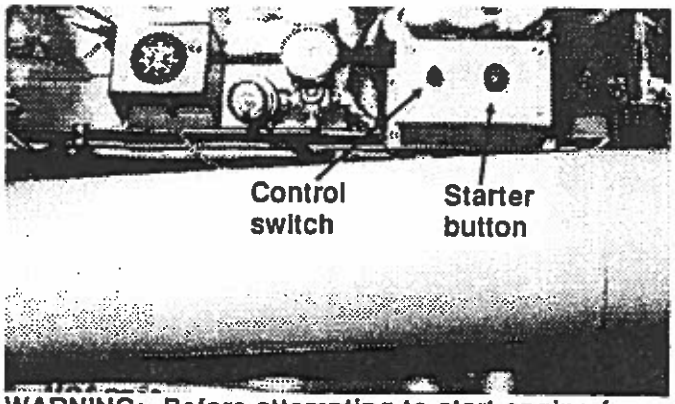
CAUTION: Do not engage starter for more than 15 seconds at a time. If engine does not start within 15 seconds, release ignition key and allow starter to cool for one (1) minute before engaging starter again. This will help to prevent starter overheating and will allow the time-delay relay to cool.

With DDEC engines, no pressure on accelerator pedal must be applied before starting. An application on pedal will induce a fault information to the Electronic Control Unit, thus affecting the fuel system control.

If a pressure is applied inadvertently on the accelerator pedal, release it and wait approximately 30 seconds. After that moment, carry on with the starting procedure.

Starting engine from engine compartment.

Switches for starting and stopping the engine from the engine compartment of vehicle are mounted on a small box over the engine.



WARNING: Before attempting to start engine from engine compartment, make sure parking brake is applied.

1. Set remote control switch to "rear start" position.

2. Push starter button and release it as soon as engine starts.

WARNING: Stay away from moving parts, and do not wear loose clothes.

CAUTION: Steps previously explained with respect to starter use must be repeated in this procedure.

Allison transmission electronic control (ATEC)

The ATEC system consists mainly of four elements: electronic control unit (ECU), throttle sensor, speed sensor, and shift selector. The throttle sensor, speed sensor, and shift selector transmit information to the ECU. The ECU processes this information and then sends signals to actuate specific solenoids located on the control valve body in the transmission. The action of the solenoids affects hydraulic circuits, which in turn control the upshifts, downshifts, and lockup functions. In addition to controlling the operation of the transmission, the ATEC monitors the system for abnormal conditions.

When one of these conditions is detected, ATEC is programmed to automatically respond in a manner which is safe for the driver, the vehicle, and the transmission. To do this, ATEC turns on the "CHECK TRANS" light on the vehicle dashboard or turns on the "CHECK TRANS" and the "DO NOT SHIFT" lights. The check transmission light is a part of the built-in electronic service diagnostic system. It serves as a problem indicator and flashes a coded signal to locate the malfunctioning component.

To enhance troubleshooting and to allow interrogation of the ECU (Electronic Control Unit) for valuable service information, a diagnostic analyzer can be used. To use it, plug the appropriate connector (not furnished by the manufacturer) in the terminal located in front service compartment near the in-station connector, and turn "ON" the "ATEC-TEST" switch in order to perform the proper maintenance of this electronic system (refer to DDEC-ATEC Diagnostic codes in "Technical Description" section.

Lock-up clutch

Engagement and release of the lock-up clutch occur automatically and should not be mistaken for range shifts. If you are a "shift counter", it will be helpful to know when lock-up can occur. The lock-up clutch engages after the load is rolling and the torque demand is low. Engagement of the lock-up clutch provides direct drive from engine to transmission. When the speed sensor senses a reduction in speed, the ECU will direct the lock-up shift valve to release the lock-up clutch, according to the programmed shift schedule. Release of lock-up clutch provides a torque converter drive from engine to transmission.

Automatic transmission

A) Importance of proper oil level

1. Maintaining the proper oil level is very important. The transmission oil is used to apply clutches and lubricates and cools the components. If the oil level is too low, the result can be poor performance (clutches will not receive adequate oil supply). If the oil level is too high, overheating results from the oil being churned and aerated.

2. Always check the oil level at least twice to ensure that an accurate check is obtained. If inconsistent dipstick readings occur, check for proper venting of the transmission breather and/or oil filler tube. A clogged breather can force oil up into the filler tube and cause an inaccurate reading. A disptick that anchors inside the top end of an unvented filler tube can draw oil up into the tube during removal and give an inaccurate reading.

3. Transmission input speed and oil temperature significantly affect the oil level. An increase in input speed lowers the oil level; an increase in oil temperature raises the oil level. Thus, the oil level must always be checked with the engine at idle and the transmission in neutral. A final check of the oil level must be made when the transmission reaches normal operating temperature (160-200° F; 71-93° C)

B) Oil foaming and aerating

1. Transmission performance will be affected when the oil foams or aerates. The primary cause of aeration is low oil in the sump, too much oil in the sump, or a defective or missing seal ring on the intake pipe.

2. A low oil level (denoted on the disptick) will not completely envelop the oil filter. Therefore, oil and air are drawn in by the input pump and directed to the clutches and converter, causing converter cavitational noises and irregular shifting. The areation also changes the viscosity and color of the oil to a thin milky liquid.

3. At normal oil level, the oil is slightly below the planetary gear units. If the transmission is overfilled, the planetary units will run in the oil, causing it to become aerated. Overheating and irregular shift patterns can occur when the oil is aerated.

4. A defective seal ring on the filter intake pipe will cause the input pump to draw air and oil from the sump, causing the oil to become aerated.

C) Fill pipe protection

When adding oil or checking oil level, dirt or foreign material must not be allowed to enter the filler tube. Before removing the disptick, clean around the end of filler tube. (for oil level check procedure see "Care & Maintenance" section)

Detroit Diesel Electronic Control (DDEC)

DDEC is an advanced technology electronic fuel injection and control system for diesel engines. As an integral part of the engine, the DDEC system provides several performance features and driver benefits, as improved fuel economy and performance, reduced cold smoke, reduced maintenance and repair cost, etc. These advantages are obtained by optimizing control of the critical engine functions which affect fuel economy, engine reliability and the performance of the injectors.

Its major components include an Electronic Control Module (ECM), Electronic Distributor Unit (EDU) and Electronic Unit Injector (EUI). The ECM is the brain of the DDEC system. Within the ECM is the programmable read-only memory (PROM) that provides instructions for basic engine control functions such as rated speed and power, engine governing, cold start logic and diagnostics, plus an optional engine protection system.

The ECM continuously monitors and analyzes the DDEC system during engine operation with electronic sensors. The Electronic Distributor Unit (EDU) regulates the electronic current pulses going to the fuel injector solenoids. It also provides electronic signals to the ECM which detects and modifies solenoid valve closure for precise injection timing.

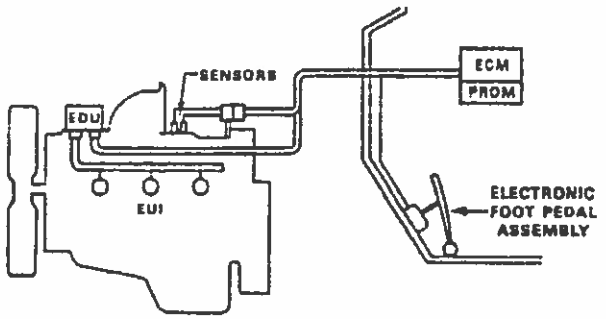
The Electronic Unit Injectors (EUI) operate a similar principle to the mechanical unit injector system. However, a solenoid-operated control valve performs the injection timing and metering functions which makes injector timing much simpler and more precise.

DDEC provides the capability to quickly diagnose system malfunctions by a self-diagnostic system; the self-diagnostic system monitors all engine sensors and electronic components and recognizes system faults and other engine-related problems by providing the technician with a diagnostic code. Diagnostic codes are logged into the ECM memory and can be read by using a diagnostic reader to identify the problem.

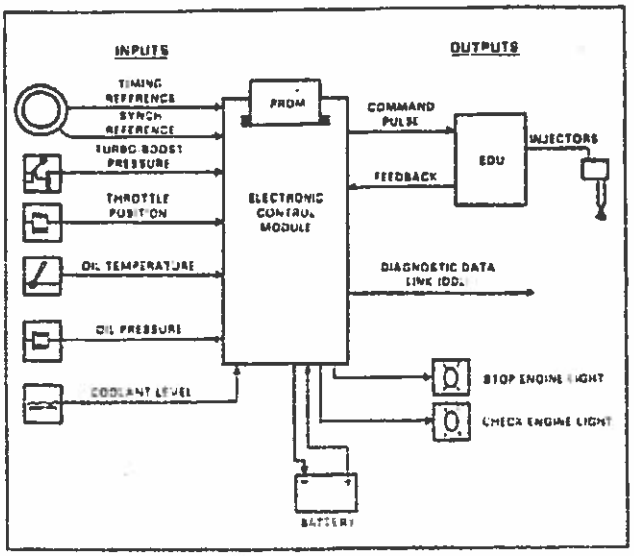
NOTE: A high idle condition is normal when starting engine. As the engine warms up to the normal temperature, the idle speed will decrease to the setting. Warm the engine sufficiently to obtain idle speed before operating the vehicle.

The replacement of DDEC is based on indicated diagnostic codes leading to faulty components.

The major components of the DDEC system are as follows:



- Electronic Control Module (ECM)
- Programmable Read-Only Memory (PROM)
- Electronic Distributor Unit (EDU)
- Electronic Injector Unit (EUI)
- Turbo Boost Pressure Sensor (TBS)
- Oil Pressure Sensor (OPS)
- Oil Temperature Sensor (OTS)
- Synchronous Reference Sensor (SRS)
- Timing Reference Sensor (TRS)
- Coolant Level Sensor (CLS)
- Pulse Width



Schematic diagram of DDEC

Central joint

The articulated coach is a 60 feet long vehicle that is easy to drive even in tight areas, because an articulation located approximately at 60% of its length helps the driver when special situations are experimented.

Futhermore, with this assistance and with the rear steering wheels, the turning radius is lower than with a conventional coach.

This joint being part of the structure permits vertical and horizontal axis control freedom, but it locks roll movements of one section in relation to the other. For this reason, and because of other control features in the joint, the H5-60 performs almost as a solid chassis when cruising at high speed.

The main controls and features provided for specific functional aspects in the central joint are the following:

1. Two heavy duty shock absorbers which reduce motion speed of the rear section in relation with the front one.

2. A multi-disc rotor brake system centrally located at the articulation level is acting as a controlled braking force against rear section movements.

A) It is activated with full pressure when actuating service brakes.

B) It is actuated with reduced pressure when driving faster than 40 miles per hour (65 km/h).

C) It is also activated manually by the driver when required. Full pressure is applied in this case.

3. Link connection controlling the rear axle steering.

The above-mentioned equipments, located in the central joint, have been designed, modified and calibrated during many road tests on all sorts of road and under the most severe weather conditions. As an example, it was found after many road tests that a 40 psi air pressure in the central joint brake is ideal for passenger comfort at cruising speed. It eliminates annoying side movements of the chassis in the rear section.

It was also experimented that a panic stop can be made on a snow covered road, keeping the vehicle in a straight position and still permitting steering maneuvers with the ABS and central joint multi-disc brake systems.

On other occasions, again on slippery surfaces, the manual control on the central joint brake permits the driver to keep the vehicle straight on a side slope when driven wheels have a tendency to loose traction.

Differential lock

In normal operation, vehicles having tandem axles equipped with an air-shift inter-axle differential lock (DLO) should always be operated with the control placed in the "UNLOCKED" position, permitting a differential action between axles for normal highway operations.

In other conditions, every effort should be made to anticipate the condition whereby spinning may occur, such as when approaching sand, mud, ice, deep snow, off-highway conditions, etc. In instances of this nature, engage the lock before the wheels start spinning and not after.

Lock engagement is simple. Move the control to "LOCK" position and release the accelerator momentarily at the same time. This will engage the differential lock. While in this mode, positive traction is provided to both axles until the vehicle reaches an area where normal traction will prevail. The control should then be returned to the "UNLOCK" position.

Occasionnaly, a slippery condition may be encountered unexpectedly. If a rear wheel starts to spin, in such a situation the inter-axle differential action must be stopped immediately for three reasons:

1. Tractive effort and forward movement will decrease or cease because all power will be transmitted to the spinning wheel.

CAUTION: Drive at low speed only as a spinning wheel reaches four times normal angular speed, thus resulting in tire damage.

2. Serious damage can be caused to both, the inter-axle differential (located in the forward section of the front differential) and the differential spider and side gears of the axle with the spinning wheel. In most instances this damage is not evident at the time, but will ultimately result in a total failure of the differential involved.

3. Sudden engagement of the lock mechanism while the wheel is spinning can cause severe shock load to the gear teeth and shafts involved, which will result in an expensive repair and excessive downtime.

