PREVOST®

Operator's Manual

XL SERIES
MOTORCOACH

PA-1117

PREVOST®

Operator's Manual

PREVOST CAR INC.
Technical Publications
After Sales Service Department

FOREWORD

This DRIVER'S MANUAL has been prepared in order to allow the driver to become familiar with the vehicle and his principle of operation. It is important to understand the complete operation of the vehicle in order to obtain maximum comfort and safety.

Although the mere reading of such information does not eliminate the unforeseen, your understanding of the information will promote the correct use of the vehicle. We suggest that this manual remain with the vehicle at the time of resale and that PREVOST CAR INC. be informed of such a sale in order to update its file.

All informations and specifications in this manual are current at time of printing. However, because of PREVOST's policy of continual improvement, we reserve the right to make changes at any time without notice.

Please note that this manual applies to motorcoaches manufactured by PREVOST CAR INC. and explains all equipment including options installed in our factory. Therefore, you may find explanations for equipment not installed on the vehicle.

The following symbols and wordings are used to emphasize particular information:

● **Warning:** Identifies instructions which if not followed, could cause personal injury.

■ **Caution:** Denotes instructions which if not followed, could severely damage vehicle components.

☐ **Note:** Indicates supplementary information needed to fully complete an instruction.

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We suggest the following:

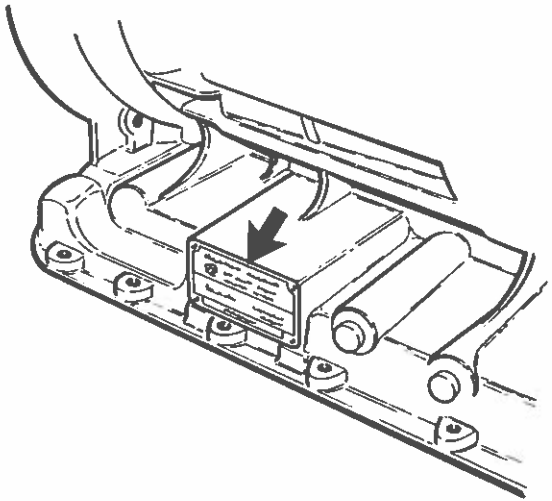
- Make sure the basic principles of operation of the vehicle are understood.
- Maintain the vehicle in good running condition.
- Do not drive with an extremely low fuel level.
- Only perform procedures as detailed in this manual.
- Unless otherwise specified, engine should be turned «OFF» for all lubrication 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 or manual transmission is inadequate when the vehicle is towed.
- Fire extinguisher(s) should be located just below the modesty panel near the entry door. In case of fire, get everyone out of the vehicle then take the time to think before you attempt to fight the fire.

☐ **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.

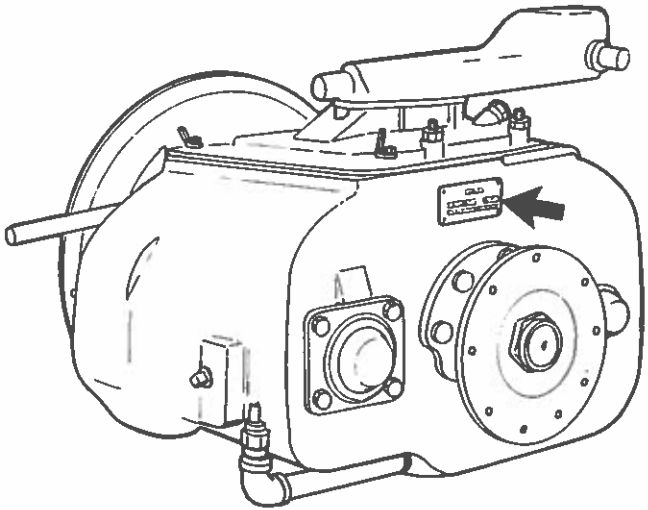
HOW TO IDENTIFY THE VEHICULE

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.

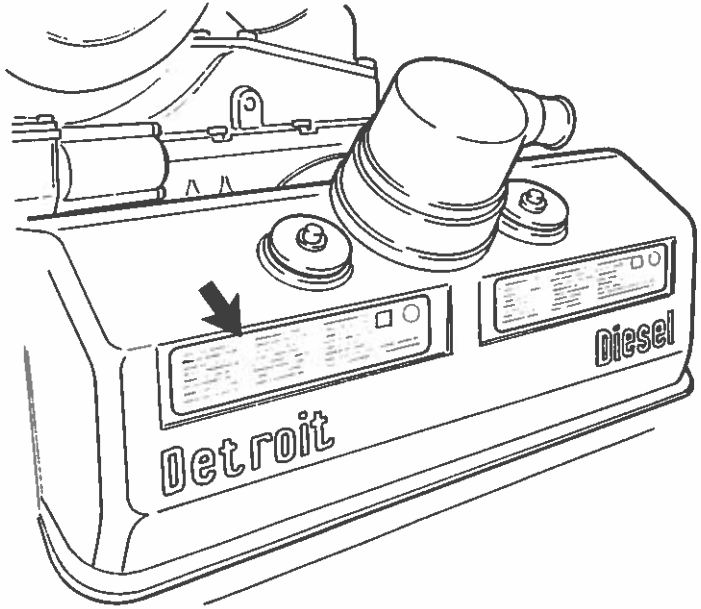
Automatic transmission

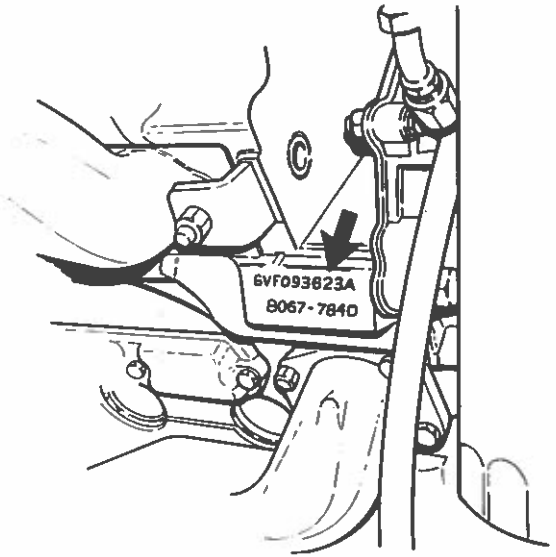


Manual transmission

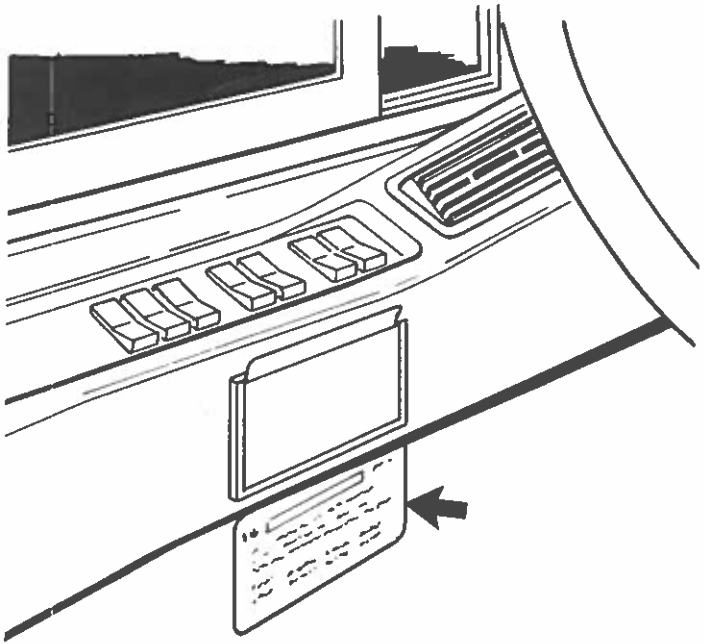


Engine

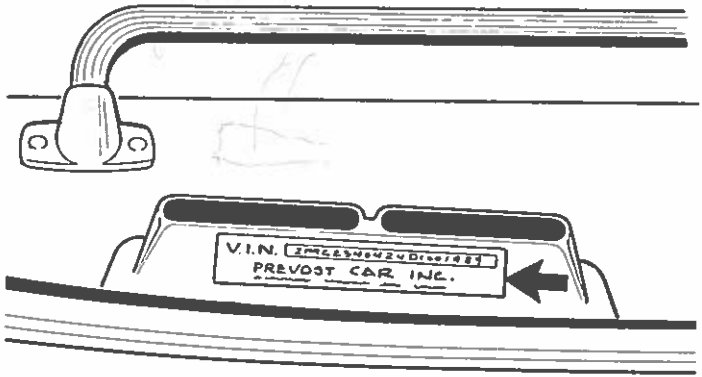




Body

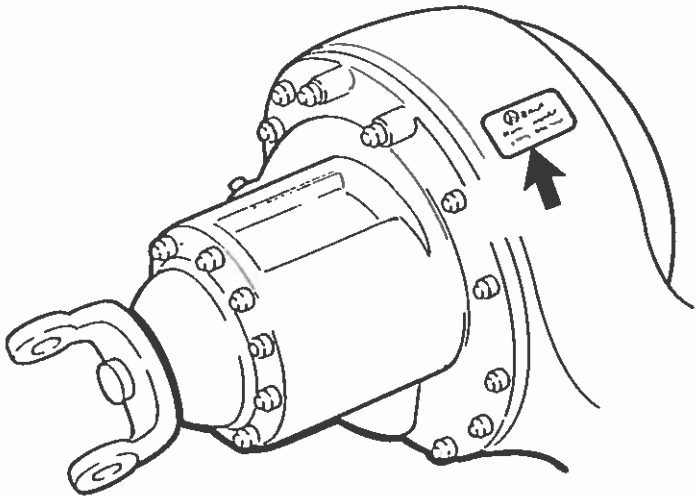


Dashboard side R.H.

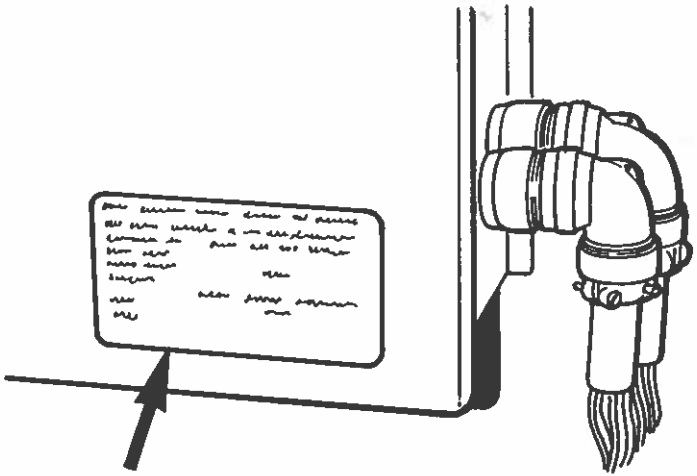


☐ **Note:** We strongly recommend that you take note of all the serial numbers on the vehicle and supply them to your insurance company. It may be useful.

Differential



Rear electrical box



Exhaust emission control information decal.

TECHNICAL DATA

VEHICLE LENGTH (MAXIMUM)	40 ft (1219 cm)
VEHICLE HEIGHT (MAXIMUM)	130 in (330 cm)
VEHICLE WIDTH (MAXIMUM)	102 in (260 cm)
TURNING RADIUS	43' (1310 cm)
TIRES SIZE	
Tube type	11 x 20
Tubeless	12 x 22.5
FUEL TANK CAPACITY	160 US Gal. (606 litres)
FUEL TYPE	ASTM No. D 975
Grade no. 1	recommended
Grade no. 2	acceptable

ENGINE CRANKCASE CAPACITY (US QTS)

ENGINE	CRANKCASE	FILTER	OIL COOLER REGULAR	OIL COOLER AUTOMATIC
8V71	23 (22 litres)	2 US QTS (2 litres)	1 (1 litres)	1.5 (1.4 litres)
6V92	19.5 (18.5 litres)	2 US QTS (2 litres)	1 (1 litres)	1.5 (1.4 litres)
8V92	23 to 25 (22 to 24 litres)	2 US QTS (2 litres)	1 (1 litres)	1.5 (1.4 litres)

COOLING SYSTEM CAPACITY (Including heating system)	27.6 US Gal. (104.5 litres)
TRANSMISSION CAPACITY	
Manual transmission 6 speeds	5 US Gal. (19 litres)
Automatic transmission	8.1 US Gal. (30.7 litres)
HYDRAULIC STEERING RESERVOIR CAPACITY	9.6 US Qts (9.1 litres)
REAR AXLE CAPACITY	
with oil seal	13.7 US Qts (13 litres)
with grease seal	13.2 US Qts (12.5 litres)
BELT TYPE:	
Fan drive:	Gates V80 CX96
A/C compressor:	Gates 3A92
VEHICLE WEIGHT DRY (6 CYL. MAN.)	
Prevost XL	27,395 lbs (12,425 kg)
Le Mirage XL	27,100 lbs (12,292 kg)
G.V.W.R.	40,000 lbs (18,145 kg)

G.A.W.R.

AXLE	LB	KG	TIRES WITH RIMS	TIRE PRESSURE (COLD) RECOMMENDED	MAXIMUM
front	13,000	5,900	12R22.5 22.5 x 8.25	95 psi	115 psi
drive	22,000	9,980	12R22.5 22.5 x 8.25	100 psi	115 psi
third	10,000	4,540	12R22.5 22.5 x 8.25	85 psi	110 psi

■ **Caution:** The maximum tires pressure is established in accordance with the maximum allowable load on each axle. A lower pressure is required if the axle load is lower than the above specifications.

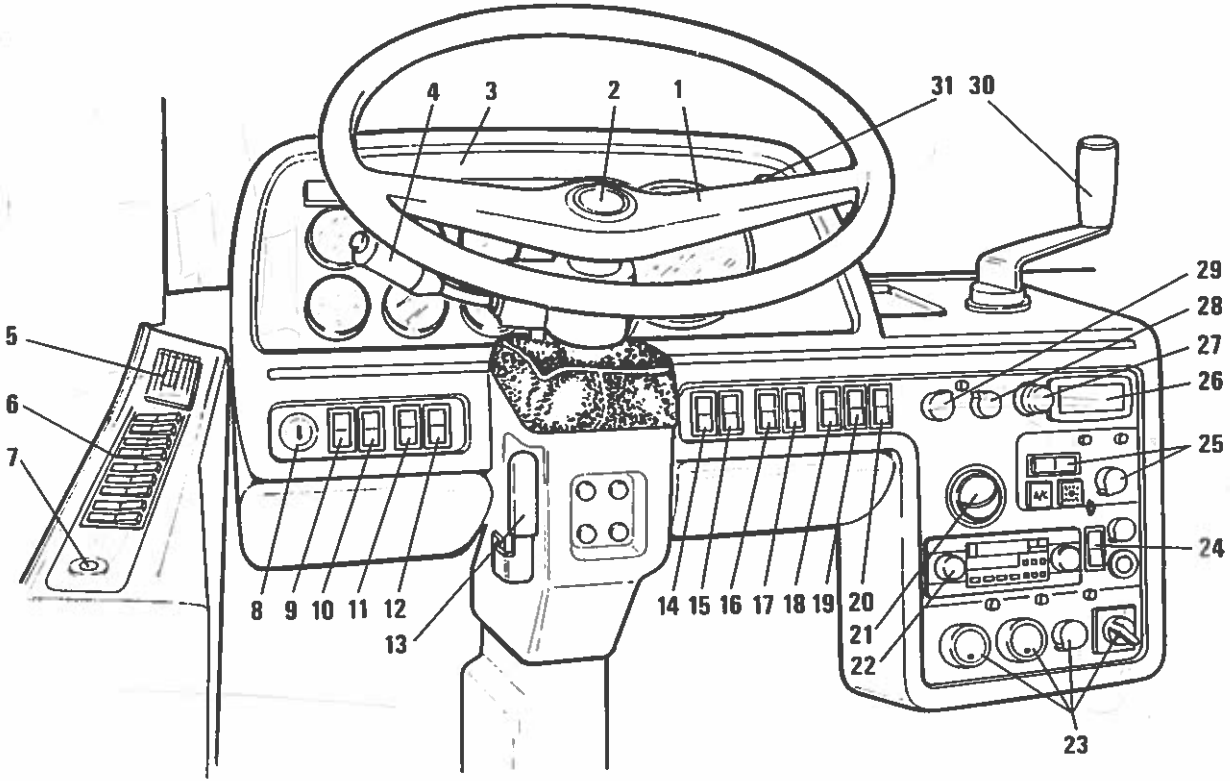
CONTROLS & INSTRUMENTS

All controls, gauges and switches used for normal driving, operation lighting, heating and air conditioning systems, are arranged in what will be referred to as the «Driver's Compartment». They are all readily accessible to the driver when seated.

The following pages will feature descriptions and illustrations of these as well as other controls and equipements which may be required under abnormal or emergency conditions.

DRIVER'S COMPARTMENT

1. Steering wheel
2. Electric horn
3. Gauge and indicator panel
4. Multifunction lever
5. Driver's air vent
6. Side switch panel
7. Plug for microphone
8. Ignition switch
9. Fast idle switch
10. Jacobs brake switch
11. Cold start switch (ether)
12. Emergency stop switch
13. Tilt & telescopic steering handle
14. Fog lamp switch
15. Clearance and identification light switch
16. Headlamp switch
17. Hazard flasher switch
18. Free cover
19. Free cover
20. Driver's seat heating
21. Driver's air vent
22. Radio system
23. Driver's heating and A/C system controls
24. Speaker selection switch
25. Central heating and A/C system controls
26. Ash-tray
27. Cigar lighter
28. RH windshield wiper control
29. LH windshield wiper control & washer control
30. Door opening handle
31. Driver's light rheostat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INDICATOR LIGHTS

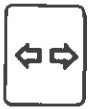
KNEELING: Lights when kneeling system is in operation. (see page 37)

LOW COOLANT LEVEL: Lights when radiator coolant level becomes too low in surge tank. (see page 76).

TAG-AXLE: Lights when tag axle wheels are up. (see page 36)

PRIMARY AIR: Lights when primary system air pressure becomes too low. (see page 77)

SECONDARY AIR: Lights when secondary system air pressure becomes too low. (see page 77)



TURN SIGNAL: Flashes ON and OFF when turn signals are operating. (see page 30)

HIGH BEAM: Lights when headlight high beams are selected. (see page 30)

BATTERY: Lights when alternator is not charging.

LAVATORY: Lights when lavatory door is locked.

PARKING BRAKE: Lights when parking brake is applied. (see page 36)

HAZARD: Lights when hazard switch is turned on.

OIL: Lights when engine oil pressure becomes too low. (see page 77)

HOT WATER: Lights when engine cooling system temperature becomes too high. (see page 79)

WATER SEPARATOR: Lights when water separator needs to be drained. (see page 103)

AIR CONDITIONING: Lights when A/C system is not working properly. (see page 66)

HEATING SYSTEM: Lights when hot water is circulating in the heating system even if selector is set to "A/C" position. (see page 66)

LOW FUEL LEVEL: Lights when fuel level does not allow you to cover a distance of approximately 75 miles (120 kilometers) or more. On vehicles equipped with a 250 gallons fuel tank, the distance allowed is approximately 90 miles (150 kilometers).

ALARM SYSTEM

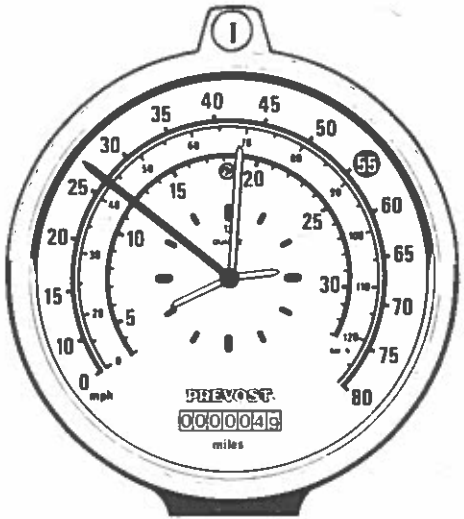
As an added protection to indicator lights, Prevost coaches are equipped with an audible alarm system which informs the driver of the following abnormal operating conditions:

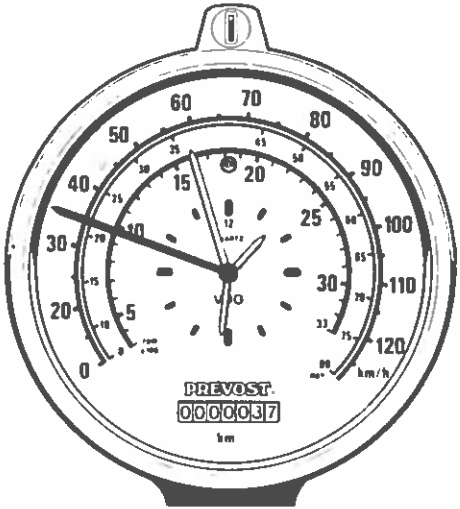
INDICATOR LIGHT	AUDIBLE ALARM	CONDITION
hot water	buzzer	Engine overheating
air Primary Secondary	buzzer buzzer	Low air pressure Low air pressure
oil	buzzer	Low engine oil pressure
tag axle	beeper	Tag axle wheels up
n/a	buzzer	Lavatory emergency button is pushed
n/a	chime	Button pushed by passenger
n/a	bell ringing	Fire in engine compartment

☐ **Note:** The fire detector alarm is located on top of driver's A/C & heating unit under dashboard.

GAUGES

TACHOGRAPH

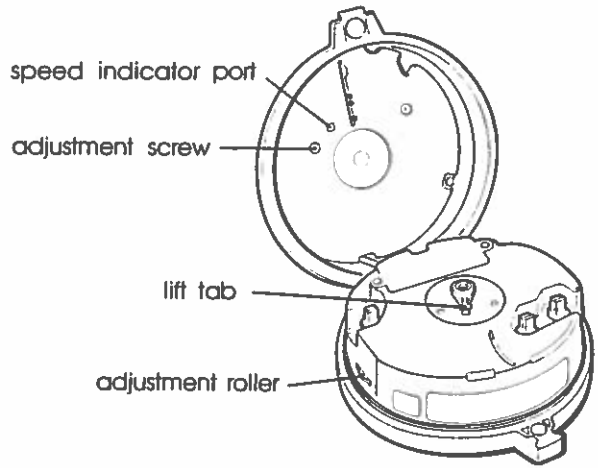




This multi-purpose tachograph includes:

- 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 (R.P.M.)
- clock: operates even if the main power switch is set to OFF position
- high speed indicator light: lights when vehicle speed reaches aproximately 65 M.P.H. (110 km/h)
- paper recording of speedometer and tachometer, for a 24 hours or seven days period.

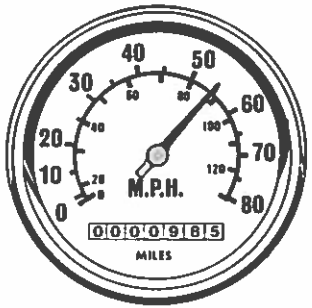
To change paper inside tachograph, open the tachograph cover using the key provided, lift the paper retaining tab, and replace paper with the M.P.H. (or km/h) side pointing towards the tab. Then replace lift tab and close cover.

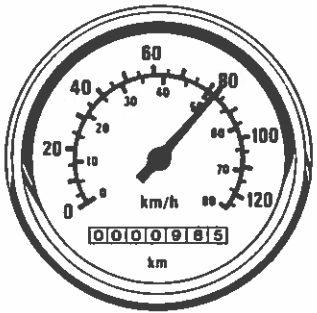


Caution: Do not run engine without paper or with damaged paper in tachograph as it may damage tachograph mechanism. Replace paper as required.

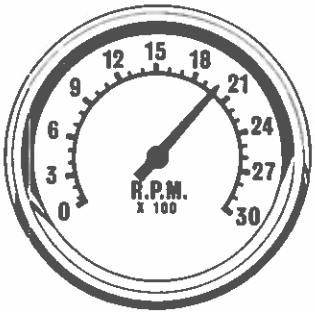
To reset the clock, open the tachograph cover using the key provided, and turn the adjustment roller on L.H. side of tachograph.

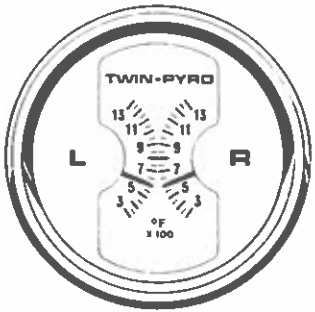
To adjust high speed indicator light, open tachograph cover using the key provided with a small straight screwdriver, turn the adjustment screw until the desired speed appears in the square port near the adjustment screw.





SPEEDOMETER: Indicates driving in M.P.H. or km/h. it includes an odometer to indicate the vehicle's accumulated mileage.

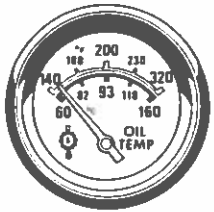




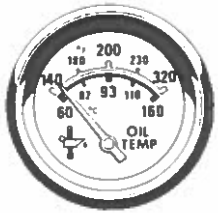
TACHOMETER: Indicates engine speed in hundreds of revolutions per minute (R.P.M.). Use it while driving to select correct shift points and to prevent engine from overreving during deceleration.

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

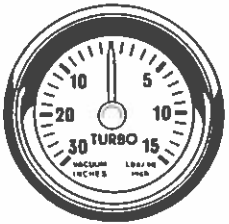
OIL TEMPERATURE GAUGES:



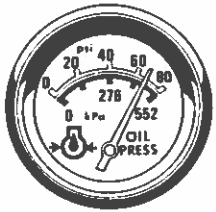
– for automatic transmission: indicates transmission oil temperature. Normal reading should be 160-250°F (70-120°C)



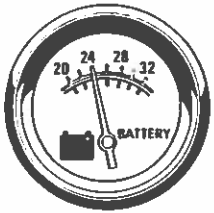
– for differential: indicates differential oil temperature. Normal reading should not exceed 250°F (120°C)



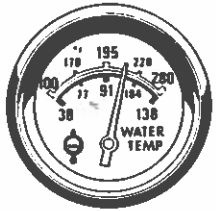
TURBO BOOST GAUGE: Indicates turbo pressure in inches of Hg or psi. Reading depends on engine R.P.M. and load conditions.



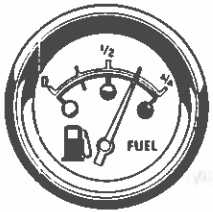
OIL PRESSURE GAUGE: Indicates engine oil pressure. Normal reading should be 35-75 psi (240-516 kPa) at full throttle.



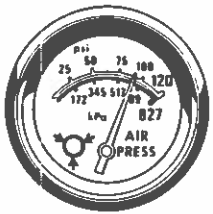
VOLTMETER: Indicates electrical system voltage. With engine operating, normal reading should be 24-27.5 volts.



WATER TEMPERATURE GAUGE: Indicates engine coolant temperature. Normal reading should be 170-195°F (76-90°C).



FUEL 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.



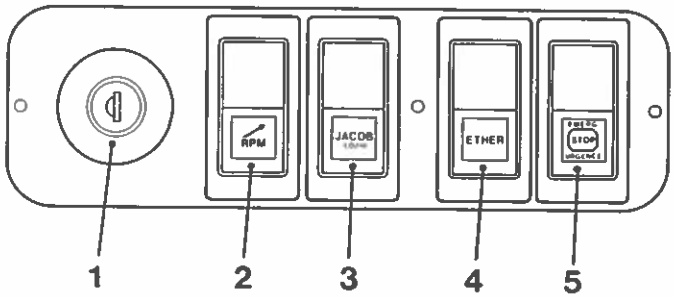
AIR PRESSURE GAUGE: Indicates air pressure in air system. Normal reading should vary from 90 to 125 psi (620 to 860 kPa).

☐ **Note:** Two air pressure gauges are used. The lower one indicates primary circuit air pressure. The upper one is for the secondary circuit.

☐ **Note:** Dashpanel gauges should not be used for mechanical adjustments.

SWITCHES

L.H. SWITCH PANEL



1- **IGNITION:** This switch will activate electrical circuits when key is in "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.

☐ **Note:** Some vehicles may be equipped with two (2) rocker switches in replacement of ignition switch. Push the L.H. side rocker switch down to activate electrical circuits, then push the other rocker switch down to engage starter and release it as soon as engine starts.

2- **FAST IDLE:** Push rocker down to engage fast idle increasing idle to approximately 950 R.P.M. Should be used when stopping for a short period.

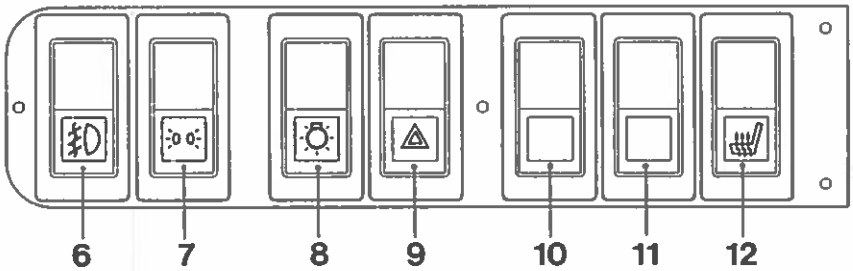
3- **ENGINE (JACOB'S) BRAKE:** Activates half (first position) or full (second position) engine brake system.

☐ **Note:** The use of the engine (Jacob's) brake system is not recommended on icy or wet roads or in congested traffic.

4- **COLD START (ETHER):** Actives ether cold start device in engine compartment. (Refer to cold weather starting on page 75)

5- **EMERGENCY STOP:** Push down rocker to engage engine stop mechanism if engine runs out of control. This is for emergency use only (not supplied on turbocharged engine).

R.H. SWITCH PANEL



6- **FOG LIGHTS:** Fog light switch will activate fog lights as well as tail and marker lights.

Before using fog lights, plastic protective fog light covers must be removed by pulling on their outer edge.

■ **Caution:** Do not operate fog lights when vehicle is stopped for more than two (2) minutes as this may reduce the life of the fog light bulb. Never operate fog lights with protective covers on.

7- **MARKER LIGHTS:** Push rocker down to operate marker lights.

8- **HEADLAMP:** Push rocker down to activate headlamps and marker lights.

9- **HAZARD:** Push rocker down to cause all turn signal lights to flash simultaneously. Indicator light will also flash.

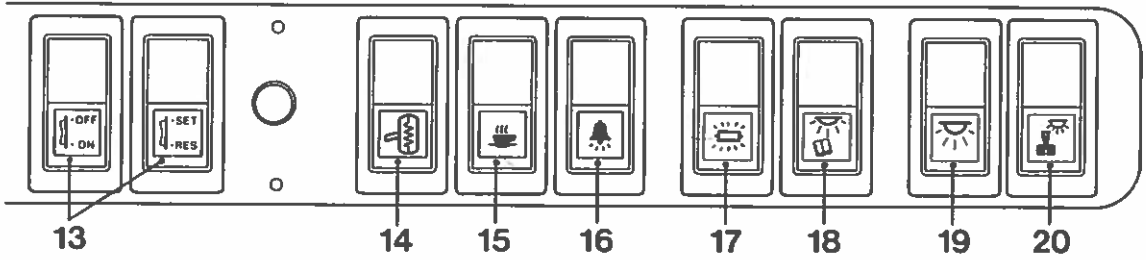
● **Warning:** "Hazard" flashing lights should always be turned on, day or night, when your vehicle is stopped along a highway or exposed locations for any reason, especially in case of emergency.

10- **COVER FREE (DUMMY)**

11- **COVER FREE (DUMMY)**

12- **DRIVER'S SEAT HEATING:** Push rocker down to activate heating system inside driver's seat cushions.

SIDE SWITCH PANEL



13- CRUISE CONTROL

To use cruise control, push button from «OFF» to «ON» position.

To engage, drive at a speed of approximately 30 M.P.H. or above and push on the «SET» button then release it. Remove foot from accelerator. Speed will be maintained automatically.

To lower speed, depress and hold «SET» switch in. Vehicle will slow down. Release to lock lower speed.

To accelerate (increase speed), push on «RESUME» switch and hold. Speed will increase. Release to lock higher speed.

To resume speed, after a brake application, with cruise control engaged, you may return to your previously set speed by pushing on the «RESUME» switch and releasing.

Speed may be increased at any time with normal pressure on accelerator.

The cruise control is disengaged by lightly depressing the brakes or by setting switch to «OFF» position.

On vehicles equipped with standard transmission, the cruise control system is disengaged each time the clutch is depressed, and is re-engaged when the clutch is released.

● **Warning:** The use of your cruise control is not recommended on icy or wet roads or in congested traffic. Get to know your cruise control and what it can do for you.

☐ **Note:** At a speed lower than 30 M.P.H., the cruise control system will not operate.

14- **HEATING MIRROR:** Push rocker down to heat exterior mirror. Operates only when main heating system is activated.

15- **GALLEY SYSTEM:** Push rocker down to operate galley system and refrigerator unit.

16- **CHIME:** Push rocker down to activate chime system allowing operation of chime buttons by passengers.

17- **FLUORESCENT LIGHTING:** Set switch to «ON» position to illuminate interior 24-volt fluorescent lights. Use of lights should be avoided when engine is not running.

18- **READING LIGHTS:**

Reading lights are controlled by two different switches. «Reading» switch on side switch panel to the left of driver energizes the whole reading light circuit when in "ON" position. Individual reading lights can then be activated by each passenger using switch incorporated in reading light body.

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

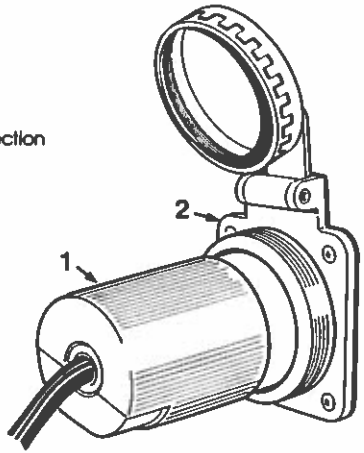
19- **DOME LIGHTS:** Set switch to «ON» position to operate aisle dome lights, located on front of parcel racks.

20- **DRIVER'S LIGHTS:** Driver's light switch set to on position will activate the two front ceiling lights above driver. These lights are frequently used for nighttime operation when passengers board or leave coach.

IN-STATION LIGHTING

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

Receptacle for in-station lighting is located at left front of coach between power steering compartment door and front axle. Power cable connected at this point will illuminate 20 interior fluorescent lights. Circuit breaker is located in power steering compartment mounted beneath driver's floor. It must be manually reset if opened.



In-station lighting external connection
1. Twist type power cable.
2. In-station lighting receptacle.

External connection should be 110-120 volt 60-cycle AC-power type only; power cable must be grounded. Power cable should be disconnected before coach is moved.

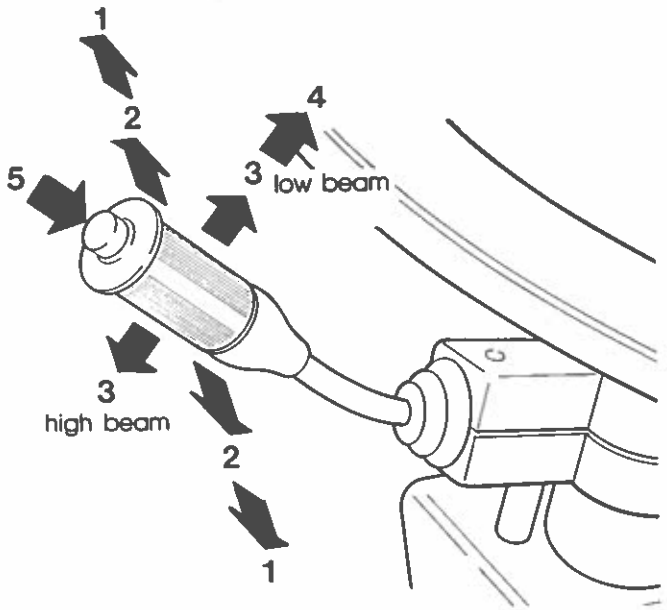
■ **Caution:** Power cable should be disconnected before coach is moved.