Recommendations

1. Anticipate slippery conditions. Pre-engage the DLO when wheel spinning is anticipated.

2. Never engage the DLO with one or more wheel(s) spinning.

3. Do not exceed 20 m.p.h. (32 km/h) when wheel(s) is (are) spinning.

4. Always operate the vehicle with the lock control in the "UNLOCKED" position on normal road conditions.

Upper windshield

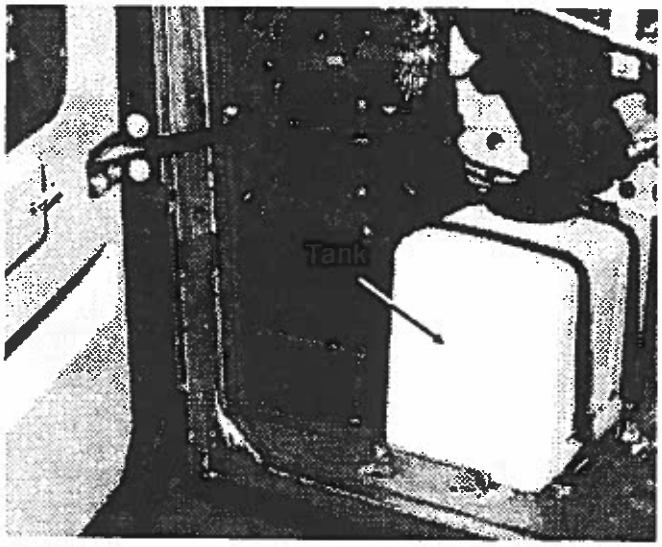
Windshield wipers & washers

Two electrical and synchronized wiper arms are provided as standard equipment. The wipers are controlled by a rocker switch located on the L.H. dashboard control panel. Push on the rocker switch to first position to operate the intermittent mode and push to second position to obtain the constant speed. The "WINDSHIELD WASHER" switch is located on the same panel close to the "WIPER" switch.

An electric blower for defrosting the upper windshield is provided as standard equipment. The blower is controlled by a rocker switch located between the wiper and washer control switches. Push on the rocker switch to first position to activate the low speed and push to second position to obtain the high speed.

Windshield washer reservoir

Windshield washer reservoir is located in steering compartment. This reservoir has a screw-on type cover with a capacity of 5 U.S. gallons (19 liters). Reservoir supply should be checked regularly.



Washer nozzles are mounted under the windshield wiper arms. The reservoir fluid is forced by an electric pump through rubber tubes into washer nozzles and on windshield.

Each upper and lower washers have their own control and pump connected to the same reservoir.

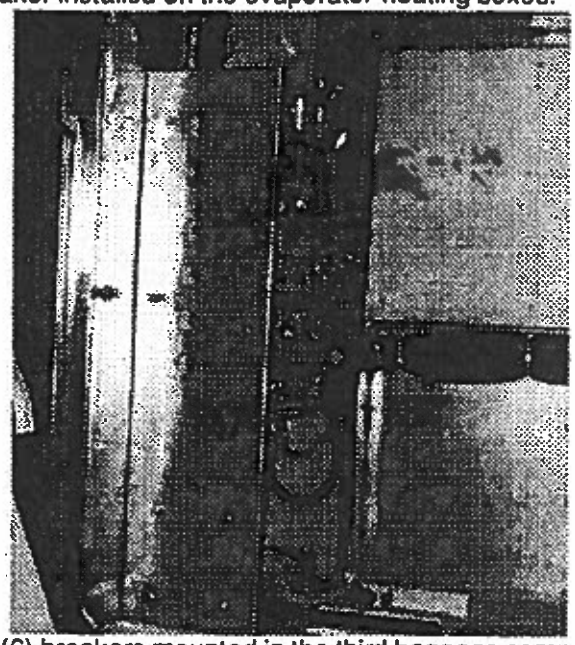
WARNING: In cold weather, windshield should first be warmed up with defroster before using washers, in order to prevent icing and serious visibility impairment.

Main breaker service

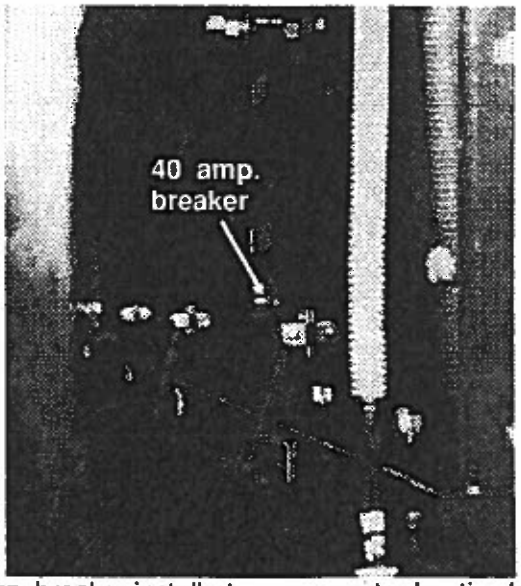
Six (6) main breakers are mounted in the third baggage compartment on the R.H. side of the first section and are identified as follows:

1- Front junction box feed	70 amp. - 12 volts
2- Central junction box feed	70 amp. - 12 volts
3- Front junction box feed	90 amp. - 24 volts
4- Rear junction box feed	70 amp. - 24 volts
5- Front evaporator fan motor feed	90 amp. - 24 volts
6- Rear evaporator fan motor feed	90 amp. - 24 volts

Furthermore, each of the four (4) evaporator fan motors of the passenger A/C - heating system has a 40 amp. breaker installed on the evaporator-heating boxes.



Six (6) breakers mounted in the third baggage compartment on R.H. side of the first section



40 amp. breaker installed on evaporator-heating box.

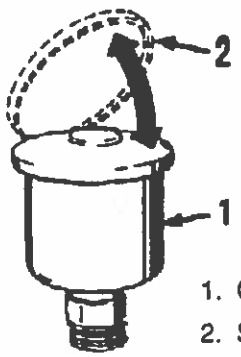
Cold weather starting

Cold starting aid (ether)

The vehicle is equipped with an ether cold starting aid designed to ease engine starting when temperature is below 35° F (2° C). Two types of cold starting aid are available: One is manually operated and the other is electrically operated.

On vehicles equipped with a manually operated cold starting aid, the starting fluid cup is located on top of the air intake duct. To use cold weather starting fluid, raise the cover of the starting fluid cup and force one 7 cc capsule down over pointed tube in cup and squeeze until all fluid enters cup. Remove capsule, shut cover tightly, and then start engine from engine compartment (see procedure in "General Information").

On vehicles equipped with an electrically operated cold starting aid, the procedure is quite simple. While starting the engine in cold weather, press the cold starting switch located on the L.H. lower control panel.



1. Cold weather starting fluid cup
2. Starting fluid cup cover ,

CAUTION: This practice should be performed only when absolutely necessary. If required, we recommend that the starting fluid be used only in 7 cc capsule form, one at a time. Excessive use of fluid could result in serious engine damage.

WARNING: FIRE HAZARD - Starting fluid used in the capsules is highly flammable, poisonous and is an anesthetic. Do not smoke while using or handling capsules, and keep away from flame or high temperatures. Avoid inhaling fumes produced by starting fluid.

Engine block heater

The vehicle may be equipped with an electrical engine immersion block heater to assist cold weather starting. To use it, open the L.H. side front service door and connect an extension cord to the in-station receptacle, then set "ON" the appropriate switch.The extension cord must be plugged into a 110-120 volt A/C power source only. The engine heater should be used whenever the vehicle is parked for an extended period of time in cold weather and a suitable power source is available.

CAUTION: Use only a 110-120 volt A/C power source, and the extension cord must be of the three-prong grounded type. Be sure to disconnect cord and close access door before starting and/or moving vehicle.

Engine warm-up

After starting the engine, increase speed to fast idle for warm-up period by using "FAST IDLE" switch on the L.H. side lower control panel. Parking brakes should be kept applied throughout warm-up. Gauges and indicator lights should be monitored to check for abnormal conditions of the engine. The vehicle may be driven when engine coolant temperature reaches 140° F. If abnormal conditions should develop, stop engine immediately and contact service people.

WARNING: Never let the engine run in an enclosed, non ventilated area. Exhaust fumes from the engine contain dangerous gas which can be fatal if inhaled.

Pre-heating system (Webasto)

An auxiliary pre-heating system is used for pre-heating and retaining the heat of water-cooled engines. The heater works in conjunction with the heating system of the vehicle, which heats the interior of the coach.

The heater operates independently of the vehicle engine. It is connected to the cooling and heating circuits, the fuel supply system and the electrical system of the vehicle.

The heater contains a high pressure fuel nozzle and is thermostatically controlled, thus operating intermittently. It is switched "ON" and "OFF" by a simple rocker switch on the L.H. side lower control panel. An indicator light is fitted on the dashboard, to provide a visual indication of operation.


Pre-heating system (WEBASTO)

When the heater is switched on, the operation indicator light illuminates, the combustion air fan, the fuel pump and the water circulating pump begin to run. After a period of about 15 seconds, fuel is sprayed into the combustion chamber through the high pressure nozzle, and is simultaneously ignited by a high tension spark. A photocell turns the ignition unit off after combustion has established.

If the combustion has not been established 30 seconds after the heater was switched on, or if the flame goes out for more than 10 seconds during operation, the heater is switched off automatically. A breakdown switching also occurs when the heater is overheated and the temperature fuse melts, or in case of under voltage. After removing the cause of the malfunction, the heater can be restarted by first switching it "OFF" and then switching it "ON" again.

When operating temperature has been reached, the control thermostat is actuated and regulates the temperature by switching the heater "ON" and "OFF", and ensuring the temperature of the coolant remains at a constant level. If the temperature rises above the highest switching point of the control thermostat, the solenoid valve shuts off the fuel supply, thus extinguishing the flame. The purging cycle follows, while the combustion air blower and the fuel pump continue to operate for about 150 seconds, switching off automatically afterwards.

The water circulating pump remains in operation during the regulated intervals. The indicator light remains on. If temperature drops below the lowest switching point of the control thermostat, the starting procedure of the heater will resume.

When the heater is turned off, combustion stops. The operation indicator light goes out and the purging cycle begins. When this is completed, the water circulating pump switches off independently.

It is permissible to switch the heater on again during the purging cycle.

Transmission Warm-up

When temperature is below -20°F (-29°C), the "DO NOT SHIFT" and "CHECK TRANS" lights will stay on after the engine is started. The transmission will stay in neutral, regardless of the gear range selected until it warms past -20°F (-29°C). At that point, the "DO NOT SHIFT" light will turn off and the transmission will operate only in first gear or reverse. When the "CHECK TRANS" light goes out at 20°F (-7°C), the transmission is warm enough to safely operate in all gear ranges.

Boosting

Whenever it becomes necessary to start the engine while batteries are discharged, use another power source of the same voltage (24 volt D.C.) and proper jumper cables.

1. Connect one end of the red jumper cable to the positive (+) terminal of the booster power source.

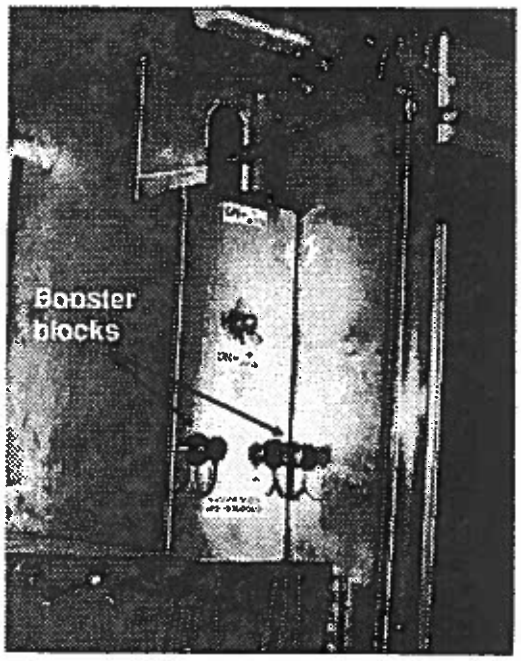
2. Connect the other end of the red jumper cable to the positive (+) terminal of the booster block, located in second R.H. side baggage compartment of the first section.

3. Connect one end of the black jumper cable to the negative (-) terminal of the booster power source.

4. Connect the other end of the black jumper cable to the negative (-) terminal of the booster power block.

5. Start engine.

6. To remove the cables, perform the above procedure in reverse order, and replace protective caps on booster block terminals.



WARNING: Turn off all lights, heaters and other electrical accessories. Make sure the parking brakes are applied and the transmission is set to "NEUTRAL" before attempting to jump start the engine.

Ensure the jump cables are properly attached to terminals as positive cable end must never touch any metallic part, except the positive (+) terminal of booster block.

NOTE: Jumper cables must withstand 500 cranking amperes. If cable length is 20 feet (6 m) or less, use 2/0 (AWG) gauge wires. If cable length is between 20-30 feet (6-9 m), use 3/0 (AWG) gauge wires.

Tires

Tire pressure

The condition and pressure of the tires can greatly affect useful tire life, but also road safety.

NOTE: The recommended tire inflation pressures are given in the "Technical Description" section. Moreover, cold tire inflation pressures are stampered on the vehicle identification plate behind driver's seat.

At regular intervals, verify the tire pressures. Use an accurate tire pressure gauge when checking inflation pressures. Do not exceed the maximum tire inflation pressure.

Cold tire inflation pressure means: When a vehicle has not been driven for at least 3 hours or less than 1 mile.

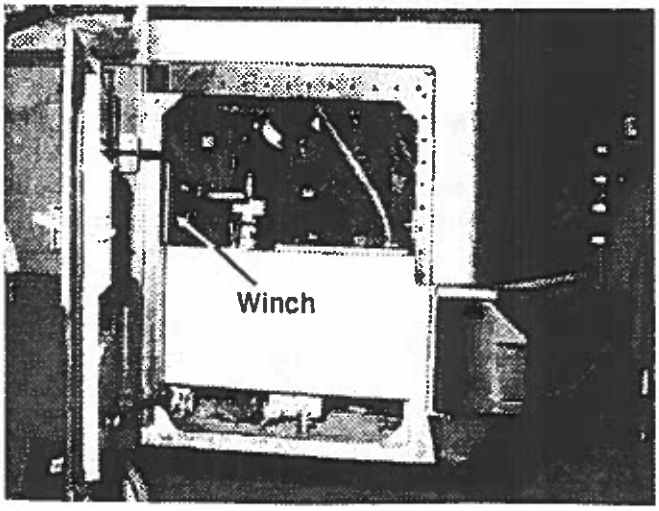
WARNING: Incorrect tire pressures cause increased tire wear and adversely affect road holding of the vehicle, leading to loss of vehicle control.