BAGGAGE COMPARTMENT LIGHTS

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

Engine compartment light can be illuminated by operating the corresponding switch which is located at the right side of the rear electrical panel.

STEERING COLUMN CONTROLS

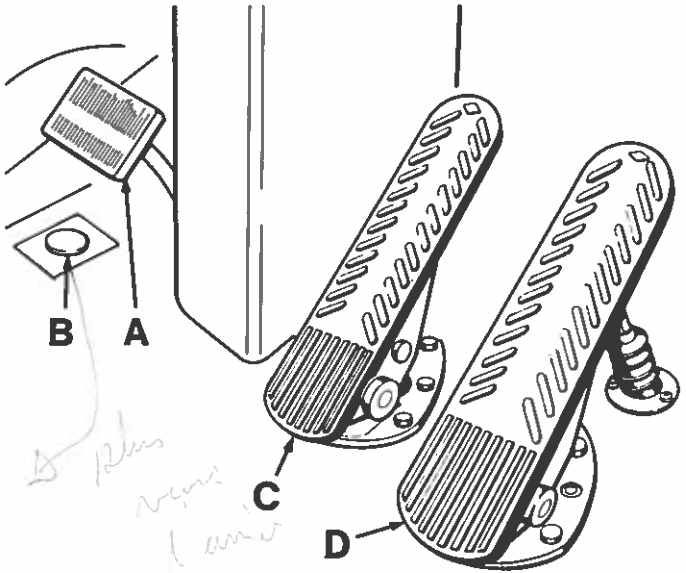


A. **"MULTIFUNCTION"** lever is used to operate the following accessories:

1. **TURN SIGNAL:** move the lever up to the second stop to signal a right turn, move it down to the second stop to signal a left turn. When the turn is completed, the signal will cancel and the lever will return to horizontal.
2. **LANE CHANGE SIGNAL:** move the lever part way to the first stop, and hold it there. The lever will return to horizontal when you release it.
3. **HEADLIGHT BEAM CHANGER:** high beam or low beam can be selected by respectively pushing the lever towards the dashboard or pulling it towards the driver.
4. **HEADLIGHT FLASHER:** high beam 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.

B. **ELECTRICAL HORN:** can be operated by pressing button at center of steering wheel.

FOOT OPERATED CONTROLS



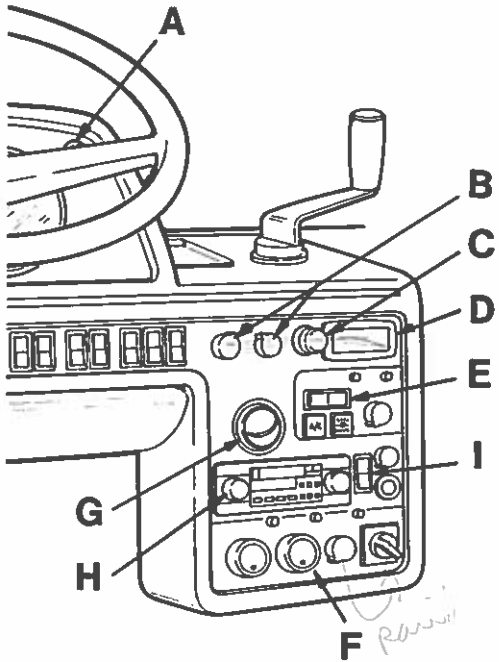
A- **CLUTCH PEDAL:** engages or disengages engine clutch when partially depressed. Also activates transmission clutch brake when fully depressed, to assist driver to engage 1st or reverse gear from neutral on complete stops only. A warning decal is provided on dashboard.

B- **AIR HORN VALVE:** sounds air horn.

C- **BRAKE PEDAL:** applies service brakes.

D- **ACCELERATOR PEDAL:** controls engine R.P.M.

DAHSBOARD CONTROLS



A. **DASH LIGHT RHEOSTAT:** controls instrument and switch panel illumination light intensity.

B. **RIGHT AND LEFT WINDSHIELD WIPER CONTROLS:** activate the right and left windshield wipers.

Push the left button to activate windshield washers on both sides. (see page 33)

C. **CIGAR LIGHTER (12 VOLTS):** push button to operate, release will be automatic. Operates on 12-volt system.

D. **ASH-TRAY:** push lightly side to rotate to open position. To remove, press on tab located inside ash-tray.

E. **CENTRAL A/C & HEATING SYSTEM CONTROLS:** controls temperature for A/C and heating mode inside vehicle. (see page 65)

F. **DRIVER'S A/C & HEATING SYSTEM CONTROLS:** controls temperature and air flow in driver's compartment. (see page 67)

G. **CONSOLE AIR OUTLET:** this air outlet is manually adjustable. Direct air flow as required.

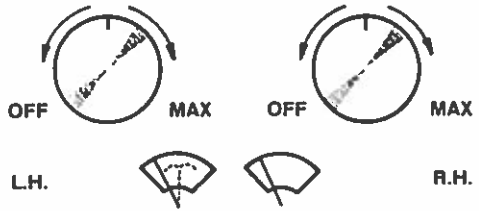
☐ **Note:** An additional air outlet is located on the panel to the left of the driver. It is also manually adjustable to permit side window defrosting.

H. **HI-FI ENTERTAINMENT SYSTEM:** includes a Hi-Fi radio, tape and P.A. stereo sound system. Instruction for proper utilization of the radio system are inclued into the technical publications box delivered with the new vehicle.

I. **SPEAKER SELECTION SWITCH:**
Push on rocker switch to operate front or rear speakers separately, or front and rear speakers simultaneously (middle position).

WINDSHIELD WIPERS & WASHERS

Two air-operated windshield wipers are provided as standard equipment. Wipers are controlled by two small knobs mounted on dashpanel. Left knob controls left wiper and both windshield washers while right knob controls right wiper only.



To operate windshield wipers, turn knob clockwise and bring to desired speed. To stop wiper, turn knob to off position. Wipers will automatically park when control knobs are turned to extreme left.

To operate windshield washers, you must push on the L.H. windshield wiper knob and hold it in position. Washers will operate for some time; control knob must then be released for a few seconds, allowing pump to refill. When windshield washers are in use, windshield wipers should normally be on.

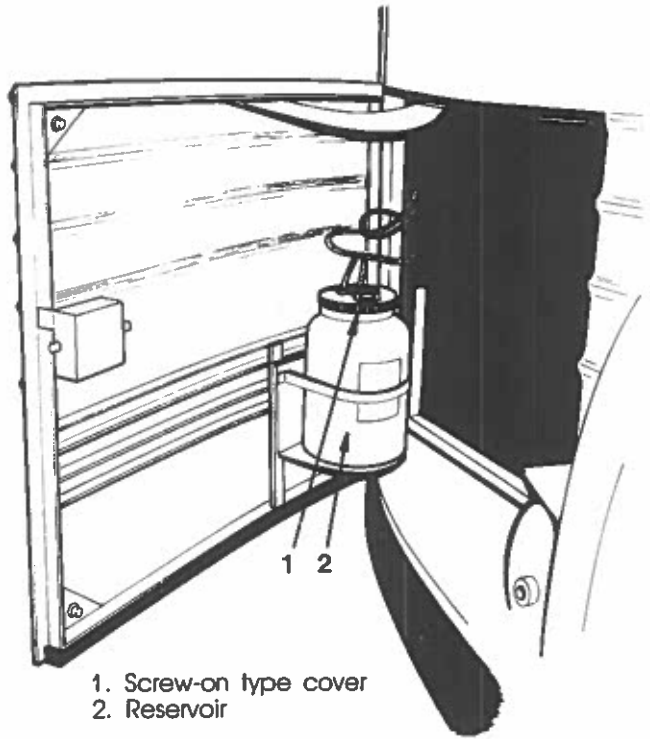
Windshield washer reservoir

Windshield wiper reservoir is located in front left compartment below driver's floor. This reservoir has a screw-on type cover and a capacity of approximately 1 gallon (4 litres). Reservoir supply should be checked regularly. A three (3) gallons (12 litres) capacity reservoir may also be provided as needed.

Spray jets are mounted under windshield wiper arms. The reservoir's fluid is forced by air pressure through rubber tubes into spray jets and into windshield.

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

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



1. Screw-on type cover
2. Reservoir

BRAKES & SUSPENSION

SERVICE BRAKES

The vehicle is equipped with a dual braking system, front brakes being independent of rear brakes. This brake system becomes a modulated emergency system if a pressure drop occurs in the rear brake system.

Service brakes are applied by depressing brake treadle located to left of accelerator pedal. The degree of foot pressure applied to treadle determines extent of brake application. For best braking action, initial application should gradually be increased to required rate of braking.

When brake treadle is depressed, vehicle stoplights automatically light up.

For safe brake effectiveness, vehicle air system pressure should reach 120 psi (825 kPa) in both primary and secondary circuits.

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

☐**Note:** Vehicles may be equipped with a parking brake overrule system, which will permit to drive the vehicle for a short period in order to reach a safe parking place. To operate, push down the control knob located beside the parking brake control knob, and hold it down while moving vehicle.

A «low air» indicator light is designed to go on and a buzzer to sound when air pressure in one or both systems drops below 65 psi (448 kPa). Vehicle should be stopped and problem reported to maintenance personnel.

● **Caution:** «Fanning» or «pumping» brake pedal is not recommended. This practice will not increase brake system effectiveness but will instead waste air and cause unnecessary wear on brake parts. «Fanning» or «pumping» does not increase brake line pressure but decreases both reservoir and line pressure. «Riding» the brake by resting foot on brake pedal even when not braking can cause abnormally high brake temperatures, excessive lining wear and possible damage to brake drums.

Parking brake should always be applied when vehicle is parked.

A- RETRACTABLE TAG AXLE

Retractable tag axle is part of standard equipment and is located directly behind the drive rear axle. Operation of the axle is controlled by a valve located on control panel at right of driver's seat alongside parking brake control knob. The valve can be flipped to either one of two positions, «wheels up» or «wheels down».

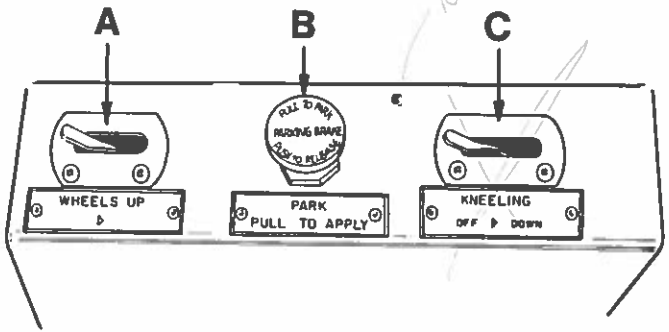
Axle will automatically be raised or lowered by air pressure according to switch position. Tag axle brakes operate only when axle is down.

Retractable tag axle should always be in down position for normal operation. It should never be lowered while vehicle is moving. When tag axle is up, the corresponding indicator lights up, and a buzzer sounds to remind you of this situation. Tag axle may be raised to help turning a short corner or to give additional traction to drive wheels on icy road.

■ **Caution:** Always raise tag axle before lifting vehicle to prevent damage to suspension components.

B- PARKING BRAKES

The vehicle is equipped with spring loaded parking brakes. Control valve knob is located at right of driver's seat, on the small control panel.



Spring loaded parking brakes are applied by pulling up control valve knob. They are not designed for use in normal braking: when vehicle is moving under normal conditions, control valve knob should be pushed all the way in. On the other hand, parking brakes can supplement service brakes to stop the vehicle in an emergency.

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).

● **Warning:** Parking brake should always be applied when vehicle is parked.

EMERGENCY BRAKES

In normal operation with full air pressure, if normal 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 to the drive axle.

C- KNEELING SYSTEM

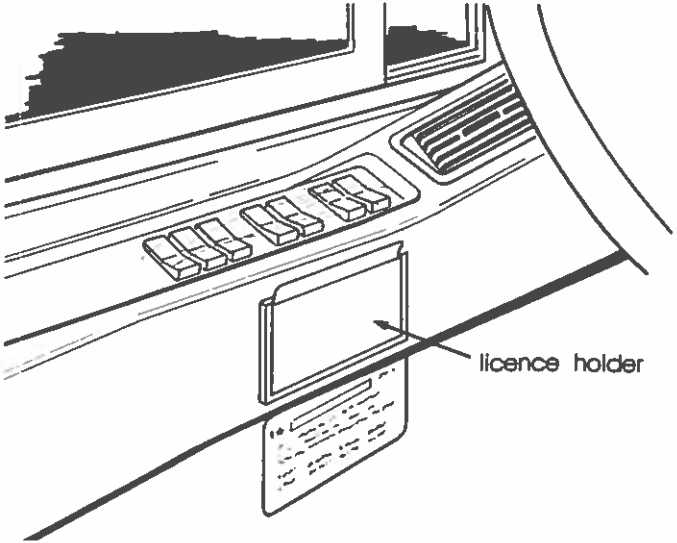
This system permits passengers to board and to leave the vehicle without any difficulty. It lowers the front of the vehicle in such a way that the entrance step is easier to reach for the passengers. To operate, stop the vehicle, set transmission shift lever to neutral position, apply parking brake then move kneeling system air control valve to the appropriate position. To disengage, reverse procedure.

☐ **Note:** Some vehicles may be equipped with an "Interlock" system which will automatically apply parking brake when kneeling system is activated.

■ **Caution:** Never run vehicle with kneeling control at "DOWN" position to prevent damage to suspension components.

DRIVER'S ACCESSORIES

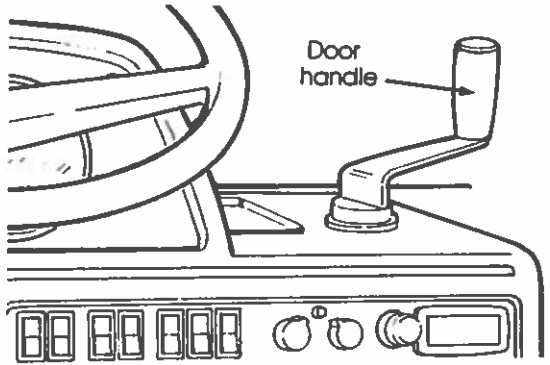
– **LICENSE HOLDER:** a licence holder is provided on L.H. side of driver, near ignition switch. You may also use this holder for your warranty Registration card.

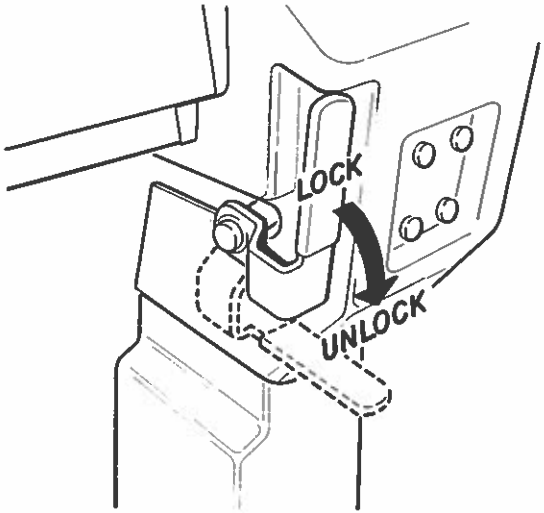


– **MIRROR:** one fully adjustable inside rear view mirror is provided between the two windshields.

– **ENTRANCE DOOR OPENING HANDLE:** turn counterclockwise to open and clockwise to close entrance door.

■ **Caution:** Fully push on door handle and ensure door is properly closed before moving vehicle. Door handle should be manipulated slowly to prevent damage to air lock system components.





– **TILT & TELESCOPIC STEERING COLUMN:** unlock using the handle located left of steering column. Pull handle down to permit 11 degrees variation of steering column angle, and two inches (5 cm) long telescopic steering movement. Push handle up to lock tilt and telescopic mechanism.

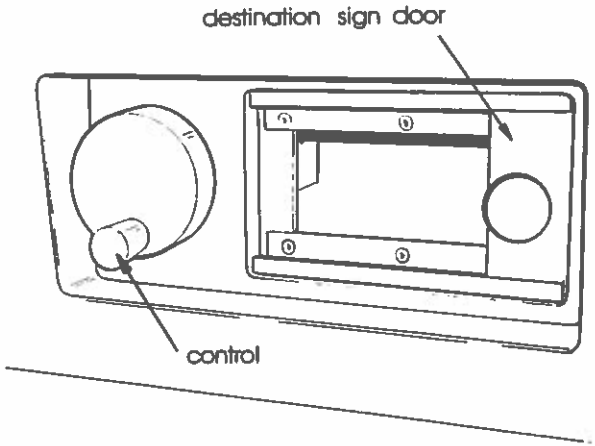
● **Warning:** Never unlock mechanism with vehicle in motion for it could result in loss of vehicle control.

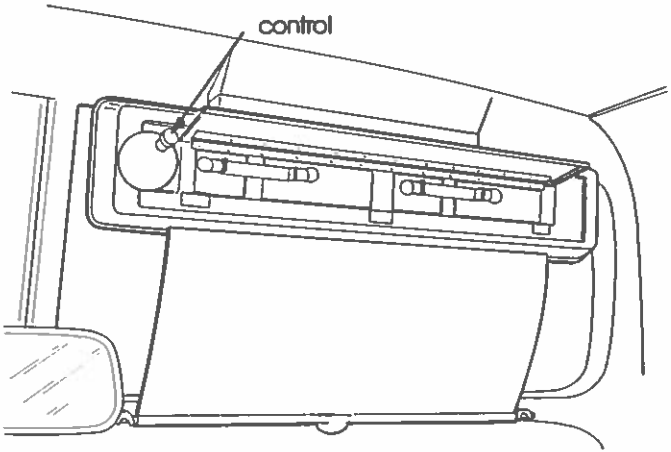
– **«PLEXIGLASS» & CURTAIN:** may be provided upon driver's guard for driver's privacy and security. Slide curtain and snap retaining strap to maintain curtain in position when not used.

– **SUN VISORS & BLINDS:** spring release type blinds are provided for windshields and L.H. side driver's window of "Le Mirage XL" model and sun visors on "Prevost XL" model. Blinds may also be provided for passenger's side windows on "Le Mirage XL" model.

– **DESTINATION SIGN:** proceed as follows to operate.

PREVOST XL: lower the driver's sun visor then slide the destination sign door to the right. Rotate control clockwise or counterclockwise until the desired destination has been selected, then close destination sign door and raise sun visor.





LE MIRAGE XL: rotate control clockwise or counterclockwise until desired destination has been selected.

DRIVER'S SEAT

Two (2) different types of driver's seats are available. The standard type is the «ISRI» seat with a mechanical suspension. The «NATIONAL» seat is also available upon request. Both types can be equipped with air suspension.

«ISRI» SEAT

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

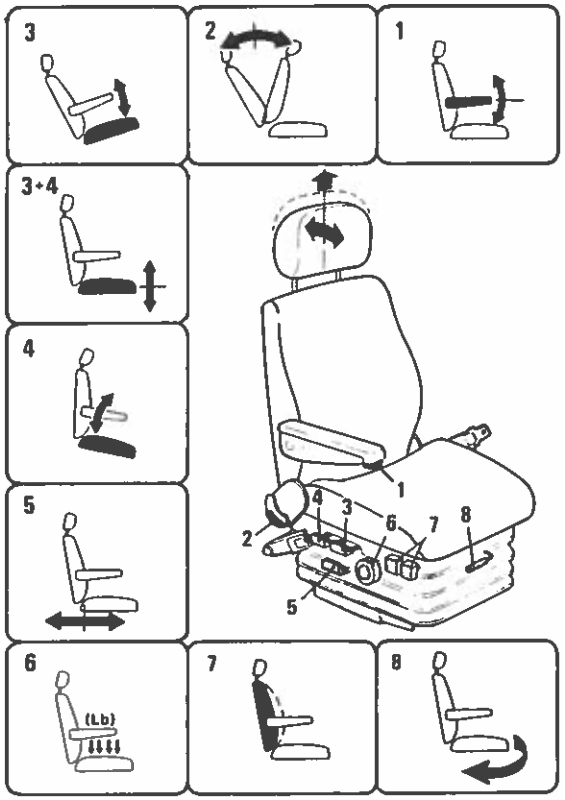
1- Turn control to adjust the desired height of the arm rest.

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 frontwards or backwards to control distance between driver and dash controls.

☐ **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 air switches to inflate lumbar supports bellows inside seat backrest, and push on lower section of rocker air switches to decrease inflation of bellows.

☐ **Note:** Rear and front rocker switches are respectively for lower and upper lumbar support bellows.

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

☐ **Note:** This control may also replace control no. 5 on certain seat models.

On «ISRI» seat equipped with air suspension, the suspension is self adjusting to the weight of the driver, thus deleting the suspension adjustment knob (6).

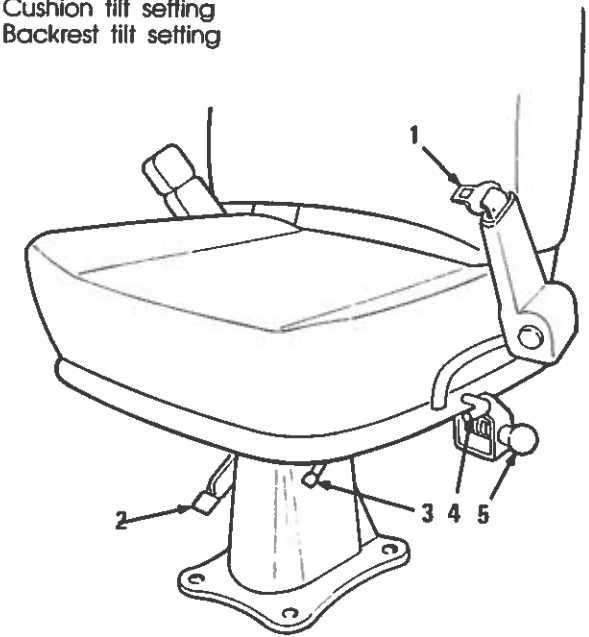
«ISRI» seat may also be equipped with back and seat heated cushions, operated by a dash panel mounted switch.

«NATIONAL» SEAT

On vehicles equipped with a «National» seat, the driver's seat may be adjusted fore-and-aft by pushing on the lever located at left front of seat. When seat is positioned, release lever. The backrest may be tilted by pulling the back tilt knob at the left rear side of seat. To return backrest to a forward position, grasp seat back and pull forward while pulling tilt knob. The back of seat cushion can be tilted up or down by grasping the cushion tilt lever at left center of driver's seat and turning forward to lower and backward to raise. To adjust seat height press down lever on right side of base and lower seat to bottom position, release lever and pull seat up to desired height. Release seat and it will lock in place.

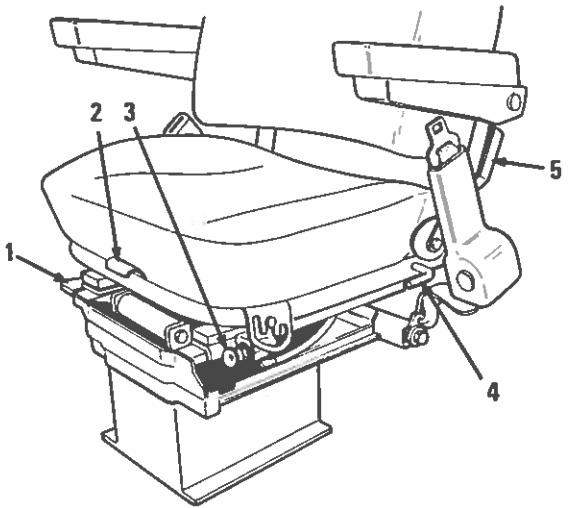
"National" seat (mechanical)

1. Driver's seat safety belt
2. Driver's seat height setting
3. Front and back setting lever
4. Cushion tilt setting
5. Backrest tilt setting



«National» seat (air suspension)

1. Frontward and backward setting lever
2. Thigh length setting
3. Air controlled height setting
4. Cushion tilt setting
5. Backrest tilt setting

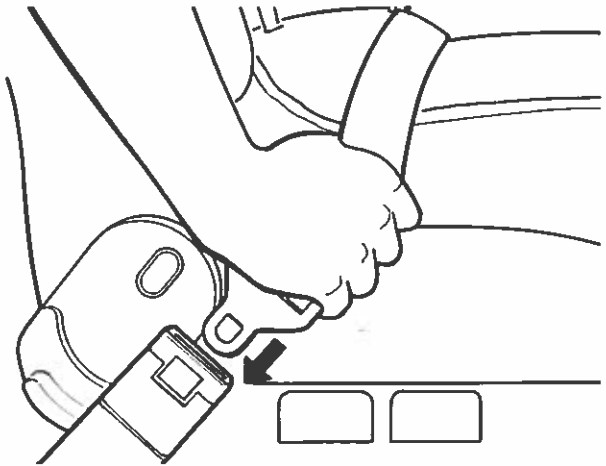


«National» seat with air suspension is similarly equipped, with some knobs replaced by levers and vice versa. Of course, driver's seat height setting is air controlled. Height sitting valve is located at left front of seat.

● **Warning:** Manual seat settings should never be adjusted when vehicle is moving to avoid unexpected changes that could result in loss of control of vehicle.

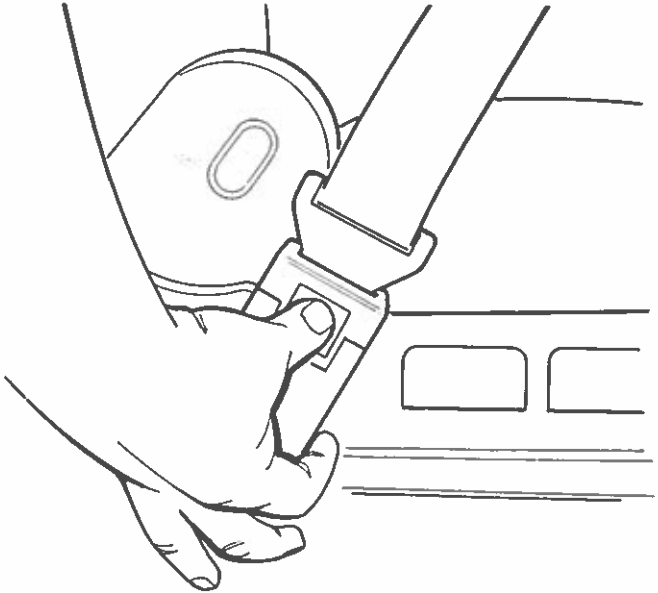
SEAT BELTS

Each seat is equipped with a retractable seat belt as required by State and Federal regulations. To fasten seat belt, pull it out 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 assembly 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 rectract completely and repeat the procedure correctly.

● **Warning:** A snug fit with the lap belt positioned low on the hips is necessary to help lessen the chance and/or severity of injury in the case of an accident. Also, never use the same belt for more than one person at a time; do not wear belts twisted; and do not let belts or belt hardware become damaged by pinching them in the seat.



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

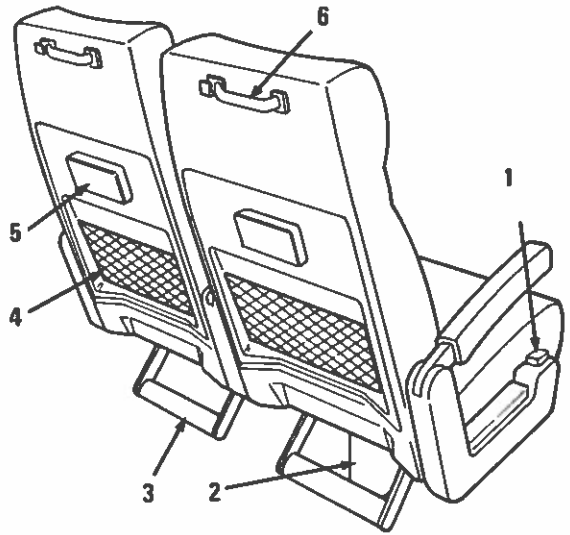
PASSENGER SEATS*

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

Passenger's seat back may be tilted and set conveniently by means of a recliner mechanism handle located on side of seat cushion. When lever is pulled backward and seat back is pushed down, seat will be set as required. Seat back adjustment mechanism is a spring loaded type adjustment. Seat back can be returned to original position by simply pulling recliner handle or pushing seat back itself. Folding armrests are provided in center and aisle side.

Passenger's seats may be equipped with the following options: ash-trays, newspaper holders, grip handles and foot rests.

* Effective with 1988 model year only.



Passenger's seat

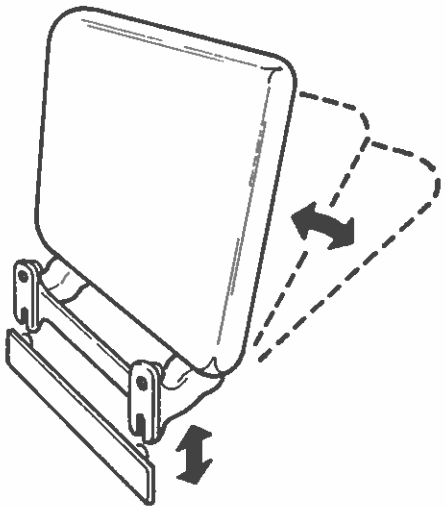
1. Backrest setting handle.
2. Oval aluminum pedestal.
3. Foot rests.
4. Newspaper holders.
5. Ash-trays.
6. Passengers' grip handles.

SWIVEL SEATS

Vehicle is equipped with two swivel seats located forward 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.

TOUR CONDUCTOR SEAT

A spring retractable tour conductor seat may be installed on R.H. side of driver's protection guard, simply by sliding seat frame downwards on attachment pins. To remove, just pull up seat frame.

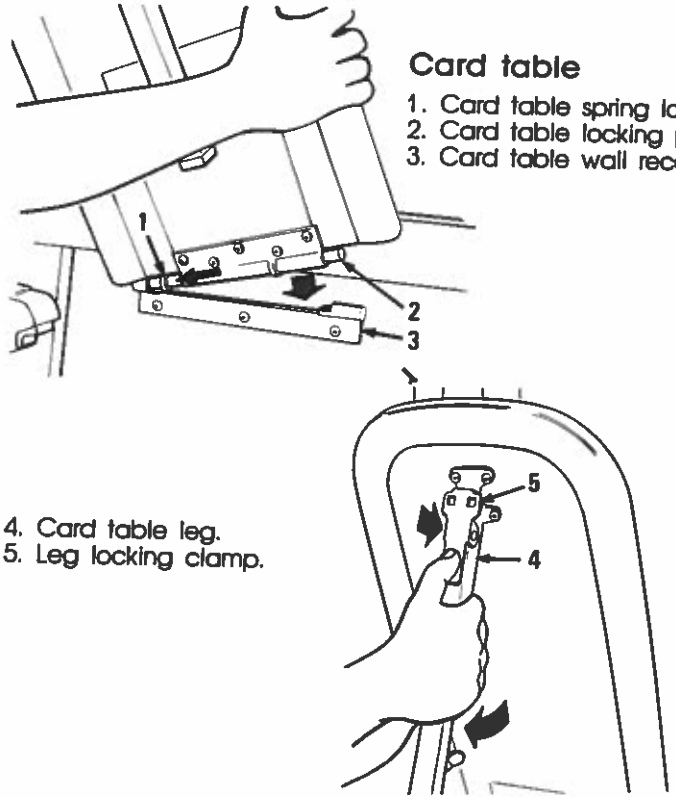


CARD TABLE

Several card tables, are part of standard equipment for passenger's convenience. When not in use, tables are stored in hat racks in their own protective envelopes. Installation and removal are very easy.

To be installed, card table should be removed from protective envelope and held at 45° with side wall. Card table spring loaded pin should be inserted into card table hinge affixed to vehicle side wall. Card table spring loaded pin mechanism will automatically push card table locking pin 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 locking leg clamp. Table should then be set and ready to use.



Card table

1. Card table spring loaded pin.
2. Card table locking pin.
3. Card table wall receiver.

4. Card table leg.
5. Leg locking clamp.

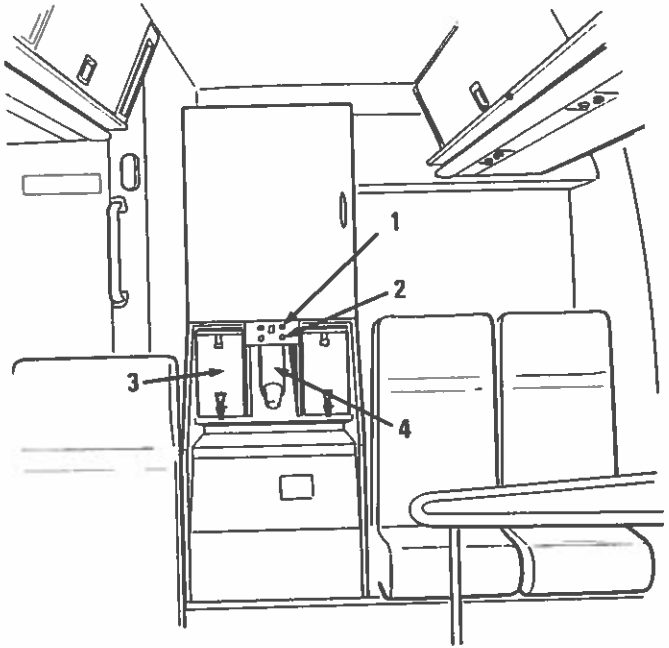
GALLEY

The vehicle may be equipped with a galley system located beside the lavatory wall. The galley may include two liquid containers, a refrigerator or an ice chest; refrigerator and liquid containers are operated on 24 volts, but galley with refrigerator can also be operated through a 110-120 volt A.C. extension cord in engine compartment.

To operate liquid container heater, set galley power switch on L.H. side of driver's switch panel to "ON" position. Then set one or both heater switches on galley unit to "ON" position; this will also activate heater indicator lights near switches.

■ **Caution:** Never heat an empty container to prevent damage to elements. To remove container, lightly lift the front and pull out container.

■ **Caution:** Set power switch to "OFF" position before removing container.



1. Switches
2. Indicator lights
3. Liquid container
4. Cup dispenser

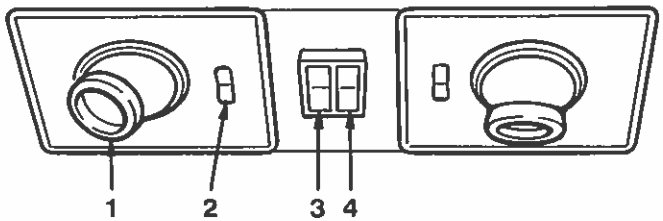
PASSENGER'S ACCESSORIES

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 out at next bus stop.



EMERGENCY EXITS

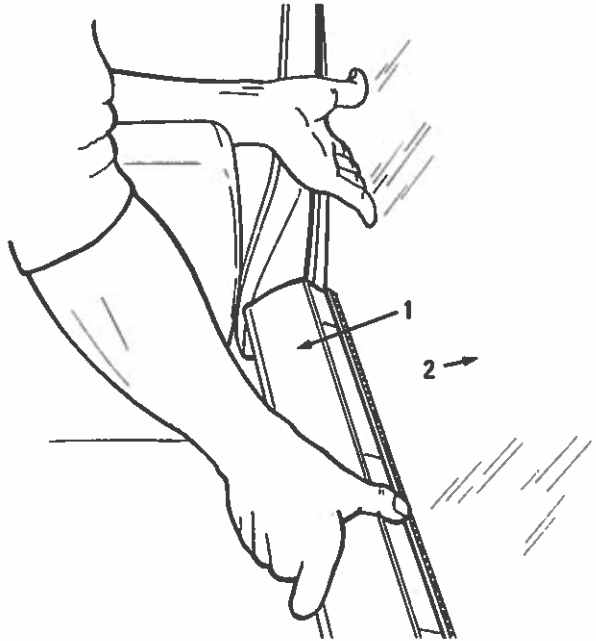
SIDE WINDOW EMERGENCY ESCAPE

In an emergency, on each side of the vehicle several passenger windows can be opened from the inside for escape. A blue light is provided above each side window which can be used as an emergency escape. An additional blue light is also installed in lavatory room, and all blue lights are operated with the marker light switch.