NOTE: Always include the spare tire during a pressure verification.

Changing wheels

Tire failure is a rare event these days. In case of a flat tire, move vehicle to the side of the road, at a safe distance and apply the parking brake. Do not forget to switch on the hazard warning flashers and to set up the triangular reflectors at an adequate distance of the vehicle, according to the highway code regulations.

The spare wheel and tire are stored under vehicle, in back of rear section. To gain access, open lavatory tank access door at rear end on L.H. side of vehicle. To pull out spare tire, crank the provided winch inside compartment in order to support spare tire weight. Remove lock pin and spare tire retaining rod from under vehicle, then release winch and lower spare tire on ground. Disconnect winch cable from spare tire attachment. Pull on tire or move vehicle six feet forwards to get spare tire.



NOTE: In case of a flat tire on a rear section wheel, it may be necessary to jack vehicle to gain access to spare wheel.

Jack and wrench are located in the left front electrical junction compartment, over the front wheels.

Verify the inflation pressure of the spare tire periodically to keep the tire ready for use. The spare tire must be inflated to the pressure of the tire which has the highest pressure on the vehicle.

Procedure:

Step 1

Stop the engine, apply parking brake, take jack and wrench out of the left front service door, and the spare tire out of the vehicle.

Step 2

For vehicles with wheel covers

Remove wheel covers from vehicle before step 3.

For wheels with hub cap

Remove hub cap with the appropriate wrench before step 3.

Step 3

Loosen all wheel nuts (counterclokwise on the R.H. side and clockwise on the L.H. side) about one turn with the wrench provided. Do not yet remove the nuts.

Step 4

There are seven (7) jacking points on each side, four (4) under the body, and three (3) under the axles (refer to Minor Defects & Driving Hints, under "Jacking points" for proper position, page 4-12).

WARNING: Before changing a wheel, be sure the ground is level and firm. If necessary, use a board under the jack.

Jacking at any other point may damage the vehicle or may result in personal injuries.

Step 5

Use the hydraulic jack to raise vehicle. Raise the vehicle to the required height to change the wheel.

WARNING: Do not raise the vehicle until you are sure the jack is securely engaged. Passengers must not remain in vehicle when it is jacked up.

Step 6

Fully unscrew the wheel nuts and remove wheel. Place the spare wheel, replace nuts and tighten them slightly in a crisscross sequence before lowering the vehicle.

Step 7

To lower vehicle, unscrew the hydraulic valve on the jack slowly, till tire touches ground.

Step 8

Then, tighten the nuts firmly in a crisscross sequence with the wrench to the appropriate torque.

NOTE: The appropriate tightening torque of the nuts should be 450-500 lbs/ft (610-680 N.m). This torque can be obtained with the wrench by any person of average strength. If in doubt about the correct tightness of the wheel nuts, have it checked with a torque wrench.

Step 9

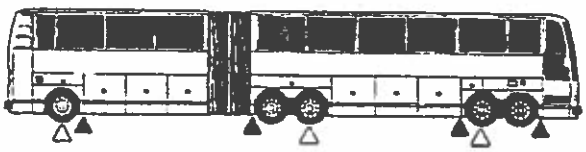
Fully lower the vehicle and remove jack. Then, correct the air pressure of the tire you have just put on. The cold tire inflation pressures are stampered on the identification plate behind the driver's seat.

Step 10

Securely store dammaged wheel and jack in their respective compartment, and have the flat tire repaired and the wheel rebalanced as soon as possible.

Jacking points

Seven (7) jacking points on each side are provided on the H5-60 coach. Four (4) under the body and three (3) under the axles. Refer to the following illustration for more details:



▲ body
△ axle

Different kind of jacks can be used such as vehicle jack, hydraulic floor jacks and electric lifting jacks, but remember that only these jacking points must be used. Also, according to the vehicle weight distribution per axle, jacks must support the following capacities:

Front axle: 16,000 lbs / 7,270 kg

Drive axle: 23,000 lbs / 10,455 kg

Rear axle: 10,000 lbs / 4,545 kg

CAUTION: Never lift vehicle by front steering axle or rear drive axle, as it may damage suspension components.

Never exceed a twelve degree (12°) angle or thirty-six inches (36") between front and rear sections when jacking vehicle.

Care must be taken to insure that proper pressure is applied only at the points indicated, otherwise distorsion and/or damage may result to body section or articulation mechanism.

Towing

Two tow eyes are provided under each bumper. Towing should be done from these points only. A solid link tow bar and safety chain must be used. This recommended method prevents damaging the vehicle. If required, connect an auxiliary air supply to the vehicle to actuate the vehicle brakes. The engine cannot be started by pushing or towing.

CAUTION: Internal lubrification of the transmission is inadequate when the vehicle is towed. The propeller shaft or the axle shafts should be removed when being towed to avoid possibility of damaging transmission.

NOTE: When the propeller or axle shafts are reinstalled, make sure the nuts are tightened to the appropriate torques and the axle shafts are properly installed (R.H. & L.H.) and/or the propeller shaft is properly phased. Refer to specific service manual for torque values.

WARNING: Never allow passengers to ride in a towed vehicle for any reason whatsoever.

HARD STARTING

Probable Causes:

	Engine Will Not Rotate	Low Cranking Speed	Engine Cranks But Will Not Start
Low battery voltage	X	X	
Loose starter connections	X		
Faulty starter	X	X	
Faulty starter motor switch	X	X	
Internal seizure	X		
Improper lube oil		X	
CKT Breaker electronic control malfunction			X
Blown or missing fuses			X
Insufficient Fuel Supply			
Air in fuel			X
Out of fuel			X
Loose fuel connections			X
Cracked fuel lines			X
Obstructed fuel filters or lines			X
Faulty fuel pump			X
Faulty injector tip operation			X
Missing restricted fuel fitting			X
High return fuel temperature			X
Low Compression			
Faulty exhaust valves			X
Faulty piston rings			X
Leaking cylinder head gasket			X
Faulty valve adjustment			X
Faulty blower			X
Faulty Starting Aid at Low Ambient Temperature			
Improper operation of starting aid			X

OBJECTIONABLE EXHAUST

Probable Causes:

	Black or Gray Smoke	Blue Smoke	*White Smoke
Excessive Air Inlet Restriction			
Damaged or dirty air cleaner	X		
Plugged liner ports	X		
Clogged blower screen	X		
Excessive Exhaust Back Pressure			
Faulty exhaust system	X		
Foreign buildup in system	X		
Abnormal Operating Conditions			
High ambient air temperature	X		
Thin air at high altitude	X		
Fuel Oil Specifications			
Improper grade of fuel oil	X		
Unburned Lube Oil Blown Through Cylinder			
Faulty oil control rings		X	
Loose piston pin retainer		X	
Scored liners or pistons		X	
Misaligned piston and rod		X	
Excessive installation angle		X	
Excessive oil in crankcase		X	
Leaking blower oil seals		X	
Low Compression			
Faulty exhaust valves			X
Faulty piston rings			X
Leaking cylinder head gasket			X
Faulty valve adjustment			X
Faulty blower			X
Too low cetane fuel			X

**White exhaust smoke may be evident after a cold engine is started. This condition is normal and should disappear as the engine is warmed up.*

ABNORMAL ENGINE OPERATION

Probable Causes:	Rough Running or Frequent Stalling	Low Power	Detonation
Insufficient Fuel Supply			
Air in fuel	X	X	
Low fuel supply	X	X	
Loose fuel connections	X	X	
Damaged fuel gaskets	X	X	
Cracked fuel lines	X	X	
Restricted fuel filters or lines	X	X	
Too low fuel temperature	X	X	
Faulty fuel pump	X	X	
Missing restricted fuel fitting	X	X	
High return fuel temperature	X	X	
Faulty injector tip operation	X	X	X
Low Compression Pressures			
Faulty exhaust valves	X		
Faulty piston rings	X		
Leaking cylinder head gasket	X		
Faulty valve adjustment	X		
Faulty blower	X		
Insufficient Air			
Damaged or dirty air cleaner		X	
Plugged liner ports		X	
Clogged blower screen		X	
Excessive exhaust back pressure		X	
Faulty exhaust system		X	
Foreign buildup in exhaust system		X	
High ambient air temperature		X	
Thin air at high altitude		X	
Oil Pickup by Air Stream			
Improper oil level in air cleaner			X
Dirty air box			X
Plugged drain tubes			X
Faulty blower oil seals			X
Defective blower to block gasket			X
Low Coolant Temperature			
Thermostats not fully closed	X		X
Leakage around thermostat seals	X		X
Faulty radiator shutters	X		X
Faulty cooling fan	X		X

ABNORMAL OPERATING CONDITIONS

Probable Causes:	High Lubricating Oil Consumption	Low Oil Pressure
External Leaks		
Loose connections	X	
Cracked lines	X	
Damaged gaskets or seal rings	X	
*Lube oil loss at breather tube	X	
*Lube oil loss at dipstick hole	X	
Lube oil loss at air box drain	X	
**Internal Leaks*		
**Indicates high crankcase pressure*		
Internal Leaks		
Faulty blower oil seals	X	
Leaking oil cooler	X	
Oil Control at Cylinder		
Faulty oil control rings	X	
Loose piston pin retainer	X	
Scored liners or pistons	X	
Misaligned piston and rod	X	
Excessive installation angle	X	
Excessive oil in crankcase	X	
Improper Lube Oil Maintenance		
Low oil level		X
Improper grade of oil		X
Poor Circulation		
Clogged cooler		X
Faulty by-pass valve		X
Faulty pressure regulator valve		X
Worn crankshaft bearings		X
Missing plugs in gallery, crankshaft or camshaft		X
Faulty Pump Operation		
Clogged intake screen		X
Faulty relief valve		X
Air leaks in pump suction		X
Worn or damaged pump		X
Faulty Pressure Gage Operation		
Faulty gage		X
Obstructed line		X
Plugged orifice		X
Faulty electrical components		X

ABNORMAL COOLANT TEMPERATURES

Probable Causes:

	Above Normal	Below Normal
Insufficient Heat Transfer		
Restricted cooling system passages	X	
Restricted radiator core passages	X	
Slipping fan belts	X	
Faulty temperature controlled fan and radiator shutters	X	
Poor Circulation		
Low coolant level	X	
Damaged hoses	X	
Faulty thermostats	X	
Faulty water pump	X	
Improper Circulation		
Thermostats not fully closed		X
Leakage around thermostat seals		X
Faulty temperature controlled fan and radiator shutters		X

Technical Data

Dimensions and weights

Overall length (over bumpers)	60' 0"	18,288mm
Overall heigth (over closed roof hatch)	12' 0"	3,658mm
Overall width (max.)	8' 6"	2,590mm
Wheelbase (center of forward steering axle to center of tandem drive axle)	23' 11"	7,290mm
Overhang, front	72"	1,829mm
Overhang, rear	69"	1,753mm
Front track (2 axles)	85.7"	2,176mm
Drive track (2 axles)	83.0"	2,107mm
Rear track (1 axle)	85.7"	2,176mm
Turning circle diameter (exterior front corner)		
Front section length	34' 5"	10,490mm
Accordeon length	4' 4"	1,321mm
Rear section length	21' 3"	6,477mm
Floor height from ground	63"	1,600mm
Headroom	77"	1,956mm
Aisle width	14"	355mm
Vehicle weight (dry)	45,900lbs	20,820kg
G.V.W.R.	59,140lbs	27,140kg

The vehicle capacity weight, the Gross Vehicle Weight Rating (G.V.W.R.), and the Gross Axle Weight Ratings (G.A.W.R.) for front, drive and rear axles, are listed on certification plate located behind driver's seat.

The gross vehicle weight rating includes the weight of the basic vehicle plus full fuel tank, oil and coolant, plus maximum load which combines passenger (150 pounds/68 kg per designated seating position) and the baggage weight (3 pounds/ cu. ft.)

Storage volume

Interior storage compartment: 140 cu.ft. / 4 cu.m.

Underfloor baggage compartment :546 cu.ft. / 15.5 cu.m.

Seating

Seating capacity : (1) 71 passengers
(2) 76 passengers

(1) This option includes full reclining seats and two card tables in rear section.

(2) This option includes semi-reclining seats in front section only and one additional seat at rear exit.

Wheels and tires

Firestone: 315/80 R 22.5

Goodyear: 12.75 R 22.5

Michelin: XZA12 R 22.5

Steel wheel: 8.25 x 22.5

Aluminium polished wheels: 8.25 x 22.5

Recommended tire inflation pressure (cold)

Rear section axle: 105 psi / 725 kPa

Drive axles: 115 psi / 790 kPa

Steering axles: 100 psi / 690 kPa

V-belts

Fan drive (transfer)

Make: Gates

Model: 2/C 79

Part number: 9094-2079

Prevost number: 50-6449

A/C compressor

Make: Gates

Model: 2/C 90

Part number: 9094-2090

Prevost number: 50-6448

Hydraulic pump

Make: Gates

Model: 3 V 450

Part number: 9N1145 3V450

Prevost number: 50-6317

Capacities

Windshield washer reservoir

5 U.S. gal / 19 liters

Engine crankcase capacity

Crankcase: 23 to 25 U.S. qts (22 to 24 liters)

Filter oil: 2 U.S. qts (2 liters)

Cooler: 1.5 U.S. qts (1.4 liters)

Engine coolant: 58.11 U.S. gal (220 liters)

Fuel tank

200 U.S. gal / 757 liters

Fuel type: ASTM specification D-975
recommended Grade 1-D
acceptable Grade 2-D

Federal specification VV-F-800
recommended Grade DF-1
acceptable Grade DF-2

Differential

Forward differential: 40 pints / 19 liters

Rear differential: 37 pints / 17.5 liters

Transmission

Automatic transmission (does not include external circuits) 7.50 U.S. gal / 28.4 liters

Hydraulic system

For power steering & condenser motor: 10.3 U.S. gal / 38 liters (tank + hoses)

Engine Oil reserve tank

Capacity: 2.5 U.S. gal / 9.45 liters

Transmission

Allison five speed automatic HT-755 CR with ATEC control (ATEC: Allison Transmission Electronic Control).

Gear	Ratio
1st	3.69
2nd	2.00
3rd	1.58
4th	1.25
5th	1.00
Rev	9.65
Converter	1.81

Propeller shaft

Dana series 1810, from transmission to forward drive axle.

Dana series 1710, from forward drive axle to rear drive axle.

Axles

Front: Two Rockwell #FF-952-CA
13,000 lb capacity each
Tandem steering control

Drive: Model: Rockwell SQ-100
Drive ratio: 3.55 : 1
14,000 lb capacity each
Single wheels.
Differential lock in equipment.

Rear: Same as front steering axles.

Brakes

Disc brakes, Rockwell Dura-Master.

Triple system plus parking.

Bendix TU-FLO 700, two cylinder compressor engine gear driven, cooled and lubricated by engine oil.

Bendix AD4 air dryer.

Rockwell automatic slack adjusters.

Nylon color coded lines.

24-30 spring brakes on both drive axles.

Anti-Lock system on all axles including trouble warning tell-tale

Steering

Tilt steering wheel and telescopic steering column.

Integral hydraulic asisted steering gear with an auxiliary cylinder acting on axle #2.

Tandem drag link for front axles.

Rear section axle steered by the articulation.

Articulation

A large thrust bearing and two (2) rubber cushioned pivots

Two shock damping for cruising stability.

Multi-disk articulation brake to prevent anti-jacknife and for greater stability at cruising speed.

Anti-jacknife back-up safety devices which include:

- Tell-tale
- Buzzer
- Brake interlock
- Mechanical stop

Electrical

24 volt system.

12 volt exterior lights.

Delco, 270 amp. self-rectified alternator. Gear-driven, oil cooled & lubricated by engine circuit.

Four (4) 12 volt maintenance free batteries, 1160 cold cranking amps.

For 12 volt: two (2) "Vanner" battery equalizers.

Three (3) weatherproof junction boxes.

Manual reset breakers.

MIL specifications connectors.

12 volt and 24 volt manual cut-off switches.

Suspension

Identical components on all axles:

- 1100 roll over type with volume can air springs.
- Two (2) per axles.
- Tandem action on drive and steering axles.
- Double action shock absorbers.
- Leveling valves.
- Sway bars.

Sound system

Fourteen (14) Hi-Fi speakers.

Two (2) Hi-Fi front speakers with stereo attenuator.

Blaupunkt AM/FM and radio cassette receiver including "ARI" system.

P.A. system with volume control attenuator, including 3 microphone outlets in front section.

Oil specifications

Engine

Heavy duty engine oil meeting MIL-L2104C or MIL-L46152 specifications should be SAE-40 for vehicles operating at temperatures above 0°F (-18° C), and SAE-30 for operation below 0°F (-18° C).

Automatic transmission

The transmission must be filled with DEXRON or DEXRON II automatic transmission fluid.

Differential

Multigrade gear lubricants which meet the requirements of military specification MIL-L-2105-C are recommended for use in drive axles. These lubricants perform well over broad temperature ranges, providing good gear and bearing protection in a variety of climates.

The MIL-L-2105-C specification divides lubricants into three major categories according to their viscosity at various temperatures. These are 75W, 80W-90 and 85W-140. 80W140 lubricants are also available, but are listed with 80W90 in MIL-L-2105-C specification. Lubricants approved under MIL-L-2105-B are also acceptable for use. Refer to the following chart for the correct grade of gear lube.

Temperature range	Lubricant
Military specification	MIL-L-2105 C
-40°F to -15°F (-40°C to -26°C)	75W
-15°F to 100°F (-26°C to 38°C)	80W-90
-15°F (-26°C) and above	80W-140
-10°F (-12°C) and above	85W-140
Military specification	MIL-L-2105 B
-15°F to 80°F (-26°C to 26°C)	80
-10°F to 100°F (-12°C to 38°C)	90
100°F (38°C) and consistently above	140

Fan gear box

General purpose gear SAE-90 grade lubricant is recommended for the fan gear box.

Hydraulic tank (power steering & condenser motor)

This tank must be filled with 5W-30 or 10W-30 engine oil in moderate climate operation.

Wheel bearings

Fill front and rear wheel bearings (axles #1,2,5) to the level mark in the cap with SAE 90 oil. Rear wheel bearings (axles #3 and 4) are lubricated by the differential oil. Maintain differential oil levels to ensure adequate lubrication of rear wheel bearings at all times.

Heating & A/C specifications

For passengers

Evaporator unit

Heater/evaporator unit: Model: Carrier
Location: one in each section

Air circulation: two (2) radial vane blowers per unit.

Airflow: 4,800 cfm/135.88 cu. m. min.

Waterflow: 36 GPM (two (2) pumps)

Blower for electric motor:

- Make: Prévost Car
- Type: Tap 12
- Motor speed: 1950 rpm
- P kw: 0.42 Volts: 27.5
- C mkg: 0.2 Amps: 25
- Class: F
- Tightening torque (Shaft Assembly): 0.35 mkg

Protection: 40 amp breaker (red button on unit side for each blower motor).

A/C capacity: 12.5 tons

Heating capacity: 413,000 Btu/hr

Compressor clutch

Electromagnetic clutch

Housing mounted

Belt driven

Diameter: 9 inches

V-Belts

Make: Gates

Model: 2C/90

Part number: 9094-2090

Prevost number: 50-6448

Refrigerant

Type: Freon R-22

Condenser fan

Driven by an hydraulic motor

Compressor

Carrier Model 05G

Number of cylinders: 6

Bore: 2" (50.8 mm)

Stroke: 1-5/16" (49.2mm)

Operating speed: 400 to 2200 rpm (1750 rpm, nominal)

Minimum speed for lubrification: 400 rpm

Oil capacity: 1.13 U.S. gal (4.3 liters)

Weight: 142 lbs (64.5 kg)

Approved oils: Calumet R030
Dupont Zephron 150
Sun Oil Co. Sunison 3GS & 4GS
Texaco WFI 132

NOTE: The above oils are suitable for use with reciprocating compressors using freon R-22 and with evaporator temperatures above -40°F (-40°C)

Temperature control

Honeywell Energy Management Microprocessor for 6 output stage.

Digital remote thermometer for front and rear sections, mounted in driver's compartment.

Rheostatic thermostat setting & telltale.

Manual fresh air control.

For driver

Driver's A/C capacity: 2 tons

Driver's heater capacity: 37,000 Btu/hr.

Anti-lock braking system (ABS)

Make: Wabco

Components: Electronic control unit
Solenoid control valve
Sensor
Clamping
Wiring harnesses

Electronic control unit

Voltage: 24 volts + - 25 %

Thermal operating range: -40°F to 167°F
-40°C to 75°C

Protection system for sealed multi-pin plug (DIN 40050) IP 65

Electrical connection is made through a 35 pin plug.

Maintenance: none

Solenoid control valve

Voltage: 24 + 4.8 volts
- 2.4 volts

Current: DC

Operation: Periodic operation ED 5% /5 min

Nominal current: 1.65 Amps

Protective system according to DIN 40050: IP 68

Maximum service pressure: 10 bars
145 psi

Thermal operating range: -40°F to 176°F /or
-40°C to 80°C

Electrical connector: 894 601 010 2

Installation: Maximum pipe length between solenoid control valve and brake cylinder is 5' (1.5m); pipe diameter is (10 mm) venting downwards at an angle of 15° on the vertical plane.

Maintenance: none

Sensor

Two-core screened cable: (1 mm2) (AWG 18)

Force needed to tear out lead: 50 N (11.2 lbs)

Force needed to pull off shrink-fitted tube: 50 N (11.2 lbs).

Protective system according to DIN 40050: IP 68

Thermal operating range: -40°C to 80°C /or
-40°F to 176°F

Maintenance: None

Pre-heating system (Webasto)

Heater type: DBW 300

Heat output: 30kW

Heat output: 103,000 Btu/hr

Fuel type: Same as engine

Fuel consumption: 0.92 U.S. gal/hr

Nominal voltage: 24 volts (20...28)

Current consumption: 130 watts

(without water circulating pump)

Current consumption of water circulating pump: 110 watts.

Diagnostic codes and system response for 6/700 series transmissions

Code	Description	DO NOT Shift Light	Transmission Response	Clearing the CHECK TRANS l
12	Low fluid pressure/level	OFF	Inhibits high gear	Next valid lube pressure/level
13	Low input voltage: In neutral	ON+	Hold in neutral	Acceptable volts
	In range	OFF	May not shift	Not turned on
14	Forward pressure switch	OFF	Normal operation	Next valid signal
15	Reverse pressure switch	OFF	Normal operation	Next valid signal
21	Throttle sensor, in error zone	OFF	Full throttle assumed	ECU power OFF/ON
22	Speed sensor	ON+	Drop LU & hold in gear	ECU power OFF/ON
23	Shift selector (primary)	OFF	Hold in last range	Next valid range
24	Fluid temperature:			
	cold (below -25F) No Code	ON+	Hold in neutral	Temp above -32C
	cool (-25 to 20F) No Code	OFF	Inhibits upshifts	Not turned on
	hot (above 270F)	OFF	Inhibits high gear	Temp below 132C
31	Shift selector (secondary)	OFF	Hold in last range	Next valid range
32	Wrong direction signal	OFF	Shift to neutral	Select neutral
33	Temp. sensor, in error zone	OFF	Normal operation	Next valid temp
34	PROM check	ON+	Drop LU & hold in gear	ECU power OFF/ON
41	J solenoid (neutral) on test			
	Below specified output rpm*	OFF	May not shift	ECU power OFF/ON
	Above specified output rpm*	ON+	Drop LU & hold in gear	ECU power OFF/ON
42	F solenoid (fwd/rev) on test			
	Below specified output rpm*	OFF	May not shift	ECU power OFF/ON
	Above specified output rpm*	ON+	Drop LU & hold in gear	ECU power OFF/ON
43	D solenoid on test			
	Below specified output rpm*	OFF	May not shift	ECU power OFF/ON
	Above specified output rpm*	ON+	Drop LU & hold in gear	ECU power OFF/ON
44	C solenoid on test			
	Below specified output rpm*	OFF	May not shift	ECU power OFF/ON
	Above specified output rpm*	ON+	Drop LU & hold in gear	ECU power OFF/ON
45	B solenoid on test			
	Below specified output rpm*	OFF	May not shift	ECU power OFF/ON
	Above specified output rpm*	ON+	Drop LU & hold in gear	ECU power OFF/ON
46	A solenoid on test			
	Below specified output rpm*	OFF	May not shift	ECU power OFF/ON
	Above specified output rpm*	ON+	Drop LU & hold in gear	ECU power OFF/ON
51	G solenoid (lockup)	OFF	Possible loss of lockup	Valid signal
52	E solenoid (trim boost)	OFF	Possible full trim boost	Valid signal
53	H solenoid (neutral)			
	On test	Off	May not shift	ECU power OFF/ON
	Off Test	ON+	Drop LU & hold in gear	ECU power OFF/ON
54	A,B,C,D,F&J solenoids off test	ON+	Drop LU & hold in gear	ECU power OFF/ON
66	Bi-directional comm. link	ON+	No modulation of shifts	Valid BDCL signal
69	Electronic control unit test	ON+	Drop LU & hold in gear	ECU power OFF/ON

Notes:

1) For all errors, the CHECK TRANS light will illuminate immediatly.

2) Except for Codes 22 and 69, lockup clutch will not be dropped until the retarder or compression brake (if used) shuts off.

3) Engine restart will usually turn ECU power OFF/ON

* Speed specified by transmission

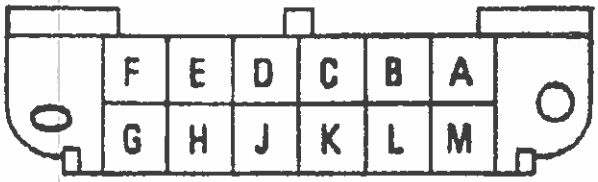
+ In lever shift selectors and push-button selectors built after September 1986, the DO NOT SHIFT light will flash. Prior push-button shift selectors gave a constant light

DDEC Diagnostic Codes

Diagnostic codes are obtained with the use of a DDL Reader Codes stored in the computer memory will be displayed by the DDL in numerical sequence. Codes may also be flashed at the CEL by grouding the diagonstic request circuit #451 to the ECM ground circuit #210. Pins A and M... in the DDL connector. This will illuminate the check engine light in a series of flashes separated by a pause.