To operate, proceed as follows:

Le Mirage XL:

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



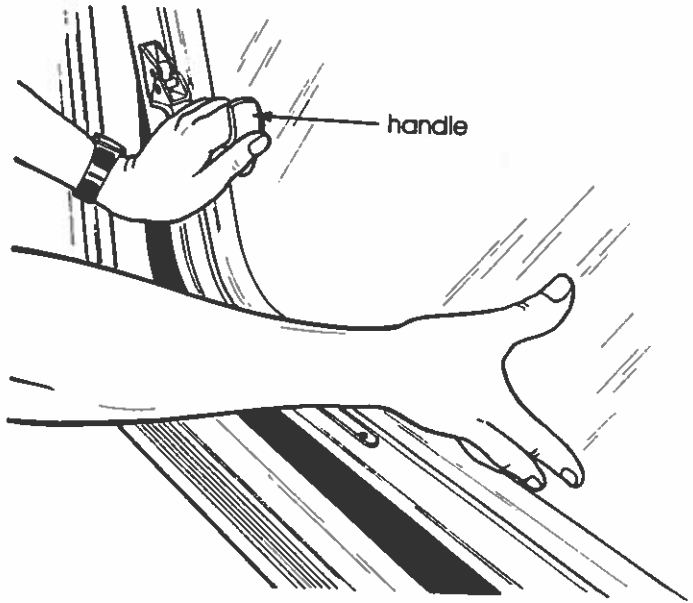
1. Aluminum window release bar.
2. Side window.

■ **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.

Prevost XL:

Windows can be opened by first pulling on the special handle provided to open the window, then pushing the window at the bottom. Instruction decals are affixed to window frame at each seat location.



EMERGENCY ROOF ESCAPE

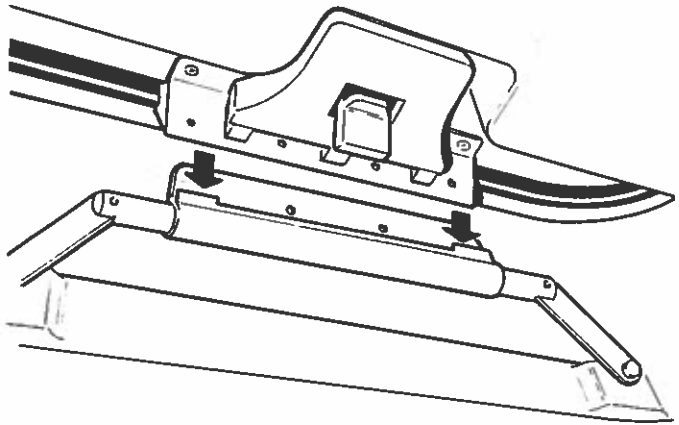
The emergency escape hatch located in the roof at rear of vehicle is designed to be opened from inside by passengers. A front emergency roof hatch may be provided as an option. To open in an emergency, push out ventilation hatch fully; then press black tab backward and push out handle still pressing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

☐ **Note:** Emergency roof escape can also be used to provide ventilation in the event of ventilation blower motor failure.

Roof emergency escape

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

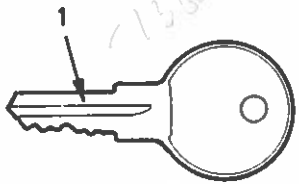
To close, insert angle, located rear of hatch handle, between the two sections of the white tab which has remained on the frame. Then pull in handle to lock hatch. Finally pull hatch in to close, one side after another.

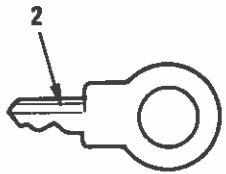


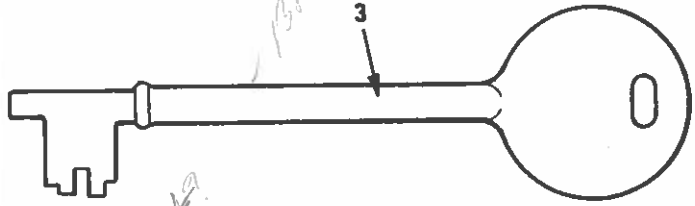
KEYS

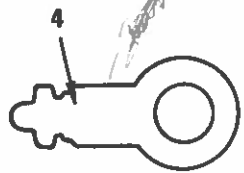
Seven (7) different key models are provided with new Prevost coaches, which are used for:

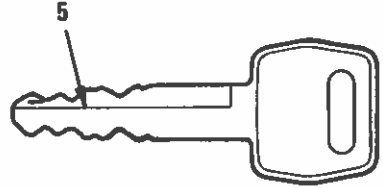
1) - Ignition switch
2) - Tachograph
3) - Lavatory door lock
4) - Towel dispenser lock
   - Toilet tissue dispenser lock
5) - Entrance door lock
   - Luggage compartment door locks
   - Front electrical & steering compartment door locks
6) - Interior rear compartment lock (Prevost XL)
7) - Driver's personal compartment locks (Prevost XL)

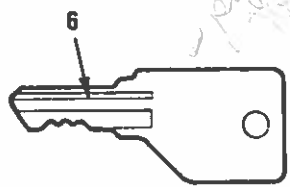


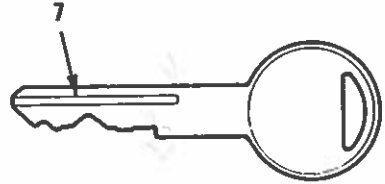










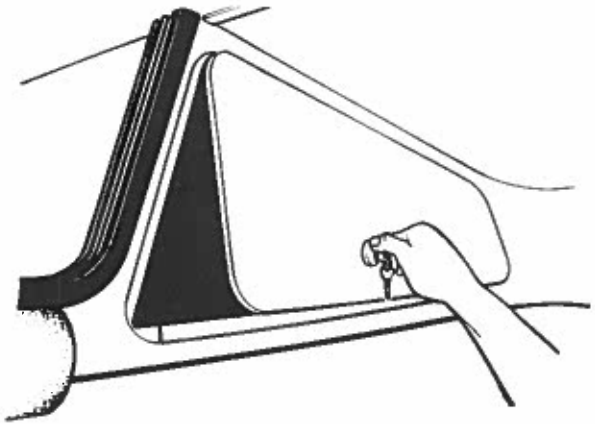


INTERIOR COMPARTMENTS

The following interior compartments apply only to the Prevost XL model.

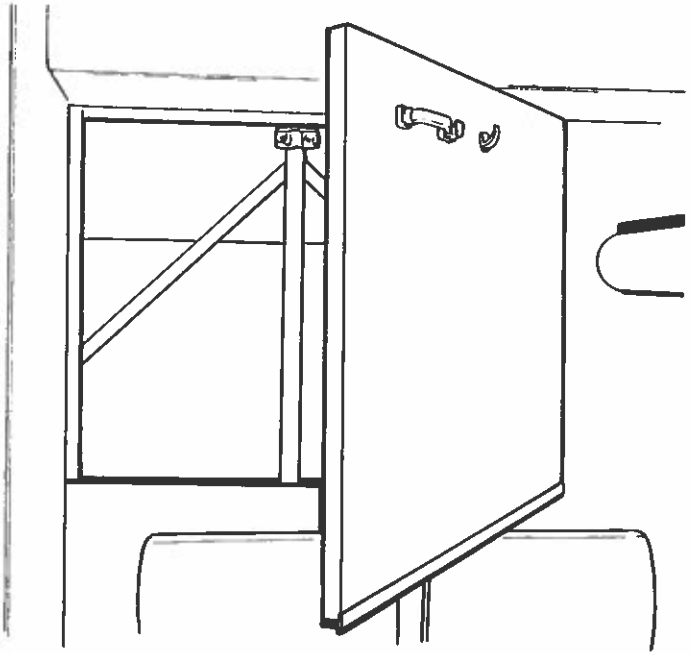
DRIVER'S PERSONAL COMPARTMENTS:

Two (2) lockable compartments are roof mounted in the driver's front section of the vehicle. To gain access, they should be unlocked using the appropriate key. The compartments should be used for the personal effects of the driver and/or hostess.



REAR COMPARTMENT:

This lockable compartment may be used to store cleaning products.



LAVATORY

A lavatory compartment, located at right rear corner of coach, is equipped with a chemical flush toilet, wash basin, mirror, waste paper container and hygienic toilet tissue dispenser.

Closing and locking the door from inside will illuminate an outside sigh which is mounted above parcel racks on the lavatory wall and also the lavatory indicator light on gauge and indicator panel.

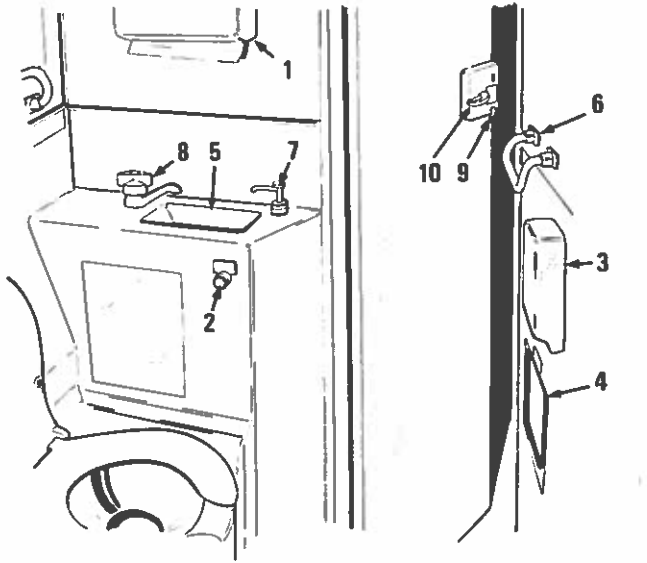
An emergency buzzer switch located on the compartment wall together with instructions are also provided for maximum passenger security. Buzzer will sound in driver's compartment if help is needed.

Optional auxiliary lavaroty tank allows main tank to be drained through manual opening of interconnecting tank valve. Lavatory can then be operated for longer periods until coach can be serviced at a facility equipped with disposal facilities.

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

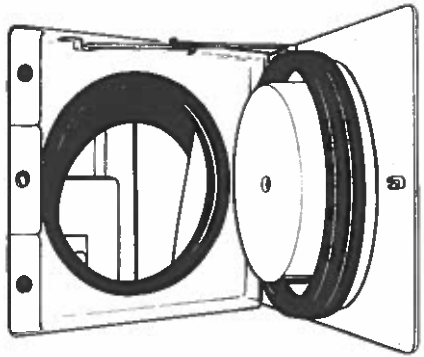
Lavatory

1. Towel dispenser.
2. Toilet flush control (timed).
3. Toilet tissue dispenser.
4. Waste paper container (trap).
5. Wash basin.
6. Grab handle.
7. Liquid soap dispenser.
8. Water supply valve.
9. Door lock.
10. Door handle.



The lavatory water tank is located behind the mirror. It may also be equipped with a thermal drain value, which will drain the tank when water temperature gets near the freezing point. An immersion block heater for the lavatory water tank is also available, and can be connected to a 110-120 volt A.C. power source, through an extension cord in the engine compartment.

A lavatory access door is provided on R.H. sidewall to facilitate lavatory compartment cleaning. This trap can be opened from the exterior only.



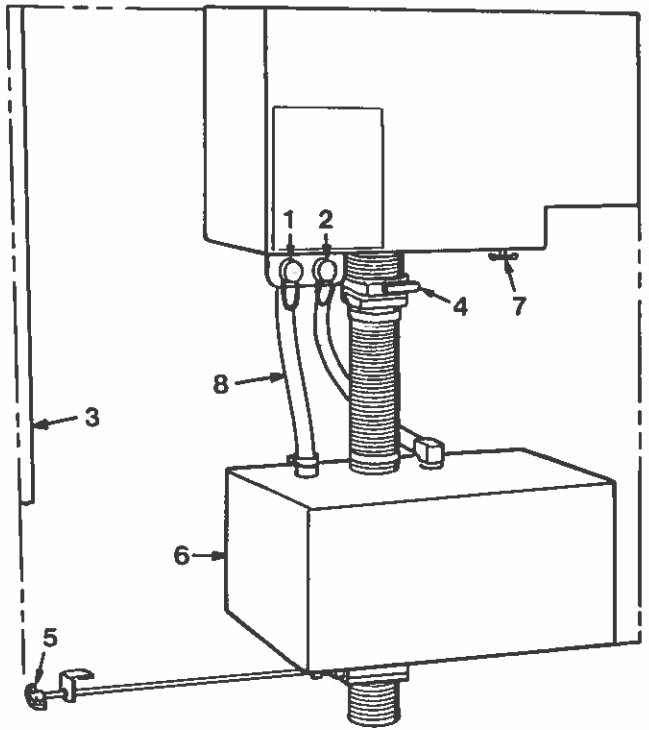
DRAINING

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 damage from freezing.

Before draining the toilet holding and waste tanks, position coach over a receptacle or sewer inlet or other facility to comply with local health regulations. Pull open handle of slide valve located on dump tube in right side of engine compartment. To flush toilet holding and waste tanks, water under pressure must be sprayed in while dump tube slide valve is still opened.

In case of emergency, fresh water tank located behind toilet compartment wall must be drained by holding down the spring loaded sink control valve or by turning on water tank valve mounted in engine compartment near other lavatory inlet and outlet connections.

After emergency drainage, lavatory should be properly serviced at suitable facilities before it is used again. In freezing weather, chemical waste tank should be filled with 2 gallons (8 litres) of anti-freeze solution and 2 gallons (8 litres) of water.



1. Fresh water tank fill connection.
2. Toilet holding tank fill connection.
3. Lavatory tank air vent & overfill indicator.
4. Toilet holding tank draining valve.
5. Auxiliary holding tank draining valve.
6. Auxiliary holding tank.
7. Lavatory drain valve.
8. Toilet overflow drain valve (should be opened when filling).

☐ **Note:** Filling connector used in U.S.A. are male and female type, and connectors used in CANADA are both male type. Corresponding connectors are available at Prevost parts department.

■ **Caution:** Servicing lavatory tanks should be done at facilities suitably equipped.

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

Under cold weather conditions, water should not be left in fresh water tank as it might freeze and damage both water tank and connecting lines.

Do not overfill lavatory tank as damage may occur to the pump.

● **Warning:** Never refill water tank with antifreeze.

ENTRANCE DOOR

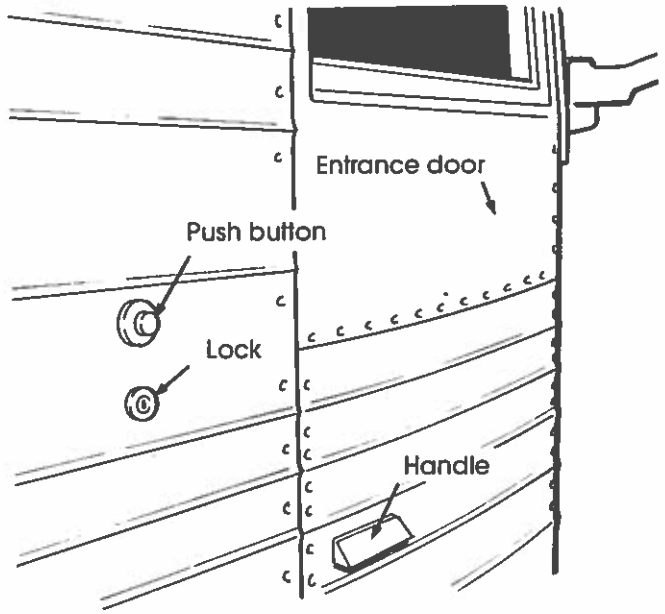
Entrance door is provided with an air-operated lock. Door is opened and closed by a handle, mounted directly on the dash to driver's right, which automatically activates air-operated lock to open or close door. Handle must be turned counterclockwise to open door and clockwise to close it.

Entrance door can also be opened or closed from the outside by means of a stainless steel push button located to the left of entrance door frame.

To open door from outside, just push the button to release air-operated lock and pull on the handle.

To close door from outside, just push the door panel until door is almost closed and an air-lock system will then be activated automatically to complete closing. Use key provided to lock door from the outside.

Warning: Never pull or push door with fingers at door edge; use the provided handle.



SAFETY EQUIPMENT

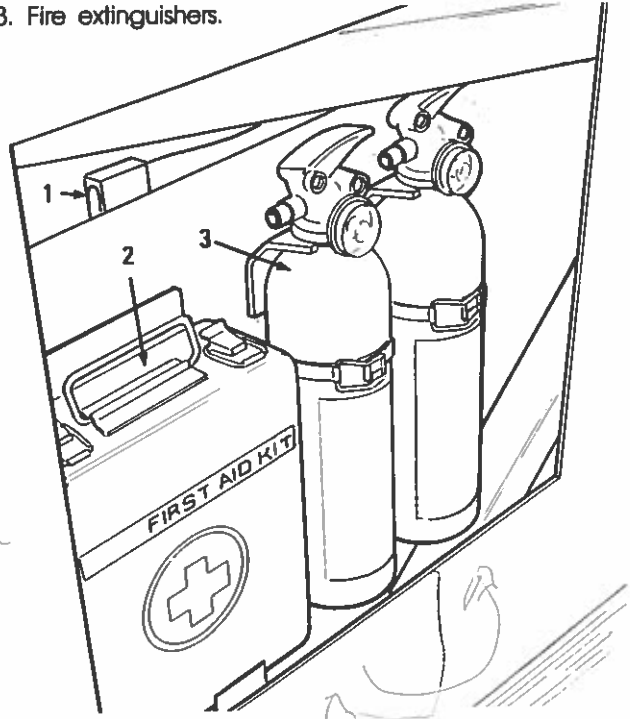
A safety equipment kit for use in case of an emergency can be found in entrance door section, below modesty panel, behind the small fiberglass door.

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

To open access door, turn button on door counterclockwise, lightly pull out button, then slide the door towards center of vehicle while holding the door. Reverse procedure to close.