Circuit	Pin	Description
210	A	ECM Ground
510	F	CCO
200	H	+12 Volts
461	L	DDL Signal
451	M	Diag. Request

DLL CONNECTOR



Code	Description	Code	Description
12	Power Take OFF Speed-Hi	41	Timing Reference Sensor
13	Coolant Level Sensor-HI	42	Synchronous Ref. Sensor
14	Oil Temp-Lo	43	Low Coolant Level 7 Sec.
15	Oil Temp-HI	44	Oil Overtemperature
16	Coolant Level Sensor-Lo	45	Oil Press Low 7 Sec.
21	Throttle Position Sensor-HI	46	Low Battery Voltage
22	Throttle Position Sensor-Lo	51	PROM error
25	No. Diag. Codes in Memory	52	ECM Failure A/D
26	Power Control Enabled	53	ECM-TRS Signal
31X	Inj. Response Time-Long	54	Vehicle Speed Sensor
32X	Inj. Response Time-Short	55	TECL-Loss of Data
33	Turbo Boost Sensor-Hi	56	ECM-Inj. Malf.
34	Turbo Boost Sensor-Lo	57	Cruise Control-ECM
35	Oil Pressure Sensor-Hi	58	Cruise Control Switch
36	Oil Pressure Sensor-Lo		

X = Cylinder number 1 thru 8, see Troubleshooting Guide for Cylinder Location.

Explanation of abbreviations/Terms

A/D	-Analog to Digital
ATEC	-Allison Transmission Electronic Controls
BAT	-Battery
BOI	-Beginning of Injection
CEL	-Check Engine Light
CCO	-Cylinder Cut-Out
CKT	-Circuit
CLS	-Coolant Level Sensor
DCC	-Diagnostic Circuit Check
DDEC	-Detroit Diesel Electronic Controls
DDL	-Diagnostic Data Link
EDU	-Electronic Distributor Unit
ECM	-Electronic Control Module
EFPA	-Electronic Foot Pedal Assembly
EUI	-Electronic Unit Injector
GND	-Ground
MALF	-Malfunction
OPS	-Oil Pressure Sensor
OTS	-Oil Temperature Sensor
PCSW	-Power control Switch
PROM	-Programmable Read Only-Memory
PTOSA	-Power Take-Off Speed Adjust
PW	-Pulsewidth
SEL	-Stop Engine Light
STEO	-Stop Engine Override
SRS	-Synchronous Reference Sensor
TBS	-Turbo Boost Sensor
CL	-Transmission-Engine Communication Link
TP	-Throttle Position Sensor
TRS	-Timing Reference Sensor
TSG	-Two Speed Governor
VIN	-Vehicle Identification Number
VSS-	-Vehicle Speed Sensor

Light bulb data

Trade no	Application	Watts or candle power	Volt	Qty
H4651	Hi-beam, headlamp	50W	12	2
H4656	Lo-beam, headlamp	35W	12	2
H-3	Docking & cornering lamp	55W	12	4
H-3	Fog lamp	55W	12	2
93-0266	Licence plate light	--	12	1
1893	Side directional light	--	12	12
1893	Side marker light	--	12	12
1893	Clearance light	--	12	28
1157 NA	Front directional light (flasher & tail)	32/3	12	2
Hella	Rear directional light	32	12	4
Hella	Rear stop light	32	12	4
Hella	Back-up light	32	12	4
Hella	Rear center stop light	32	12	1
Hella	Rear tail light	10W	12	4
HR464	Kneeling indicator light	--	12	1
3796	Check engine telltale lamp	2W	12	1
3796	Stop engine telltale lamp	2W	12	1
623	Compartment light	6	24	64
623	Engine compartment light	6	24	4
623	Step light (front & rear)	6	24	7
623	Lavatory light	6	24	1
1820	Luggage compartment light	1.6	24	20
1820	Instrument light - 1/unit	1.6	24	AR
Hella	Driver's light	10W	24	4
Hella	Rear entrance ceiling light	10W	24	2
1843	Emergency exit lamp	0.2	24	32
456	Lavatory occupied lamp	2	24	2
456	Watch your step lamp	2	24	4
1251	Aisle lamp	3	24	9
2741	Switch light - 1/unit	1W	24	AR
3797	Indicator light - 1/unit	2W	24	AR
961-4140	Reading lamp	8W	24	76
F15T8 CW	Lighting fluorescent	15W	--	34
F15T8 CW	Lavatory fluorescent	15W	--	2
F30T8 CW4	Destination sign fluorescent	20W	--	1
PL7	Luggage compartment front Neon	7W	--	22

Data plate & certification

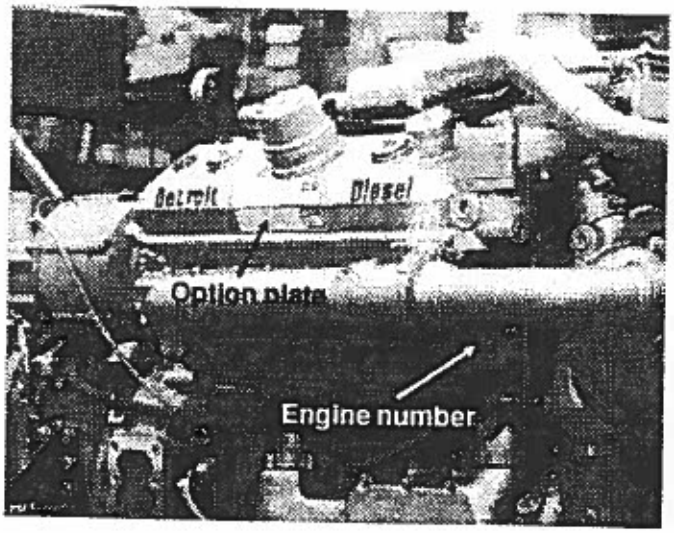
Data plate

The main components of the vehicle such as engine, transmission and chassis are identified by different serial numbers. It may be necessary to locate these numbers for warranty purposes.

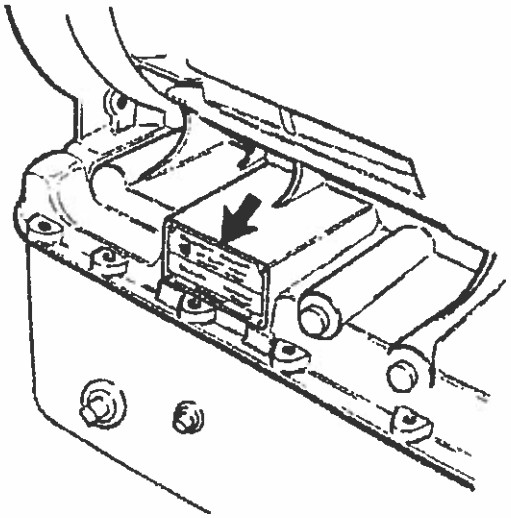
Engine

The engine number is stamped on the cylinder block under exhaust manifold (oil filter side) close to the water pump.

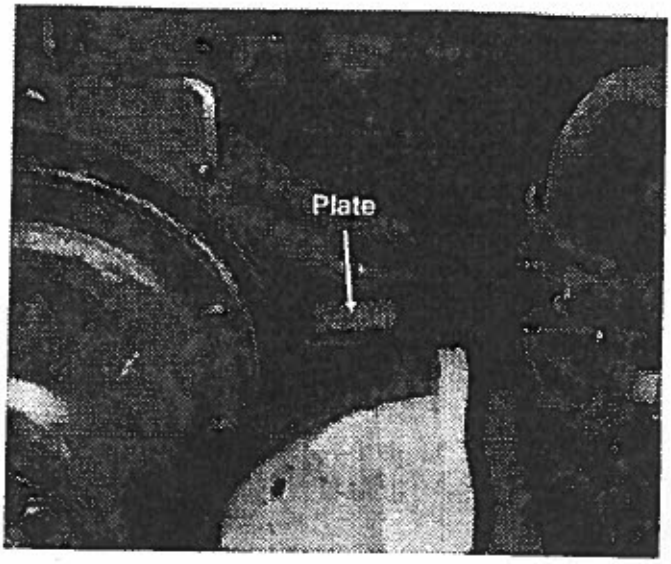
Furthermore, an option plate of laminated paper is located on the rocker cover (oil filter side). Contents of the option plate include the engine serial and model numbers and a list of the optional equipment on the engine. The information is primarily for use when ordering replacement parts.



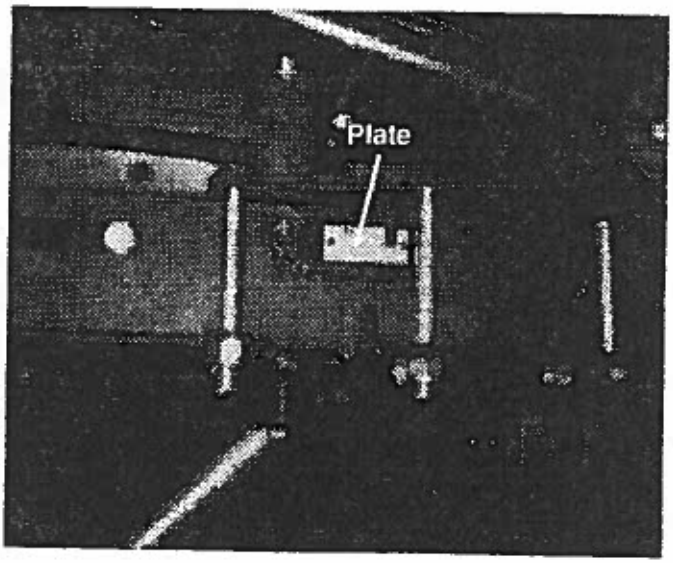
Transmission



Drive axles

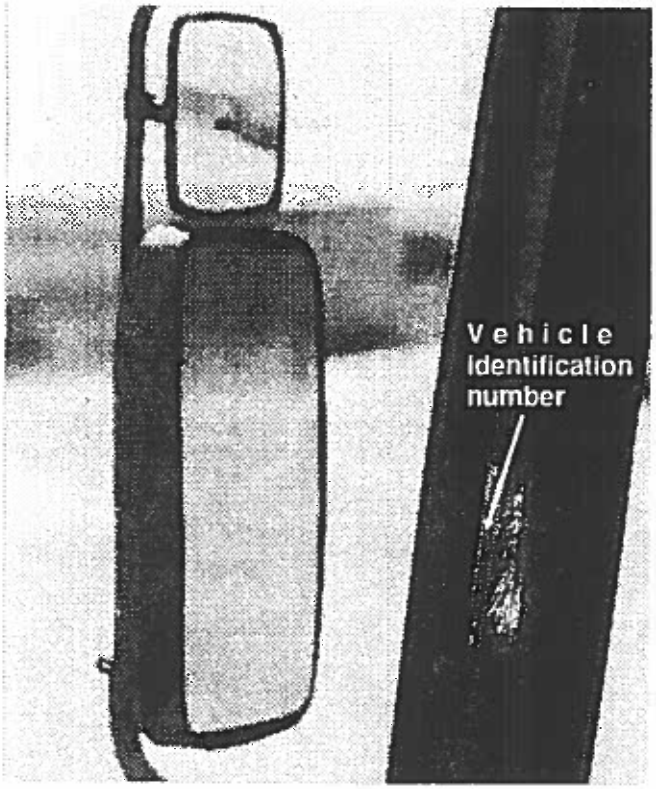


Steering axles



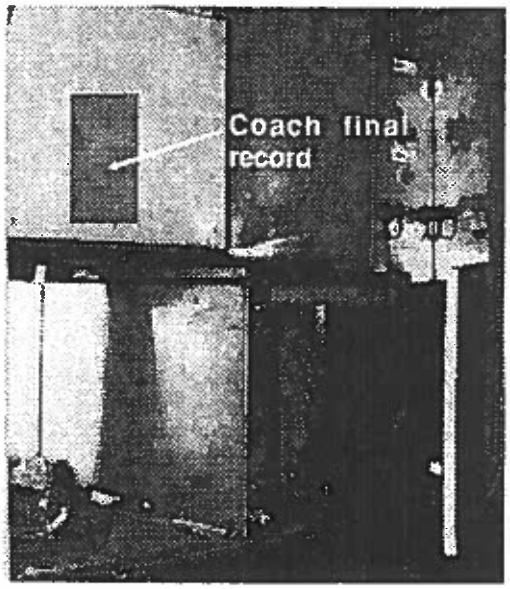
V.I.N.

The vehicle identification number is stamped on a plate located on windshield frame pillar (entrance door side), so that it is visible from the outside through the windshield. It is extremely important that the correct vehicle serial number be given to order replacements parts. Using these numbers will prevent delay and errors in obtaining the correct material.



Coach final record

This is a complete and detailed record of all data pertaining to the assembly of the vehicle. The label is located on engine access door in main battery power switch compartment and a sheet with the same information is included into the technical publication box delivered with the new vehicle. The information sheet should be filed in the owner's office where it will be readily available for references.



NOTE: We strongly recommend that you write down all the serial numbers on the vehicle and supply them to your insurance company. They may be useful.

Safety certification

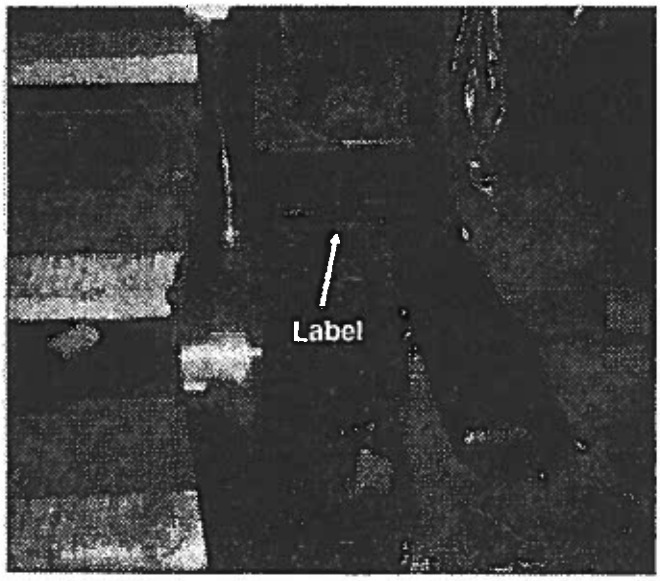
All the components on the H5-60 meet the government requirements:

- Material and parts conform to A.S.T.M. and/or S.A.E. standards.
- Welding is in accordance with Canadian and U.S. standards.
- Inside material meet F.M.V.S.S. 302 on fire resistance.
- Certified according to Provincial, State and Federal Safety standards (Can. & U.S.) B.M.C.S.S., F.M.V.S.S., C.M.V.S.S.