☐ **Note:** When requested, the two (2) fire extinguishers may be located on baggage racks in middle of coach, and the safety kit in a red container at left side front baggage rack level.

1. Fire axe.
2. First aid kit.
3. Fire extinguishers.



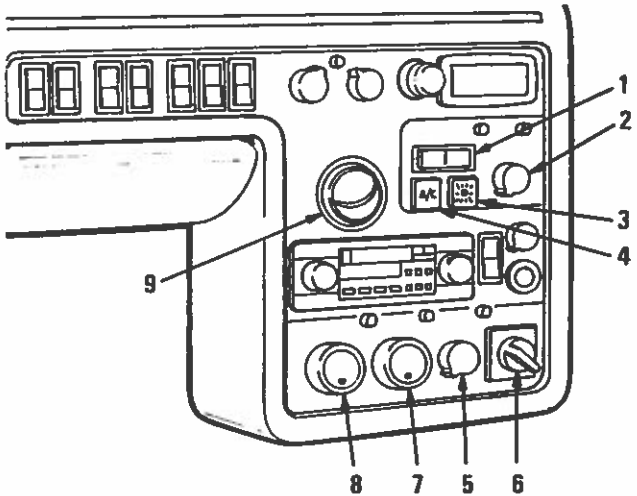
VENTILATION

Operator should always try to introduce as much circulation of outside fresh air as possible without hampering heating and air conditioning systems. Under extreme temperature conditions however, when maximum capacity is required, the adjustable intake baffles (see following pages) should all be closed.

It should be remembered that vehicle interior should always be slightly pressurized to prevent dust and moisture from entering vehicle.

Coach heating and air conditioning systems have been designed to allow circulation of some outside fresh air. So windows should be kept closed at all times. Any air conditioning system malfunction should immediately be reported to maintenance personnel.

In case of air conditioning system failure, substitute ventilation may be provided by opening roof mounted emergency vents. Vents are located near coach front and rear; they can be opened and used in six different positions to control air flow circulation inside vehicle.



Central heating & A/C system

1. A/C heat switch.
2. Temperature control.
3. Heat warning light.
4. A/C warning light.

Driver's A/C heating system

5. Temperature control.
6. Fan speed control.
7. Recirculated - fresh air control.
8. Feet air outlet control.
9. Console air outlet.

CENTRAL HEATING & A/C SYSTEM

1. «A/C - HEAT SWITCH»

This switch has there positions: «A/C - OFF - HEAT». Set the switch to:

- «A/C» position when the interior of the vehicle needs to be cooled or dehumidified.
- «HEAT» position when the interior of the vehicle needs to be warmed, or ventilated.
- The switch should be returned to «OFF» position before stopping vehicle engine.

☐ **Note:** Fuel economy is slightly reduced when «A/C» position is used.

This position is represented by the following symbol on indicator light: ☼

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 properly working.

■ **Caution:** «A/C» position should not be used when outside temperature is below 40°F (5°C).

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.

2. TEMPERATURE CONTROL

This thermostat is designed to provide the desired temperature in the central area of the vehicle. Gradually turn control clockwise to raise temperature or counterclockwise to lower temperature. Only a slight movement of knob is generally sufficient to change heat setting.

Temperature range control knob is used to select interior temperature within the range of 65°F to 78°F (18°C to 26°C). Once temperature is selected, system will automatically maintain it within close limits.

☐ **Note:** Two air vents are provided on L.H. side of driver's seat to let him know temperature of central A/C system.

3. «HEAT» WARNING LIGHT

This light should be illuminated when hot water is circulating through the water valve, no matter which mode has been selected (A/C or heating).

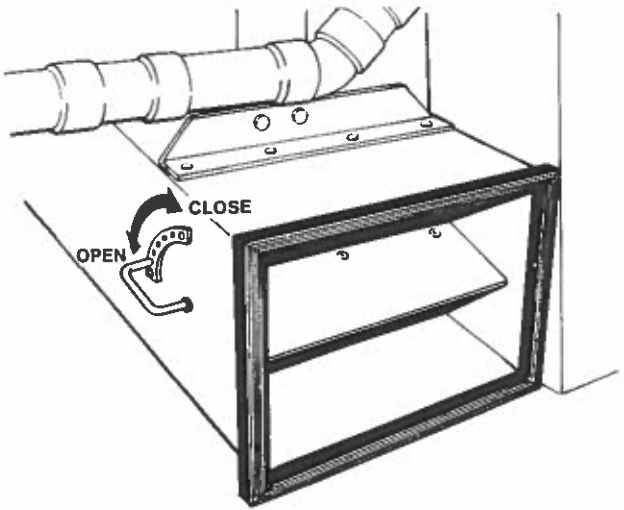
4. «A/C» WARNING LIGHT

This light is designed to light up when the «A/C» system is not working properly. If this happens, first stop «A/C» system, then perform the following checks:

- Check the condenser for obstruction. Clean if necessary. (Refer to maintenance manual).
- Check that the evaporator and condenser motors are working.
- Check evaporator filter for cleanliness. Clean or replace as required. (Refer to maintenance manual).
- Check the air return duct for obstruction. It is located on the left side of the vehicle floor, approximately in the center. Clean if necessary.

After these checks, test the system. If the «A/C» warning light does not turn off, set the «HEAT -A/C» switch to «OFF» position, then report to maintenance personnel.

☐ **Note:** An adjustable air intake baffle is located in the evaporator compartment. This is the third compartment on the left side of the vehicle. The door should normally be opened. Under extreme temperature conditions, it should be closed or partially closed depending on the inside temperature reached in the coach.



DRIVER'S COMPARTMENT HEATING AND A/C SYSTEM

5. TEMPERATURE CONTROL

Once the fan speed control switch is set to the proper position, select the desired temperature by gradually turning the temperature control clockwise to raise or counterclockwise to lower temperature.

☐ **Note:** Driver's air conditioning system will only operate simultaneously with main air conditioning system, but heating and defrost system is independant from main system.

Driver's A/C and heating system also affects the two front rows of passengers seats, and should be used in concert with main system, not in opposition.

6. FAN SPEED CONTROL

Set fan speed control to one of the four (4) positions. Turn clockwise to increase fan speed, counterclockwise to decrease.

7. «RECIRC.-FRESH AIR» CONTROL

This control should normally be set to «FRESH AIR» position. Under extreme temperature conditions, if the system does not provide desired temperature, the control should be turned left to «RECIRC.» position.

8. FEET AIR OUTLET CONTROL

This control is used to control the air flow delivered under the dash on the driver's side. Turn control right to increase air flow, left to decrease.

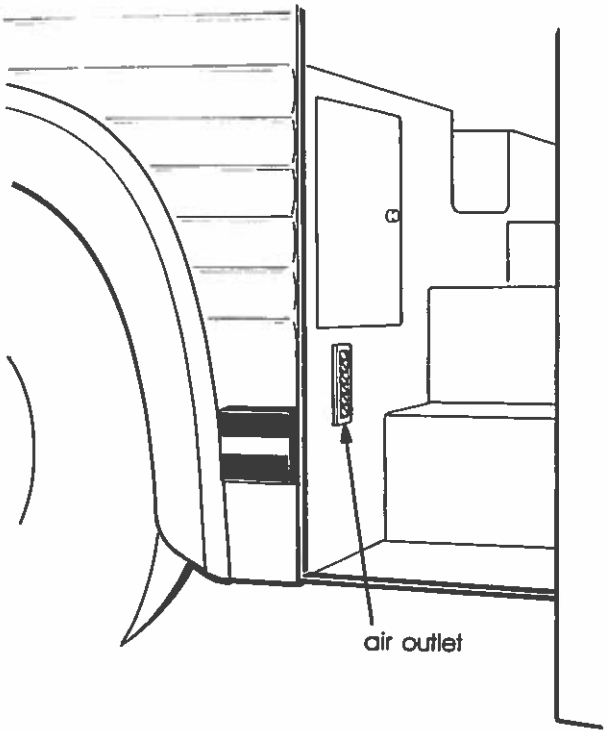
9. CONSOLE AIR OUTLET

This air outlet is manually adjustable. Direct air flow as required.

☐ **Note:** An additional air outlet is located on the panel to the left of the driver. It is also manually adjustable to permit side window defrosting.

An additional air outlet is provided near entrance door to prevent icing of entrance steps. Push fins up to permit air flow, and push down to close.

● **Warning:** Excessive high temperature in driver's area could induce driver's drowsiness, affecting his ability to safety operate coach. It may also affect temperature in passenger's compartment.



DEFROSTING

For maximum defrosting efficiency, proceed as per the following instructions:

1- Set fan speed control to maximum position.

2- Ensure air inlet control is set to "FRESH AIR" position.

3- Shut off feet air outlet control.

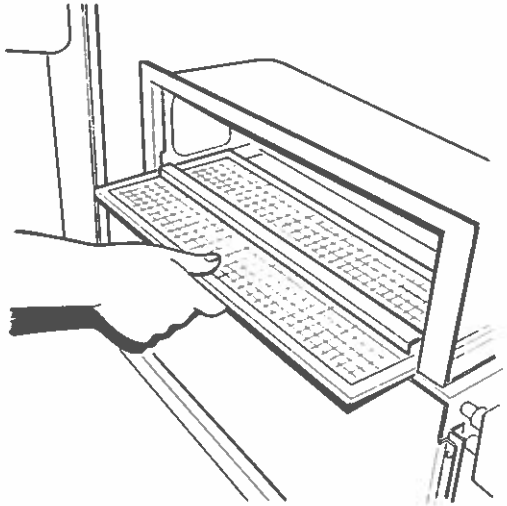
4- Turn driver's compartment temperature control to warmer position.

HEATING & A/C AIR FILTERS

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

DRIVER'S SYSTEM

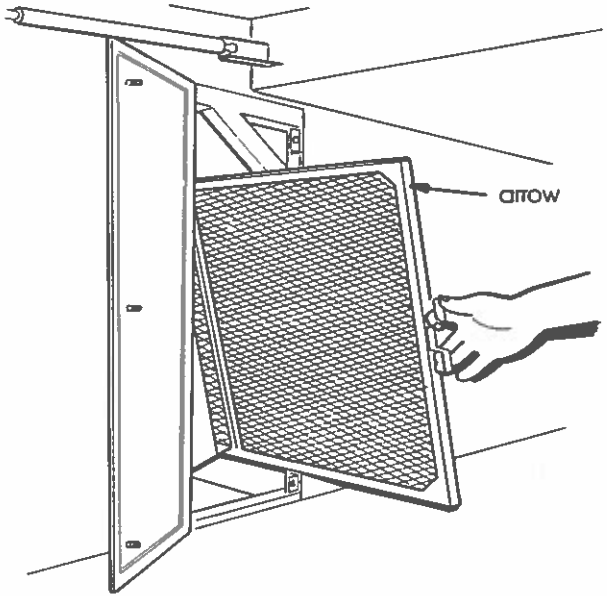
Air filter located under dashboard.

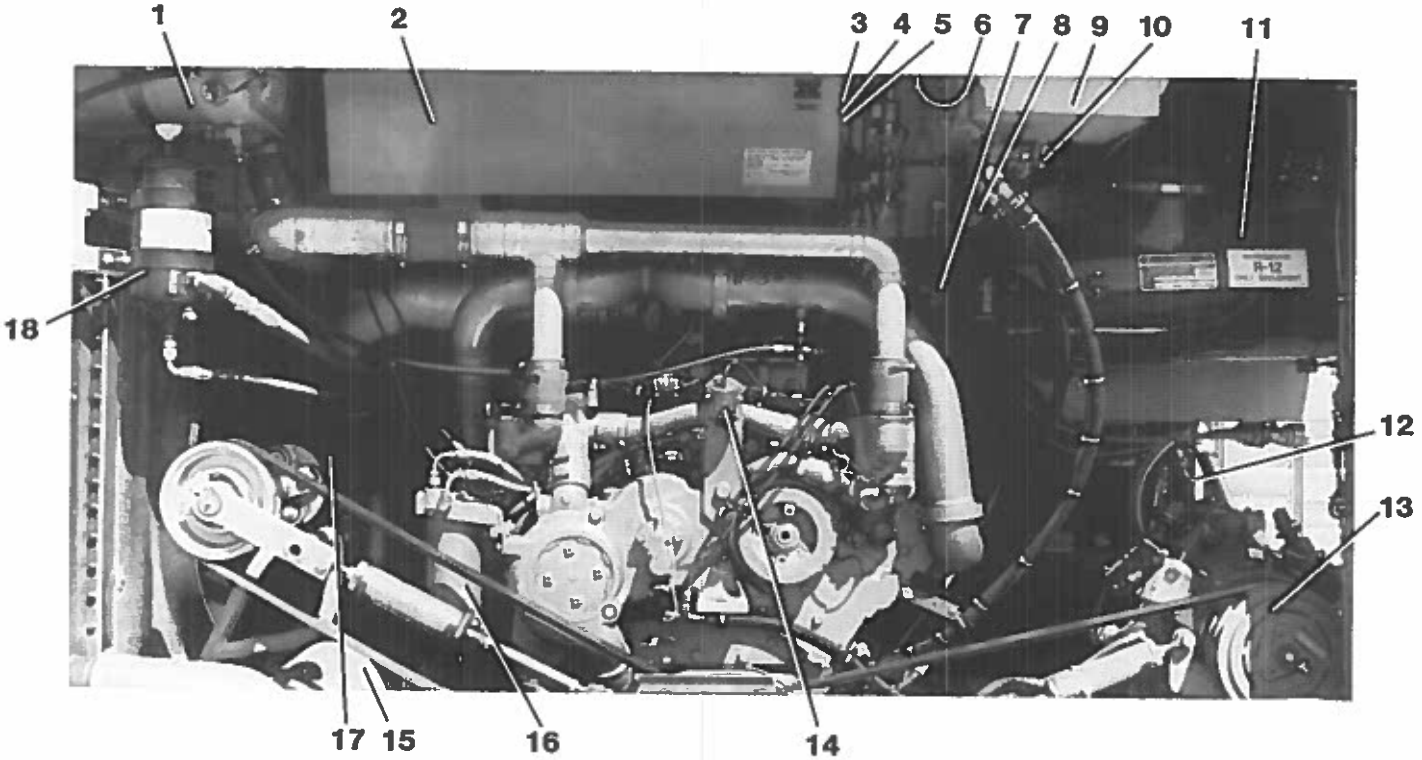


CENTRAL SYSTEM

To gain access, open air filter access panel inside L.H. rear baggage compartment.

After cleaning, replace air filter with the arrow pointing in the same direction.

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ENGINE COMPARTMENT

Component identification:

1. Engine coolant tank (surge)
2. Rear electrical panel
3. Engine compartment light switch
4. Rear start push-button
5. Rear start selector switch
6. Belt tension release valve
7. Fire detector
8. Engine oil pressure gauge
9. Engine oil reserve tank
10. Oil reserve tank valve
11. Engine air filter
12. Engine primary fuel filter
13. A/C compressor
14. Air filter restriction gauge
15. Muffler
16. Engine secondary fuel filter
17. Radiator fan gear box
18. Power steering oil tank

STARTING ENGINE FROM DRIVER'S COMPARTMENT

The following controls are used to start and stop engine from the driver's compartment.

«IGNITION SWITCH» is used to start and stop the engine, and also to activate electrical circuits. To start engine, rotate key to «START» position, then release it as soon as engine starts. With key set to «ON» position, electrical circuits are activated. Turn key to «OFF» position to stop engine and electrical circuits.

«EMERGENCY STOP SWITCH» is used to stop the engine in an emergency situation. Push button to activate.

Refer to «Engine emergency stop» for complete operating instructions (not supplied on turbocharged engine).

Procedure

1. Make sure the remote control switch in rear panel is set for front operation and the battery cut off switch is turned on.

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

3. Make sure that the transmission is in neutral position and that the clutch pedal is fully depressed before activating starter in order to prevent coach from moving.

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

Note: Starter will not function if shift lever is not in neutral position.

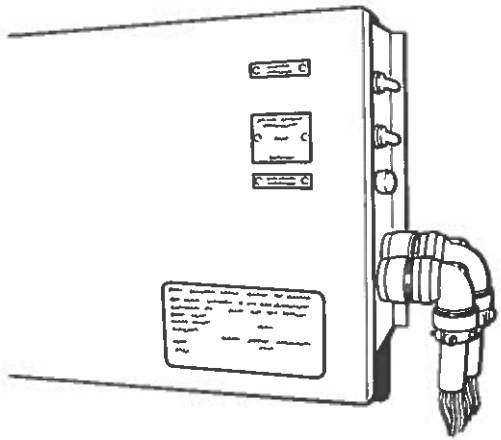
If engine does not start, ignition key must be returned to OFF position prior to trying to restart. Otherwise key will not move to start position.

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.

STARTING ENGINE FROM ENGINE COMPARTMENT

Switches for starting and stopping the engine at rear are mounted on the R.H. side of the engine compartment electrical box.

Warning: Before attempting to start engine at rear of vehicle, make sure the transmission shift lever is in neutral position and that the 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 situation.

COLD WEATHER STARTING

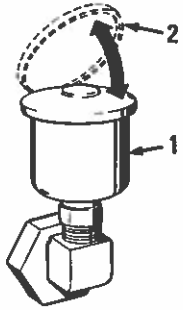
The vehicle is equipped with an ether cold start designed to ease engine starting when temperature is below 35°F (2°C). Two types of cold start aid are available: one is manually operated and the other is electrically operated.

On vehicles equipped with a manually operated cold start 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 (1) 7-c.c. capsule down on to the pointed tube in the cup and squeeze it dry. Allow cup cover to shut tightly and then start the engine from engine compartment.

On vehicles equipped with an electrically operated cold start aid, the procedure is quite simple. While starting the engine in cold weather, press the cold start switch located at left of the steering wheel.

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

Warning: Do not inhale starting fluid or smoke during its use.



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

ENGINE COOLANT

Engine cooling system has a total capacity of 27.6 US gallons (104.5 litres), including heating system. It operates with an ethylene glycol permanent type anti-freeze solution at a concentration of 30 to 67% by volume. Refer to your «XL» Maintenance Manual for details. The cooling system is completely filled when coolant (cold) becomes at the level of the surge tank drain cock. Open the drain cock to know if coolant level is adequate.

Warning: Cooling system under pressure. Never open drain cock or filler neck with engine warm, as it may result with personal injuries or burns.

Caution: Never replace anti-freeze solution by water as serious damages may occur to cooling system.

ENGINE BLOCK HEATER

The vehicle is equipped with an electrical engine immersion block heater to assist in cold weather starting. The heater plug is a male plug easily accessible through the engine oil reserve fill door. To use it, open the access door and connect the female plug of an electrical extension cord to the heater's plug. 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. Extension cord must be grounded type cord (three prongs). Be sure to disconnect cord and to close access door before starting and/or moving the vehicle.

Note: The vehicle may also be equipped with 110-120 volt A/C engine immersion oil heater. In such case, the extension cord should be accessible through engine compartment.

WARM-UP

After starting the engine, increase speed to fast idle for warm-up period by using «fast idle» switch on front switch 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. If abnormal conditions should develop, stop engine immediately and contact service people.

AIR PRESSURE

Air pressure is of the utmost importance for this vehicle. Brakes, air suspension as well as several other systems and controls depend on adequate air pressure for proper operation.

During warm-up, «air» indicator will light and buzzer will sound until air pressure builds up to 60-70 psi (415-485 kPa). Air pressure should build up to 95 psi (655 kPa) before parking brake is released and all air operated systems are provided with sufficient air pressure to operate properly.

● **Warning:** Vehicle should not be operated with air pressure below 100 psi (690 kPa) as brake efficiency could then be reduced, resulting in increased stopping distance.

Vehicle should be stopped as quickly as possible if «air» indicator lights and buzzer sounds during normal operation.

ENGINE OIL SPECIFICATIONS

Heavy duty engine oil meeting MIL-L-2104C or MIL-L-46152 specifications should be used for the engine. Oil grade should be SAE-40 for vehicles operating at temperatures above 0°F (-18°C), and SAE-30 for operation below 0°F (-18°C).

ENGINE OIL PRESSURE

Engine oil pressure gauge is mounted on the instrument panel in front of the driver. Normal readings at operating temperature are: idling 9-18 psi (60-125 kPa), governed full speed 35-70 psi (240-480 kPa). If oil pressure falls below safe level, «oil» indicator light will go on and alarm buzzer will sound. In this event, vehicle must be stopped as quickly as possible.

Since the vehicle is equipped with an automatic shut down device, the engine will stop after 25 seconds.

ENGINE OIL LEVEL CHECK

The best time to check engine oil level is when the oil is warm, as for instance during a fuel stop. First, stop engine and wait about 5 minutes for the oil to drain back into the oil pan. Then, pull out the dipstick, wipe clean, and push it back down fully. Pull out the dipstick again and look at the oil level on the dipstick. Keep the oil level between the two marks ("F" and "L") on the dipstick. Push the dipstick back down all the way after taking the reading. Add oil if needed by opening for a short period the oil reserve tank drain valve, then check engine oil level again. Oil reserve tank level is indicated in a sight gauge on side of tank.

☐ **Note:** The engine oil dipstick is located near the engine block at the right of the crankshaft pulley.

ENGINE TEMPERATURE

Engine temperature gauge or «water» is mounted on the instrument panel in front of the driver. The most efficient temperature range is between 170°-195°F (76°-90°C). Vehicle should not be moved before temperature reaches 140°F (60°C). If engine overheats, the «hot water» indicator light will go on and warning buzzer will sound.

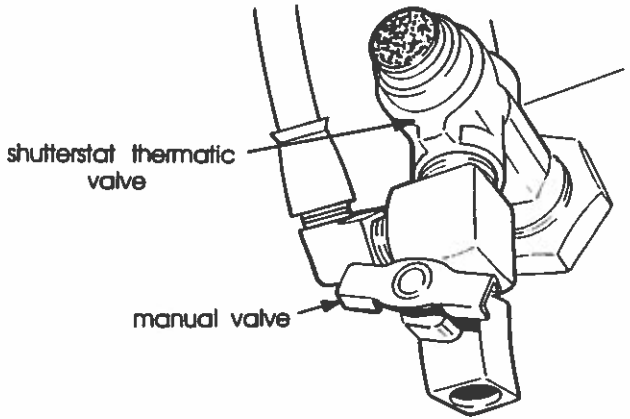
Since the vehicle is equipped with an automatic shut down device, the engine will stop after 25 seconds.

☐ **Note:** To move the vehicle out of traffic, the automatic shut down system for low oil pressure or hot water can be overridden in the following way:

1. Turn ignition switch to off position.
2. Re-start vehicle by turning ignition switch to start position. Then release it as soon as engine starts. Vehicle will then run for 25 seconds, which should be sufficient to move vehicle off the road.

☐ **Note:** With the engine hot, shutterstat fins rear of radiator door should be in the "OPEN" position. If not, proceed as follows:

1. Close shutterstat air supply valve located below rear electrical box, inside engine compartment.
2. Open manual valve in the lower section of the shutterstat thermatic valve, located on L.H. side of the engine block. This will permit the shutterstat fins to release in the "OPEN" position whenever the thermatic valve is defective.



ENGINE BRAKE SYSTEM (JACOB)

Optional engine brake system, when energized, will increase engine power absorption in coasting. Engine brake system may be used for decelerating downhill, traffic driving, or when approaching stop signs.

«Engine brake» switch is mounted on the front panel. With switch in low position, system will work at half engine braking capacity. With switch in high position, full braking capacity will be obtained.

Engine brake system is operative only when switch is in low or high position and no pressure is being applied to the accelerator. Engine brake system is inoperative when clutch pedal is depressed and clutch disengaged on vehicles equipped with manual transmission.

Effectiveness of the engine brake system will vary according to transmission gear in use. The engine brake system is more effective in lower gears and at higher engine speeds.

■ **Caution:** To avoid engine damage, engine should never be allowed to exceed governed speed 2150 RPM. Supplement engine brake with vehicle service brakes intermittently and/or shift to a higher transmission gear to prevent engine overspeed.

● **Warning:** The use of Jacob's brake system is not recommended on icy or wet roads, or in congested traffic.

☐ **Note:** Some city may restrict the use of engine braking system (Jacob's brake) in urban area.

ENGINE ALARM SYSTEM

Engine is equipped with an alarm system to indicate low oil pressure and high engine temperature. «Oil» and «hot water» indicators are located on the instrument panel in front of the driver. In addition, an alarm buzzer sounds when either condition occurs.

The automatic shut down device, operating through a time delay safety control relay interconnected with the alarm system, will stop the engine when one of these abnormal conditions occurs.

STOPPING ENGINE

1. Apply parking brake and make sure that transmission shift lever is placed in neutral position. This will ensure that the transmission neutral start safety switches are closed and will allow future restarting of the engine.

2. Wait 30 seconds, allowing engine to idle, then turn ignition key to «OFF» position. This will activate the control shut-off mechanism and stop engine.

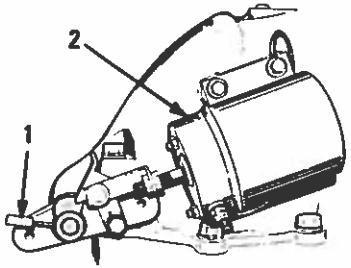
ENGINE EMERGENCY STOP

When engine does not stop after ignition key switch has been turned off or when it gets out of control, it can be stopped through use of the «engine emergency stop» switch located on front switch panel.

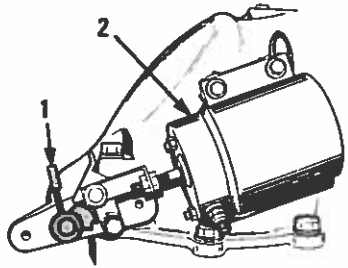
This engine emergency stop system is not required on turbocharged engine.

Caution: After «engine emergency stop» switch has been used to stop the engine, choke valve must be manually reset on engine. Switch button must be returned to «OFF» position and cam must be rotated until cam shoulder engages cam lock.

This system should only be used in emergency. Do not restart engine until the reason for loss of engine control has been corrected.



Normal operating position.
1. Cam
2. Emergency stop solenoid

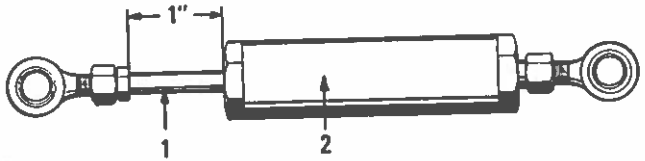


Cam position after engine emergency stop switch is applied.

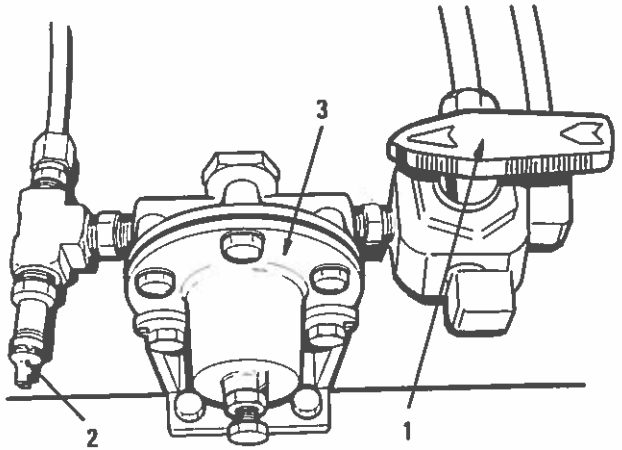
BELT TENSIONERS

Radiator fan and air conditioning compressor are driven through V-belts equipped with air operated tensioners. They should be adjusted as follows:

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



1. Recommended operating length
2. Belt tensioner cylinder



1. Belt tensioner cylinder air release valve
2. Air system pressure check valve (75 psi, 520 kPa)
3. Adjustable air regulator

AIR SYSTEM EMERGENCY FILL VALVE

This vehicle is equipped with two air system emergency fill valves to supplement the air system when air pressure is low and engine cannot be operated. One of these valves is located in the engine compartment, at the right hand side of the vehicle on the tag axle wheel housing near the primary fuel filter. The other is located on the steering compartment front post. These two air system emergency fill valves can be connected to any regular size external air supply line.

The engine mounted air system emergency fill valve will supply air for all systems (brakes, suspension and accessories), while the steering mounted valve will supply air for accessories only.

POWER STEERING

The vehicle is equipped with an integrated power steering system. The power steering fluid reservoir is on the upper left-hand side of the engine compartment. To check oil level, proceed as follows:

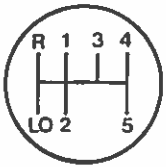
1. Stop engine, and open both engine rear doors.
2. Remove dipstick and wipe with clean rag.
3. Insert dipstick in reservoir, then remove it again to check mark.
4. Adjust level to «FULL» mark, using «DEXRON» oil only.

☐ **Note:** Some vehicles may be equipped with an extra capacity power steering oil reservoir, and a oil level sight glass and thermometer.

TRANSMISSION

MANUAL TRANSMISSION

The manual transmission has six (6) forward speeds (including creeper) and one reverse. Shift lever to right of driver's seat is used to select gears. It is equipped with neutral safety switch designed to prevent starter engagement if shift rails are not in neutral position.



When shifting from neutral to first on reverse gear, depress clutch pedal fully to activate transmission clutch brake, thus reducing shifting time.

■ **Caution:** Never fully depress clutch pedal with vehicle in motion as this may damage transmission clutch brake.

UPSHIFTING

Always start vehicle in motion with transmission in first gear, progressing to second, third, fourth and fifth. Do not skip gears. Do not shift to next higher gear until engine governed speed has been reached. Double-clutch method is recommended for shifting gears.

DOWNSHIFTING

Double-clutch is also recommended for downshifting. Always change to lower gear to avoid engine lugging. Lower gears should be used for uphill or downhill driving, as well as operation in ice, snow or mud (minimum 1400 rpm).

Lower gears should be used when going down grade in order to make full use of engine compression. The same transmission gear should be used to down a grade as would be used in climbing it. Engine however must never be allowed to operate at a higher speed than its maximum governed speed (2150 rpm).

Under normal driving conditions, it is not necessary to downshift through all gears. Standard downshift from fifth to first gear should be made after coach is brought to complete stop.

Caution: The gearshift should always be left in neutral position for parking vehicle.

Getting coach in motion should always be done at lowest possible speed to prevent unnecessary clutch wear.

For mountain or hillside driving, before descending a long or steep grade, reduce speed and shift into lower gear. Use lower gear ranges to control vehicle speed and avoid prolonged or frequent application of brakes which would cause overheating and reduce brake effectiveness.

Shifting into lower gears on slippery surfaces should be done with caution. Sudden engine braking could cause drive wheels to skid, with possible loss of control.

OIL LEVEL CHECK ON MANUAL TRANSMISSION

With engine cold and stopped, open engine rear doors, and check transmission oil level on dipstick located on R.H. side of engine near transmission. Oil level should be maintained at "FULL" mark on dipstick.

Refill

PREVOST vehicles are equipped with an oil reserve tank located in the upper right area of the engine compartment. To refill transmission, proceed as follows:

1. Open the transmission oil fill valve located under oil reserve tank.
2. Allow oil to discharge in transmission until "FULL" mark on the transmission oil dipstick is reached.
3. Close transmission oil fill valve. Oil reserve tank level can be checked through transparent tube on the side of oil reserve tank.

Overfilling

Do not overfill the transmission. Overfilling usually results in oil breakdown due to excessive heat and aeration from the churning action of the gears. Early breakdown of the oil will result in heavy vanish and sludge deposits that plug up oil ports and build up on splines and bearings. Overflow of oil escapes onto clutch or parking brakes causing additional trouble.

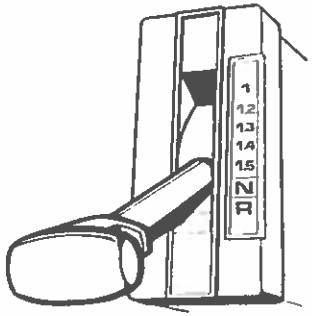
Caution: Do not tow vehicles equipped with Spicer transmission without first pulling the axles or disconnecting the drive shaft. Lubrification of the internal gear train is inadequate when the vehicle is towed.

Oil recommendations:

Temperature	Grade	Type
Above 0ºF (-18ºC)	SAE 40	Heavy duty engine oil
Below 0ºF (-18ºC)	SAE 30	meeting MIL-L-2104C or MIL-L-46152 specifications.

AUTOMATIC TRANSMISSION

The operation and driving of this type of vehicle equipped with an automatic transmission is similar to the operation and driving of a regular automobile automatic transmission. Proper ranges should be selected for 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.



R: REVERSE RANGE - Use this position for backing the vehicle. Vehicle should be completely stopped before shifting from a forward gear to reverse or from reverse to forward. Reverse has only one gear.

N: NEUTRAL RANGE - Use this position to start engine. This position is also used when vehicle is left unattended with engine running; parking brake must then be applied.

● **Warning:** Always put shift lever in neutral position and apply parking brake before leaving driver's seat.

5: HIGHER RANGE - is used for normal driving conditions. Vehicle will start in first gear and transmission will upshift automatically as accelerator is depressed. As vehicle slows down, transmission will also automatically downshift into correct gear.

☐ **Note:** Manual shifting should be done only when required by the traffic situation.

3&4: THIRD AND FOURTH RANGE - Are used when road, load or traffic conditions do not permit top speed. Upshifting and downshifting are automatic.

2: SECOND RANGE - Is normally used in heavy and congested traffic. Upshifting and downshifting are automatic. Low positions provide progressively greater braking power (the lower the range, the greater the braking effect).

1: FIRST RANGE - This low gear position is used when driving through mud and snow or driving up steep grades. This position 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.

LOCK-UP CLUTCH

Engagement and release of the lock-up clutch occur automatically and should not be 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. Lock-up clutch releases at lower vehicle speeds. Release of lock-up clutch provides a torque converter drive from engine to transmission.

ACCELERATOR CONTROL

Foot pressure on the accelerator pedal influences automatic shifting. When pedal is fully depressed, transmission will automatically upshift near recommended governed speed of engine. When pedal is partially depressed, upshifts will occur sooner and at a lower engine speed.

DOWNSHIFT CONTROL

Transmission can be downshifted or upshifted, even at full throttle. Good driving practices indicate that downshifting should be avoided when vehicle is above maximum speed attainable in the next lower gear. Downshift inhibitors within the valve body prevent these harmful shifts when vehicle is going too fast for the next lower gear. If downshifts are attempted at excessive speeds, inhibitors will prevent downshifting until vehicle reaches acceptable speed. Manual downshift is recommended on long up hill grades.

DECELERATION

To use engine as a braking force, shift range selector to next lower range. If vehicle is exceeding maximum speed for a lower gear, use service brakes to slow vehicle to an acceptable speed where transmission may be downshifted.

Compared to a manual-shift transmission, an automatic has a longer «coast down» time. Until you are accustomed to this characteristic, you may need to manually downshift to reduce speed.

With a little experience in driving the automatic, the driver will learn to decelerate a bit sooner, or brake until automatic downshift occurs. This will reduce the need for manual downshifting.

☐ **Note:** On vehicles equipped with a Jacobs brake, deceleration can be assisted by using the Jacobs brake switch located on the switch panel. Refer to page 25 for proper operation.

RECOMMENDATIONS

■ **Caution:** Vehicle should always be parked with gearshift in neutral position.

Engine should always be at idle speed when shifting from neutral to a drive 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.

When driving on ice or snow, any acceleration or deceleration should be done gradually.

Any indication of abnormal conditions should immediately be brought to the attention of maintenance personnel. Transmission should not be operated when overheating occurs, when it is noisy, or when clutches are slipping.