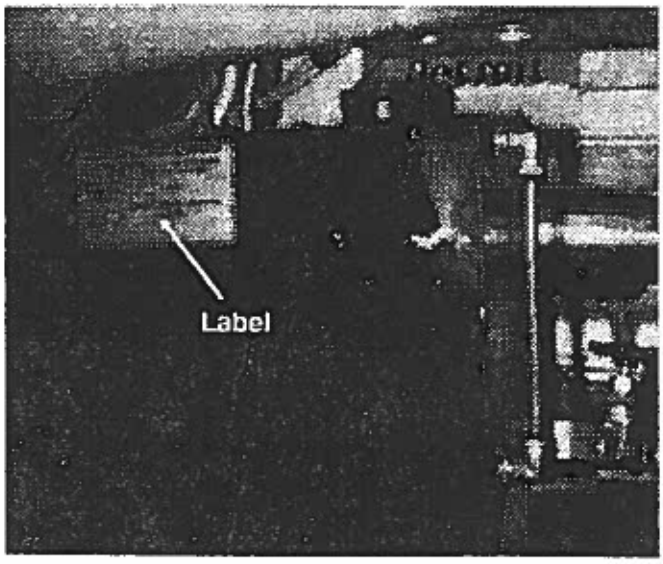
Futhermore, many certification labels are affixed on the vehicle.

D.O.T. certification label

This is your assurance that your new vehicle complies with all applicable Federal Motor Vehicle Safety Standards which were in effect at the time the vehicle was manufactured. You can find this label on the panel behind the driver's seat on the R.H. side.

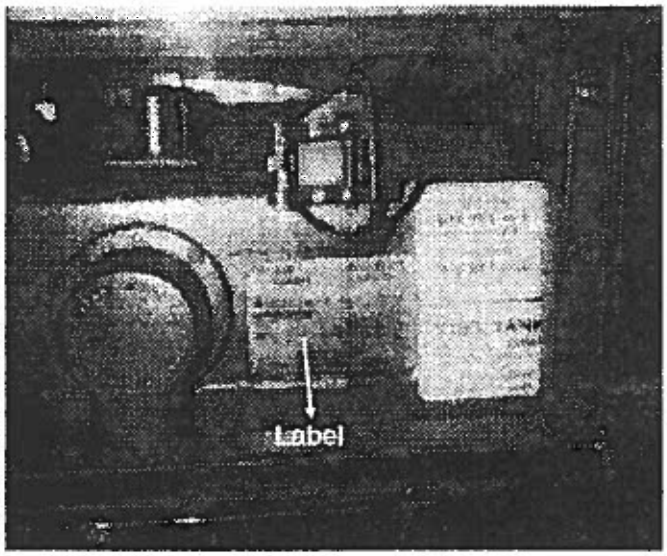


E.P.A. engine label



The exhaust emission certification label affixed on the engine oil reserve tank certifies that the engine conforms to federal and any state exhaust emission regulations. It gives the operating conditions at which certification was made.

Fuel tank label



The fuel tank certification and specification labels are affixed on the fuel tank.

Interior cleaning

The importance of keeping the interior of your H5-60 coach clean and spotless is a passenger-generating incentive, obvious to most operators.

However, a vehicle in regular and extended use is an easy target for deliberate and involuntary staining and marking by passengers.

The following sections deal with stain and mark removal on the exterior body of the coach, as well as remedies for cleaning the interior compartment that may help coach operators.

Seat upholstery

Normal cleaning

Beat the fabric with a blunt object such as a wooden paint mixer and clean the dust, dirt and grit, with a vacuum cleaner equipped with an upholstery nozzle. Clean as often as possible. The fabric is so designed to retain dirt and grit hidden inside its structure, thus presenting a clean seat to user. Grit will cause abrasion of the fabric and reduce the seat upholstery life. The upholstery nozzle should always be moved with the grain of the fabric.

Removal of stains, liquids and other marks

Do not use soap, soap powder, ammonia, bleach, and especially soda, or any product containing these ingredients. Serious damage could occur to either the dyestuffs or to the wool in the fabric. The two general methods of cleaning wool plush are:

Method 1

Apply a non-inflammable solvent (Trichlorethylene) with a clean, white absorbent material. Clean small areas by working from the outer edge towards the center of the stain. Blot frequently with a dry cloth to avoid rings.

WARNING: Open windows and doors to provide adequate ventilation.

Method 2

Moisten the stain with a solution of household detergent and lukewarm water. DO NOT SOAK Rub stain with a damp cloth, rinsing cloth between each treatment.

CAUTION: Do not use soap, soap powder, ammonia, soda, bleach or any product containing such ingredients.

Beverage stains

Use method 1. If stain persists, try methylated spirits.

Alcoholic liquids

Moisten with water followed by method 2.

Burns

Scrape blackened area with a knife and treat with method 2. Extensive burns require expert attention.

Cosmetics

Use method 1 followed by method 2.

Ink

Use method 2. If brown stain remains, treat as rust.

Blood stain

Use method 2.

Urine

Use method 2

Vomit

Use method 2

Copying ink - ballpen ink

Treat with methylated spirits, blotting frequently to avoid ink spreading. Use cleaning method 2 to complete the treatment.

Marking ink (felt-tipped pens)

Treat with Methyl Ethyl Ketone (M.E.K.) followed by method 2.

Oil, grease & paint

Remove surplus substance with a knife or spoon, then treat with method 1 followed by method 2. If stains should reappear, repeat cleaning process.

Rust

Use method 2 followed by an application of a warm solution of oxalic acid. Complete treatment by rinsing with water.

Tar

Soften with benzene and then treat with method 1 followed by method 2.

Battery acid

Saturate with a sodium bicarbonate solution, and let stand for several minutes before drying out. It is IMPORTANT that this treatment be carried out immediately to avoid serious damage to the fabric.

Chewing gum

Soften with cyclohexanone and scrape off carefully with a knife.

Note: Most of the cleaning products may be available through a cleaning specialist representative. It is not recommended that you treat new fabrics with any stain protector. Prompt and correct cleaning will remove most stains. INCORRECT TREATMENT WILL ONLY INCREASE THE DAMAGE. IN QUESTIONABLE CASES, ALWAYS SEEK EXPERT ADVICE. Information is true and accurate and is given to the best of our knowledge; however, all recommendations or suggestions are made with reserve, since the conditions of application are beyond our control.

Plastic and vinyl

Use a clean, damp cloth or sponge to keep this trim free from dust. For other soilage, use a lukerwarm all purpose cleaning solution or a mild saddle soap for vinyl trim. Remove water spots and soap traces with a clean, damp cloth or sponge. Use a clean, soft cloth to rub dry.

Grease, tar or oil stains can be removed with a clean cloth or sponge soaked with all purpose cleaner or with a solvent type vinyl cleaning agent.

Occasionally, apply a colorless vinyl or leather preservative to retain the material luster and pliability.

Window

To clean inside surface of the windows, use one part of water diluted with one part of vinegar.

Rubber components

Should be treated only with pure water or glycerin.

Formica

The normal maintenance consist in wiping formica surfaces with a damp cloth and detergent. Generally, remove spillage at once to minimize any permanent stain.

To remove stains, first try cleaning the affected area with a household detergent, methylated spirits or mineral turps. If the stain is still present, use a mild abrasive and water solution.

Carpet

The carpet will wear well, if you vacuum-clean often in order to avoid dust and dirt to penetrate into its fibers.

Stainless steel

Wash with a 9% concentration Phosphoric acid and rinse with water.

Exterior cleaning

The paint on your H5-60 vehicle is very durable, but must be protected from losing its luster due to exterior conditions. Therefore, wash and wax your vehicle often. The longer the dirt is left on the paint, the greater the risk of damaging the glossy finish, either by scratching if the dirt is rubbed into the paint, or simply by the chemical effect dirt particles have on the paint surface.

Close the fresh air dampers using the switch located on R.H. side lower control panel, and put in place all keyhole protectors to prevent water penetration. Always wash and wax the vehicle in indirect sunlight.

Begin by spraying water over the dry surface to remove all loose dirt, then wash with a branded car washing-soap in the concentration recommended by the manufacturers. Rinse afterwards with a generous stream of water.

The vehicle paintwork needs polishing or preserving when water no longer forms droplets on the surface.

CAUTION: Do not use hot water. Lukewarm to cool water is less harmful for the paint. Do not use any solution that can damage the body paint. Do not aim the water jet directly in fresh air inlet boxes to avoid water penetration. If the water jet is under high pressure, avoid aiming the jet directly on condenser and radiator doors as the fins of cores may be damaged.

The underside of the vehicle picks up dirt and road salt used to keep streets and highways free of snow and ice. To protect against corrosion, it is important to remove mud, debris and road salt from the underside with a powerful water jet. Be sure to include the wheel housings, bumpers, muffler, tailpipe and brackets. This should be done twice a year and is best accomplished after the vehicle has been driven through a heavy rain. Let engine and exhaust cool down before washing.

Tar or oil

Do not allow tar or oil to remain on the paint. Remove as soon as possible with a cloth soaked with a special paint cleaner. If you do not have a tar or oil remover, you may use turpentine. After applying a cleaning fluid, always wash with a lukewarm soap water solution and apply a new wax coat.

Insects

Remove as soon as possible with a lukewarm soap water solution or insect remover.

Tree sap

Do not allow tree sap or bird droppings to harden on the paint. Remove with a lukewarm soap water solution.

Window

Keep silicone sprays off the windshield to avoid wiper smear in rain. Clean all windows regularly to remove road film and bus-wash wax buildup. Use a lukewarm soap water solution or an alcohol-based cleaning agent. If a chamois is used for polishing the glass, it should exclusively be used for that purpose.

Wiper blades

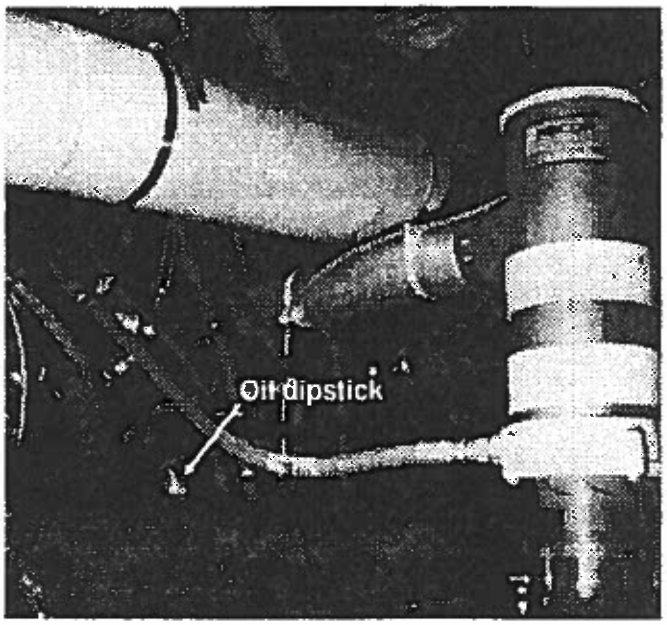
Always loosen frozen wiper blades from windshield as they may tear otherwise. Remove all wiper blades periodically and clean them thoroughly with an alcohol-based cleaning solution. Use a sponge or soft cloth and wipe lengthwise.

Oil verification

Automatic transmission oil level check

Because transmission oil cools, lubricates and transmits power, it is important that proper oil level be maintained at all times. If level is too low, converter and clutches will not receive adequate supply. If level is too high, oil will foam, causing overheating of transmission. To ensure a long transmission life, transmission oil level should be checked at regular intervals.

WARNING: The automatic transmission oil disptick is located behind the fan gearbox transfer shaft, near the junction between the engine and the transmission. When checking oil level, special care must be taken not to touch the engine coolant tubing and/or the engine exhaust pipe, as this could cause severe burns.



Before removing disptick to check oil level, clean around end of fill tube. Dirt and foreign matter should not be allowed to enter the oil system since this could cause valves to stick, thus resulting in undue wear of transmission parts, or clogged passages. To remove the disptick, unscrew the twist cap and pull out the dipstick.

Oil level check procedure

1. Two checks must be made to ensure proper oil level in the transmission. A COLD CHECK must be made when the transmission oil temperature ranges between 60 and 120° F (16-49° C). This check is required to ensure that there is a sufficient quantity of oil in the transmission to operate the vehicle. A HOT CHECK must be made when the transmission oil reaches normal operating temperature (160-200° F, 71-93° C). This check is required to ensure that the oil level is at the proper operating level.

2. Park the vehicle on a level surface. Apply the parking brake and operate the engine at 1000-1200 rpm for approximately one minute to purge air from the system. To fill clutch cavities and circuits, shift the transmission into Drive and then Reverse. Allow the engine to idle and shift to Neutral.

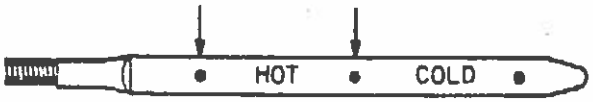
3. Cold check

Run the engine until the oil temperature ranges between 60 and 120°F (16-49°C). With the engine idling, and the transmission in neutral, wipe the disptick clean and check the oil level. If the oil level registers in the COLD RUN band, the quantity of oil in the transmission is sufficient to operate the vehicle until normal operating temperature (160-200°F; 71-93°C) is reached. If the oil level registers on or below the bottom line of the COLD RUN band, add oil to bring the level within the band. If the oil level registers above the COLD RUN band, drain oil to bring the level within the band. Then operate the vehicle and make a HOT CHECK when normal operating temperature is reached.

CAUTION: The oil level rises as oil temperature increases. Do no fill above the COLD RUN band before the transmission reaches normal operating temperature.

4. Hot check

Be sure the temperature ranges between 160 and 200°F (71-93°C). With the engine idling and the transmission in Neutral, remove the dipstick from the oil filler tube and check the oil level. If the oil level registers in the HOT RUN band, add the required amount of oil necessary to bring the oil level to the middle of the HOT RUN band. (Approximately one (1) quart (0.9 liter) of oil is required to raise the oil level from the bottom line of the HOT RUN band to the middle of the HOT RUN band).



Engine oil level

Ideally, check engine oil level when oil is warm with vehicle on a level surface, as for instance during every fuel filling. First, stop engine and wait at least 10 minutes for the oil to drain back into the oil pan. Then, pull out the dipstick, wipe clean and reinsert the dipstick fully down for an accurate reading. Pull out the dipstick again and check the oil level on the dipstick.

Maintain oil level between the two notches on the dipstick, and never allow it to drop below the "MIN" notch. If required, add oil by opening for a short period the oil reserve tank drain valve, then check engine oil level again. No advantage is gained by having oil level above the "MAX" notch.

NOTE: The engine oil dipstick is located near the engine block just over the engine starter.

The oil reserve tank is located in the engine compartment.

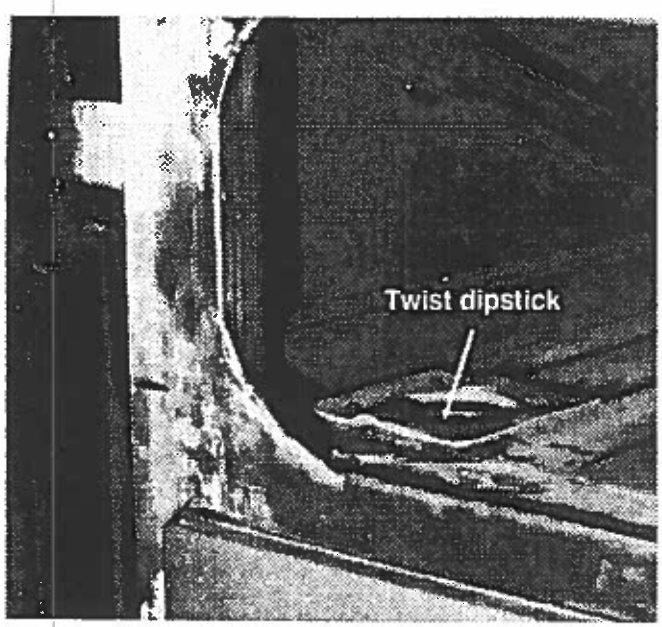
WARNING: When checking engine oil level, special care must be taken not to touch the engine exhaust pipe as this could cause severe burns.

Power steering oil level

The H5-60 vehicle is equipped with an integrated power steering system. The hydraulic fluid tank is located in the L.H. side rear fender of front section.

Procedure to verify oil level:

1. Stop engine, and open L.H. side ski compartment.
2. Remove the twist dipstick located in the R.H. side corner and wipe with a clean rag.



3. Insert dipstick in tank, then remove it again to check level.
4. Adjust level to full mark, using 5W-30 or 10W-30 engine oil for moderate climate only.
5. Replace the twist dipstick and screw it.

Condenser motor oil level

Cooling of the H5-60 condensor is made by an hydraulic fan motor. The hydraulic circuit has the same tank than the steering tank.

To verify the oil level, use the same procedure as in the power steering oil verification.

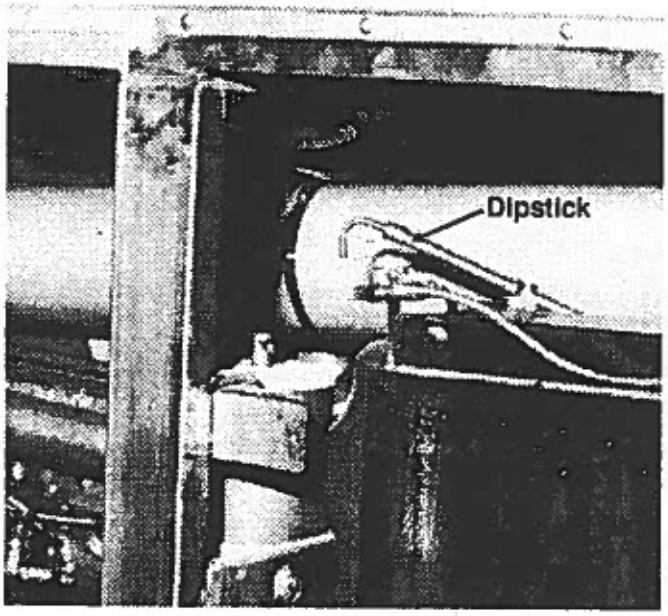
Radiator fan gearbox oil level

The radiator fan is belt driven from the engine crankshaft pulley through a drive shaft and a gearbox. The gearbox is equipped with a dipstick to verify oil level inside the gearbox.

Procedure to verify the gearbox oil level:

1. Stop engine, and open the condensor and engine door.

2. Remove the dipstick located in the upper L.H. side corner of radiator, and wipe with a clean rag.



3. Reinsert dipstick, then remove it again to check level.

4. Adjust level to full mark, using SAE 90 general purpose lubricant.

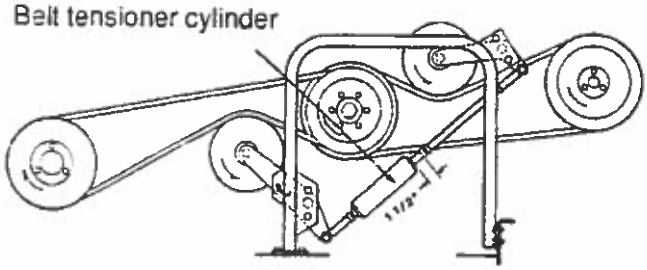
5. Replace the dipstick, and close the door.

Belt tensioner

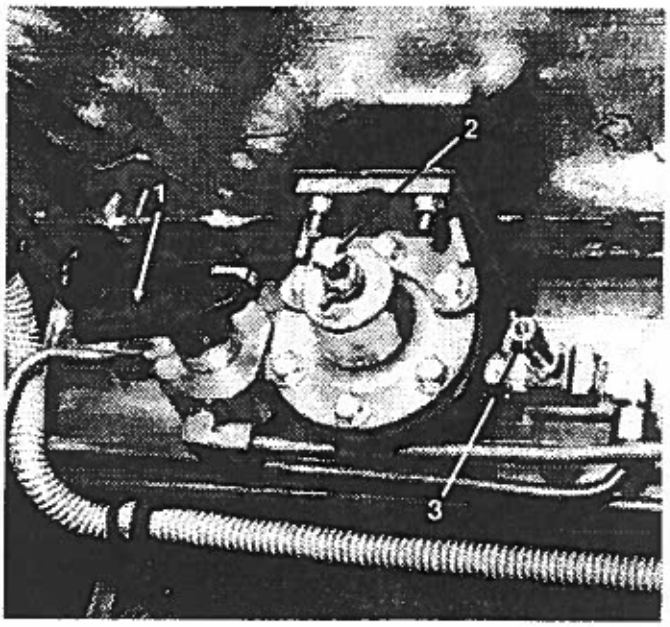
Radiator transfer fan and air conditioning compressor are driven by V-belts equipped with an air operated tensioner. It should be adjusted as follows:

Belt tension is provided by an air cylinder regulated at 40 psi, which is adjusted by an air valve located on the front wall of the engine compartment. For proper operation of the cylinder, adjust the rod to provide a 1 1/2" extension.

Belt tensioner cylinder



For belt replacement, air pressure must be released from belt tensioners by means of the control valve. This "ON/OFF" type valve is manually operated. Before handling, operator should make sure that all engine stopping safety precautions have been observed.

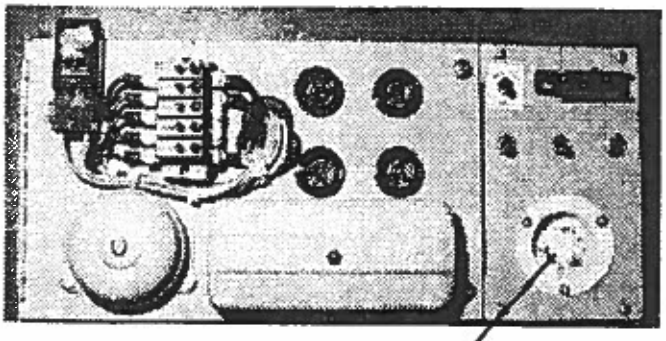


1. Belt tensioner cylinder air release valve
2. Air pressure adjusting bolt
3. Air system pressure check port (40 psi, 275 kPa)

In-station connector

An interior connection allows use of a 110-120 volt lighting system when coach is being serviced or cleaned.

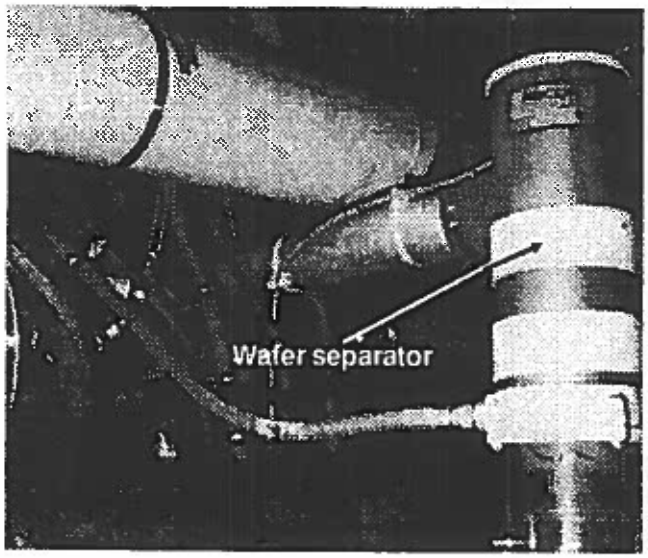
Receptacle for in-station connector is located in front L.H. side service door. This power source is divided into three (3) different circuits: the block heater engine circuit, the fresh water tank heater circuit, and the in-station lighting circuit. Use the appropriate switch to activate the proper circuit.



Receptacle for in-station connector

Water separator

A water separator is installed in evaporator compartment just under engine dome light, to prevent water infiltration in engine fuel system. It should be drained periodically, or when the water separator indicator lamp lights in dash panel. Loosen bleed screw below separator a quarter of a turn to drain.



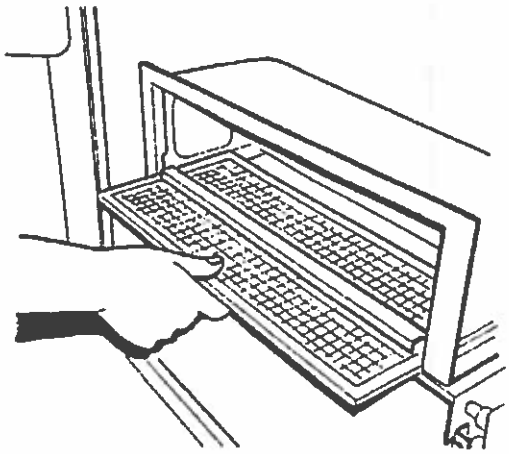
Heating and air conditioning

Heating & A/C air filters

For maximum heating and A/C system efficiency, air filters should be inspected and cleaned as required according to maintenance schedule to ensure proper ventilation of the A/C and heating radiator cores.

Driver's system

Air filter for driver's system is located under dashboard. To gain access, unlatch the toggle latch at each extremity, then remove the panel to change filter.

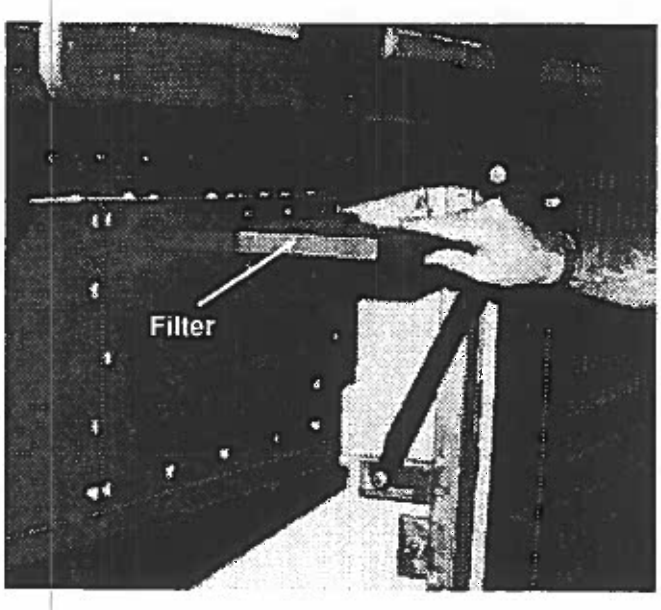


Front system

To gain access, open the first baggage compartment door on each side. Two (2) access panels are located on both sides of the evaporator unit. Unscrew the 1/4 turn screws (6/side). Pull on the filter. After cleaning, replace air filter with the arrow pointing in the same direction of air flow side (down).

Rear system

To gain access, open the third baggage compartment door on each side. Two (2) access panels are located on both sides of the evaporator unit. Unscrew the 1/4 turn screws (6/side). Pull on the filter. After cleaning, replace air filter with the arrow pointing in the same direction of air flow (down).



Servicing the lavatory

Draining and filling lavatory tanks should ideally be done by maintenance and service personnel. Draining instructions included in this section are for use only in case of an emergency, such as engine or heating system failure in freezing weather where tanks must be drained to prevent freezing. The driver should supervise the servicing of his coach when away from home.

NOTE: All servicing can be done from lavatory compartment located on the L.H. side at the extreme rear of coach.

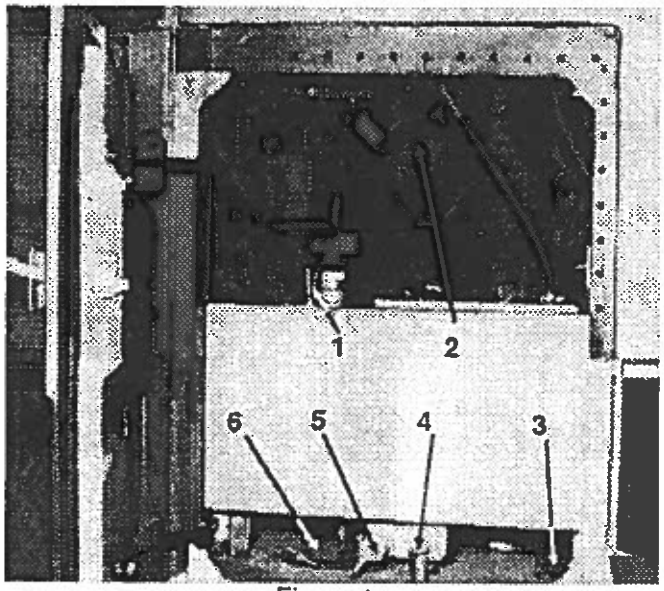


Figure 1

1. Large size circular cap
2. Flexible drain hose
3. Sump tank level valve
4. Fresh water reservoir drain valve
5. Quick release male connector
6. Slide valve handle

Fresh water reservoir draining

The fresh water reservoir located over the lavatory roof, can be drained by opening the fresh water reservoir drain valve located in lavatory compartment under sump tank, just beside fresh water fill connection. (Figure 1) Do not forget to close when drainage is completed.

Fresh water reservoir filling

Plug the fresh water supply connector in the "Hansen" quick release male connector located under the sump tank. Fill the reservoir until the overflow tube leaking at rear of coach signals that the reservoir is full.

WARNING: Never refill fresh water reservoir with antifreeze.

CAUTION: Under cold weather conditions, unless the fresh water reservoir heater is operating, water should not be left in reservoir as it might freeze and damage both reservoir and connecting lines.

Sump tank draining

In order to dump the content in a sewer outlet located on the R.H. side, a flexible drain hose has been provided in lavatory compartment. (Figure 2) Pull out completely the flexible drain hose from the plastic tube, remove the protector cap on the outlet tube under vehicle and hook up the hose in place. (Figure 3)

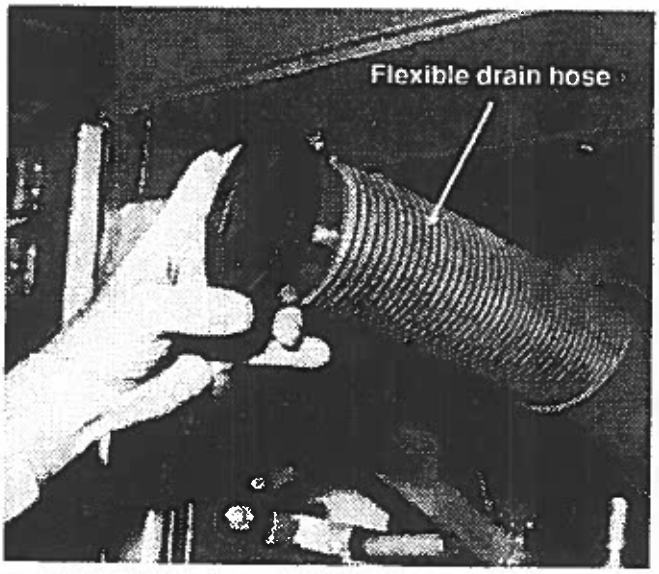


Figure 2

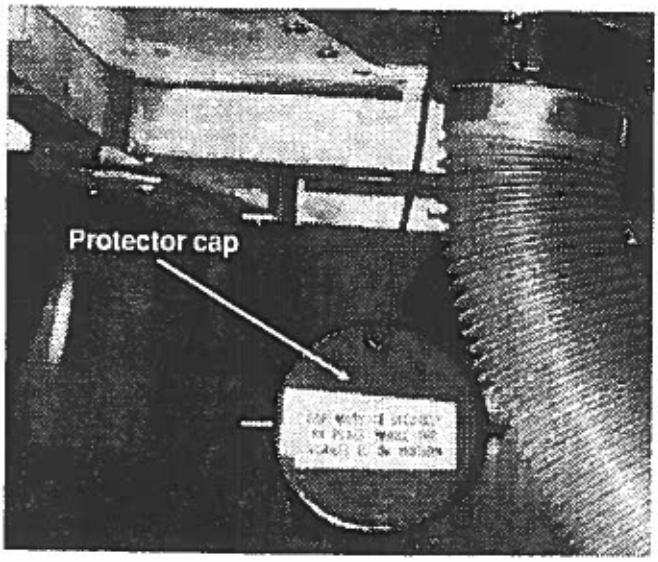


Figure 3

To drain, pull open slide valve handle located on dump tube under sump tank. (Figure 4) To flush, remove the large size circular cap by unscrewing a few turns the handle over the sump tank, and spray water under pressure while dump tube slide valve is still opened. It is recommended to flush clean the tank with a hose, especially around pump cage at each servicing.

NOTE: It is against the law to dump sump tank content on the ground.

CAUTION: Cap must be replaced to protect drain tube and valve from road dirt.

Servicing lavatory tanks should be done at facilities suitably equipped.

After emergency drainage, lavatory should be again serviced by maintenance personnel.

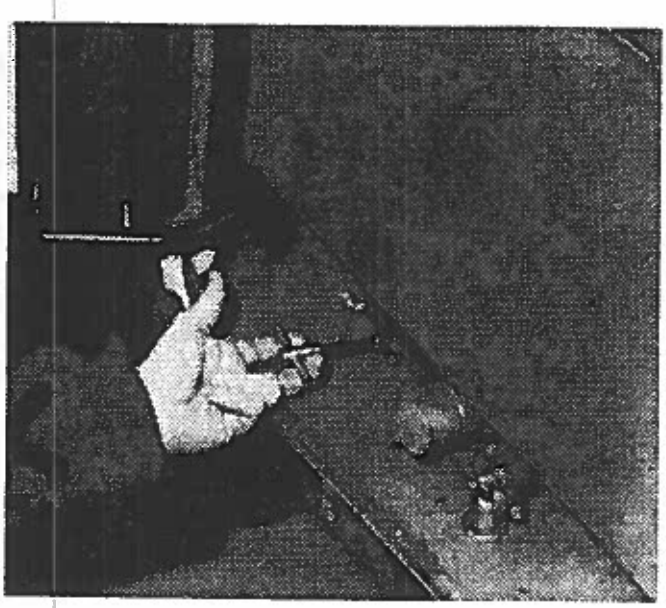


Figure 4

Sump tank filling

Unscrew the sump tank level valve (Figure 1). Remove the large circular cap by unscrewing a few turns the handle over the sump tank. Fill the tank with 2 gallons (9 liters) of an antifreeze solution, then add water until the solution flows by the level valve, then turn off sump tank level valve.

CAUTION: Do not overfill lavatory tank as damage may occur to the pump. Fresh water flowing through the lavatory washbasin drain will flow in sump tank, thus diluting the antifreeze solution. Proper maintenance of sump tank will prevent its freezing.

Flexible hose maintenance

The performances of engine and equipment are greatly related to the ability of flexible hoses to supply lubricating oil, air, coolant, and fuel oil. Maintenance of hoses is an important step to ensure efficient, economical, and safe operation of the engine and related equipment.

Pre-starting inspection

Check hoses daily as part of the pre-starting inspection. Examine hoses for leaks, and check all fittings, clamps, and ties carefully. Ensure that hoses are not resting on or touching shafts, couplings, heated surfaces including exhaust manifolds, any sharp edges, or other obviously damaging areas. Since all machinery vibrates and moves to a certain extent, clamps and ties can fatigue with time. To ensure proper support, inspect fasteners frequently and tighten or replace them as necessary.

Leaks

Investigate leaks immediately to determine if fittings have loosened or cracked, and also if hoses have ruptured or worn through. Take corrective action immediately. Leaks are not only potentially detrimental to machine operation, but can also result in added expenses caused by the need to replace lost fluids.

CAUTION: Personal injury and or property damage may result from fire due to the leakage of flammable fluids, such as fuel or lube oil.

Service life

A hose has a limited service life. The service life of a hose is determined by the temperature and pressure of the gas or fluid within it, the time in service, the mounting, the ambient temperatures, amount of flexing, and the vibration it is subject to. With this in mind, it is recommended that all hoses be thoroughly inspected at least every 500 operating hours and/or annually. Look for surface damages or indications of damaged, twisted, worn, crimped brittle, cracked, or leaking lines. Hoses having the outer surface worn through or a damaged metal reinforcement should be considered unfit for further service.

Is is also recommended that all hoses in this vehicle be replaced during major overhaul and/or after a maximum of five service years. Replacement hose assemblies should always be equal to or superior to the O.E.M. equipment.

Lubrication

Engine crankcase

Engine crankcase oil should be checked daily or before starting each run, and oil added to bring the level to the proper mark on the dipstick. A new oil filter element should be installed each time the crankcase oil is changed.

The oil change period is dependent on operating conditions (e.g. load factor etc.) of the engine and will vary. It is recommended however, that the oil change interval be performed after every 300 operating hours at an average vehicle operating speed (12,000 miles or 20,000 km approx.).

The drain interval may then be gradually increased or decreased with experience on a specific lubricant, taking into account the recommendations of the oil supplier (analysis of drained oil can be helpful), until the most practical oil drain period for the particular service condition has been established.

Solvents should not be used as flushing oils. Dilution of the fresh refill oil supply can occur, which may be detrimental.

Full flow oil filtration systems have been used in Detroit Diesel engines since they have been manufacturer. For best results, the oil filter element should be replaced each time oil is changed.

Engine oil temperature should be checked every 25,000 miles (40,000 km) to determine oil cooler efficiency. This check should be made by inserting a steel jacketed thermometer in the dipstick opening, immediately after stopping a hot, loaded engine. If the oil temperature exceeds the coolant temperature by more that 60° F (33° C), the oil cooler may be clogged.

Differential

Break-in period for differential oil is 1000 miles (1,600 km) and must not exceed 3,000 miles (5,000 km) of initial operation. So, drain accordingly to break-in periods, then every year or 50,000 miles (80,000 km).

Central joint (articulation)

The articulation mechanism should be lubricated at every 7,000 to 20,000 miles (10,000 to 30,000 km) interval, depending on operating conditions, or every three months, whichever occurs first.

The pivot bearing, the articulation brake, and the shock absorber grease fittings are connected to a grease manifold located under the front half turntable. Another grease fitting for the connecting arm pivot pin is also accessible under the front turntable, but the contact surfaces of the turntable teflon ring should be greased by hand, in order to prevent noisy articulation.

All other articulation components and linkages are prelubricated and require no further lubrication.

If you need assistance, proceed as follows:

1. Refer to the SERVICE CENTER DIRECTORY supplied with your vehicle.

2. Discuss the matter with the nearest PREVOST CAR INC. distribution center SERVICE DEPARTMENT.

3. If your problem remains unsolved, contact your nearest PREVOST CAR INC. SERVICE REPRESENTATIVE at the following numbers:

WESTERN U.S.A.

(213) 325-6643

(800) 421-9958

(800) 421-9957 (California)

Center U.S.A.

(615) 876-9705

EASTERN U.S.A.

(201) 933-3900

(800) 223-0830 (Outside New Jersey)

(800) 223-0807 (In New Jersey)

CANADA

(418) 883-3391

- Should you still not be satisfied, feel free to contact the SERVICE MANAGER AT PREVOST CAR INC.

We will be pleased to help you!

DISTRIBUTION CENTERS

Bus & Bodies, Inc.

Route 125, P.O. Box 464
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Dennis Ciniero
Service Representative
(603) 382-7377
(800) 537-7700

Prevost Car, Inc.

7451 Wilson Boulevard
Jacksonville, Florida 32210

Joseph Muscorella, Branch Manager
(904) 778-4499
(800) 322-2057 (Florida)
(800) 874-7740 (Out of state)

Prevost Car, Inc.

862 Valley Brook Avenue
P.O. Box 268
Lyndhurst, New Jersey 07071

Joseph Craig,
Vice President and General Manager
(201) 933-3900
(800) 223-0807 (New Jersey)
(800) 223-0830 (Out of state)

Prevost Car, Inc.

22831 Frampton Avenue
Torrance, California 90501

(213) 325-6643
(800) 421-9957 (California)
(800) 421-9958 (Out of State)

Central States Prevost, Inc.

2513 East Higgins Road
Elk Grove Village, Illinois 60007

Richard D. Bingham, President
(312) 364-4788
(800) 323-0312 (Out of state)
(800) 942-9205 (Illinois)

Prevost Car, Inc.

35 Boulevard Gagnon
Ste-Claire
QC, Canada
G0R 2V0

Denis Lafleur, Service Manager
(418) 883-3391

SERVICE LITERATURE

Additional copies of the following service literature are available on request and at low cost. These will be helpful to your mechanics and drivers.

- **Operator's manual**
- **Maintenance manual**
- **Parts manual**
- **Service center directory**

To order the desired manual (s), please contact your local distributor or write to:

PREVOST CAR, INC.

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