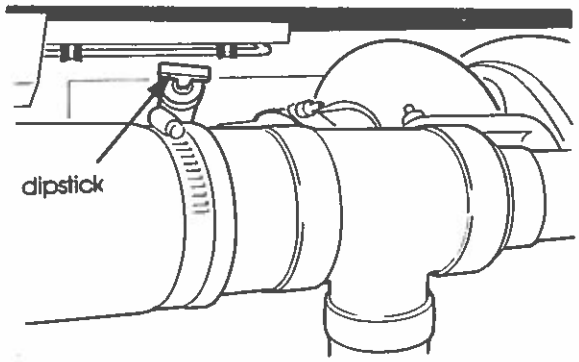
Before towing this type of vehicle, the axle shafts must be disconnected or drive wheels lifted off the ground to avoid damage to the transmission. Engine cannot be started by pulling or pushing.

When ambiant temperature falls below -10°F (-23°C) auxiliary preheat is required; oil temperature should be raised to above -10°F (-23°C) before operating transmission. Allow engine to run for a few minutes before moving vehicle.

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 the transmission to overheat. To ensure a long transmission life, transmission oil level should be checked at regular service intervals.

Warning: The automatic transmission oil dipstick is located between the rear electrical panel and the top of the engine as shown on the next illustration. When checking oil level, special care must be taken not to touch the engine coolant tubing and/or the engine exhaust pipe (on turbocharged engine) as this could cause severe burns.



Before removing dipstick 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.

A) Importance of Proper Level

1- Maintaining the proper oil level is very important. If, during check procedure (D. below), inconsistent dipstick readings occur, look for proper venting of the transmission breather, and/or proper venting of the oil filler tube.

2- Always check the oil level on the dipstick at least twice. Consistency is important in maintaining accuracy.

■ **Caution:** The oil level rises as the sump temperature increases. Do not add oil to the transmission until a normal operating temperature is reached. Add the required amount of oil to bring the oil level to the middle of the Add and Full marks, the Hot Run band or the Cold Run band.

3- Do not overfill the transmission with oil. Excessive oil causes overheating and irregular shift patterns. If the oil level is too low the result can be poor performance (clutches will not receive adequate oil supply).

■ **Caution:** A dipstick that anchors **inside** the top end of a non-vented filler tube can draw oil up into the tube during removal and give an inaccurate reading on the dipstick.

B) Foaming and Aerating

1- Transmission performance will be affected when the oil foams or aerates. The primary causes of aeration are low oil in the sump, too much oil in the sump, or a defective or missing sealring on the intake pipe.

2- A low oil level will not completely envelop the oil filter. Therefore oil and air is drawn by the input pump and is directed to the clutches and converter, causing converter cavitational noises and irregular shifting. The aeration also changes the viscosity and color to a thin milky liquid.

3- A defective sealring on the filter intake pipe will cause the input pump to draw air into the oil system. Air thus entering the oil will result in the conditions described in (2), above.

C) Protect Fill Pipe

When adding oil or checking oil level, dirt or foreign material must not be allowed to enter the fill pipe. Before removing the dipstick, clean around the end of the fill pipe.

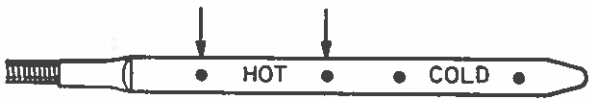
D) Oil Level Check Procedure

1- Check the oil while the vehicle is on level ground and the parking brake applied. Start the engine and shift the transmission through all drive ranges to fill the clutch cavities and oil passages; then shift to neutral.

2- Shift the engine for at least one minute at 1000-1200 rpm to clear the system of air.

■ **Caution:** Do not overfill the transmission. Overfilling can cause aeration of the oil (milky appearance). If overfilling occurs, drain oil as required to bring it to the proper level.

3- **Hot Oil Check** (HOT RUN band). Be sure the temperature has reached 160 to 250°F (71-121°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, the quantity of oil in the transmission is safe for operating the vehicle. If it registers on or below the bottom line of 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 liters) of oil is required to move the oil level from the bottom line of the HOT RUN band to the middle of the HOT RUN band).

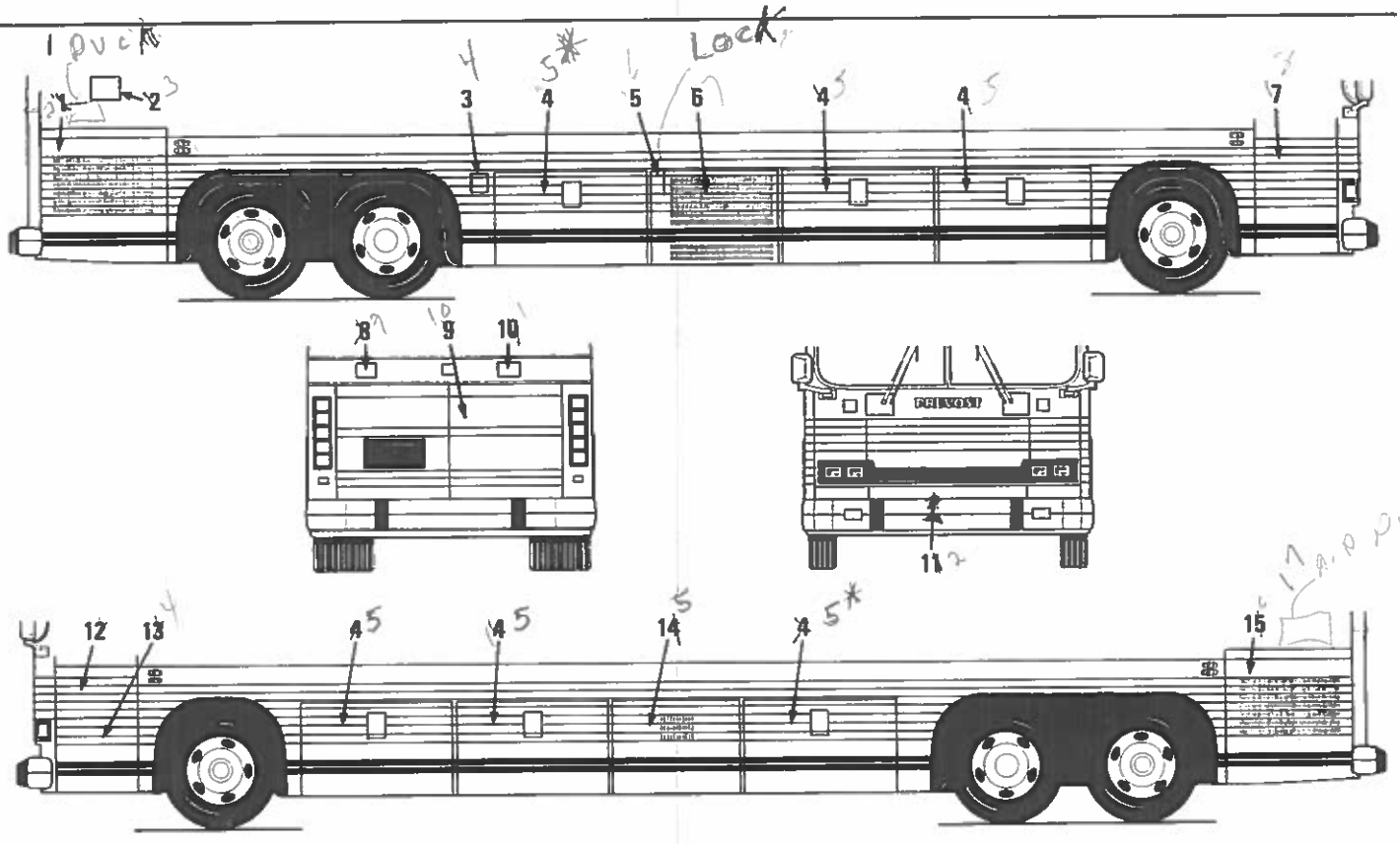


4- **Cold Oil Check** (COLD RUN band). Run the engine for one minute at 1000 rpm to charge the system. Idle the engine until the temperature reaches 60 to 120°F (16-49°C). With the engine idling and the transmission in neutral, remove the dipstick from the oil filler tube and check the oil level. If the oil level registers in the COLD RUN band, the quantity of oil in the transmission is safe for operating the vehicle. If it registers on or below the bottom line of the COLD RUN band, add the required amount of oil necessary to bring the oil level to the middle of the COLD RUN band. (Approximately one (1) quart (0.9 liters) of oil is required to move the oil level from the bottom line of the COLD RUN band to the middle of the COLD RUN band).

OIL SPECIFICATIONS

On-Highway Applications. Dexron II or Dexron transmission fluid is the only fluid recommended for use in transmission in on-highway service.

EXTERIOR COMPARTMENTS



Exterior compartments

1. Engine side door (R.H.) (A/C compressor)
2. Lavatory compartment access door
3. Battery main power switch access door
4. Baggage compartment door
5. Fuel tank fill door
6. A/C compartment (condenser)
7. Entrance door
8. Engine coolant fill door
9. Engine rear doors
10. Engine oil reserve fill door (heater plug)
11. Spare wheel and tire compartment
12. Front electrical junction box
13. Steering compartment
14. Heating compartment (evaporator)
15. Engine side door (L.H.) radiator and heating system manual valves)

Exterior views identify all compartment and access doors. This section will explain how to open and close main doors.

BAGGAGE COMPARTMENT

To open baggage compartment doors, unlock using the key, insert fingers under lower edge of operating handle, pull out and up to unlatch door, grab handle rod and pull up compartment door. The opening action is assisted by gas cylinders which also hold the doors in the open position.

☐ **Note:** In case of malfunction or special conditions, use the safety lock to keep the door(s) securely opened.

☐ **Note:** Vehicles may also be equipped with padlock anchor device on baggage compartment doors.

To close baggage compartment doors, first release safety lock then pull handle rod out and down as far as door will allow and push down handle to complete procedure and latch doors.

Baggage compartment lights are controlled by automatic switches which illuminate when compartment doors are opened.

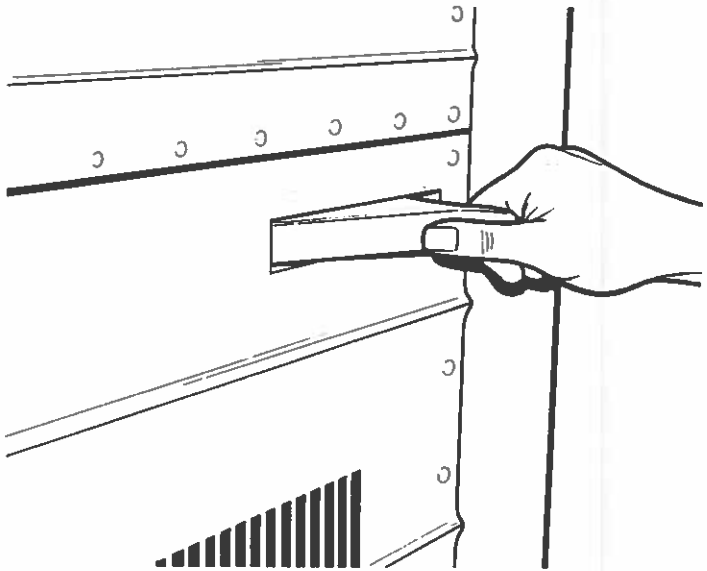
Caution: Do not drop or slam baggage doors. This can only damage rubber door and/or locking mechanism.

ENGINE COMPARTMENT

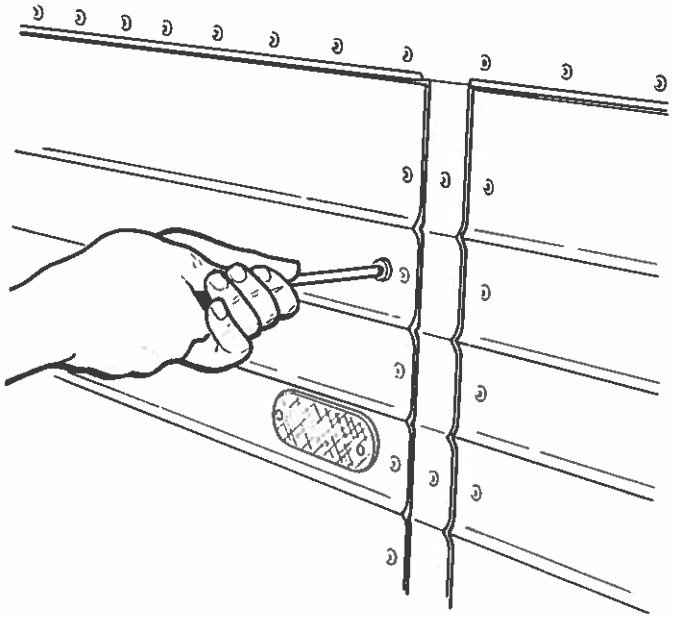
Side-hinged engine compartment doors are secured by lock handle located on the right hand door. To open doors, turn lock release handle and pull out doors. Doors are held in open position by a mechanical locking device located at each door top section. To close doors, first release mechanical locking device by pushing it with fingers, then push doors back to closed position, always starting with driver's side door.

COMPARTMENT DOORS

The engine side doors can be opened by pulling the release handle and then pulling on the door.

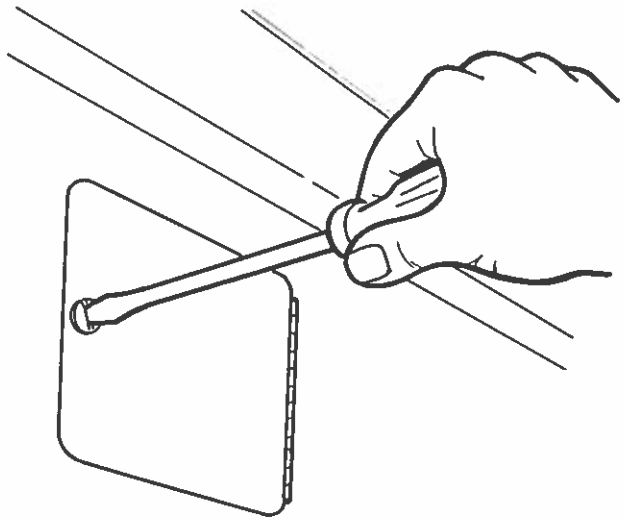


The evaporator and condenser compartment doors can be opened by removing the retaining screws with a Phillips head screwdriver and then pulling on the door.



The following doors (no. 7, 8, 10, 12, 13) can be opened by turning the slotted head screw one quarter turn counter-clockwise and then pulling on the door.

■ **Caution:** A special care must be taken not to damage the paint around the opening screw with the screwdriver.



EXTERIOR MIRRORS

Your vehicle is provided with two exterior mirrors which can be easily adjusted by observing the following method.

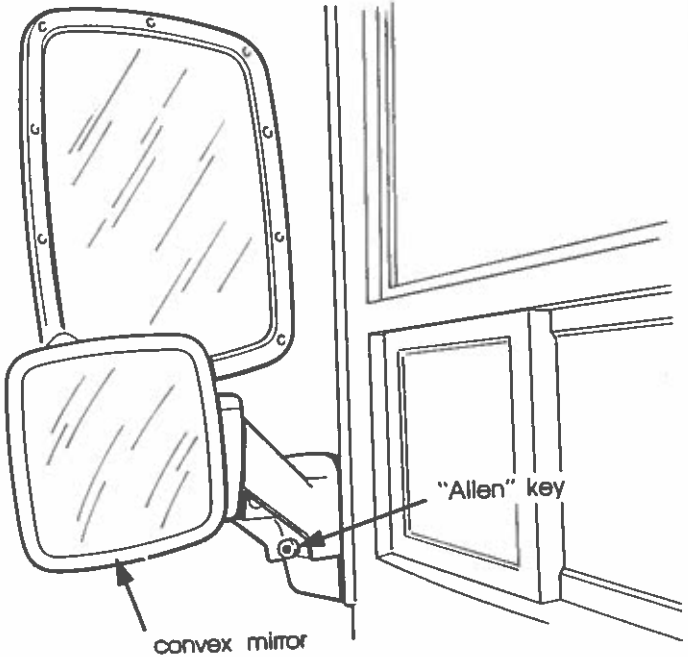
Mirror head can be rotated by loosening the adjusting screw located at the base of the mirror head. (1) Adjust to desired position, then tighten adjusting screw firmly.

Mirror head can also be tilted up or down. To adjust, use an "Allen" key and loosen the adjusting screw located at the end of the mirror arm. (2) Position mirror head as required, then tighten adjusting screw firmly.

Mirror arm angle can be adjusted in order to obtain desired vehicle width. To adjust, loosen adjusting screw located at body end of mirror arm. (3) Position mirror arm as desired, then tighten adjusting screw.

Convex exterior mirrors are also available for both sides 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.



SPARE WHEEL AND TIRE COMPARTMENT

Spare wheel and tire are stowed in a compartment behind front bumper. Wheel nut wrench can be used to unscrew the two bumper retaining bolts. Front bumper and compartment door will then lower to open position.

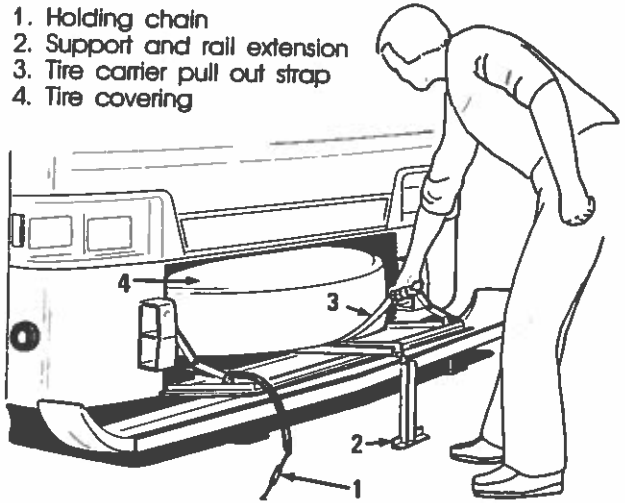
● **Warning:** Spare wheel and steering compartment are not storage compartments. Never leave any loose object in this area for it way interfere with steering linkage mechanism.

To pull out spare tire, loosen turn buckle of the holding chain to release support and tire carrier assembly. Remove tire covering, and fix support into the two provided holes at front center of compartment. Tire can be easily pulled out by the strap using support as a rail extension.

☐ **Note:** Reinstall support and fix tire with holding chain before moving vehicle.

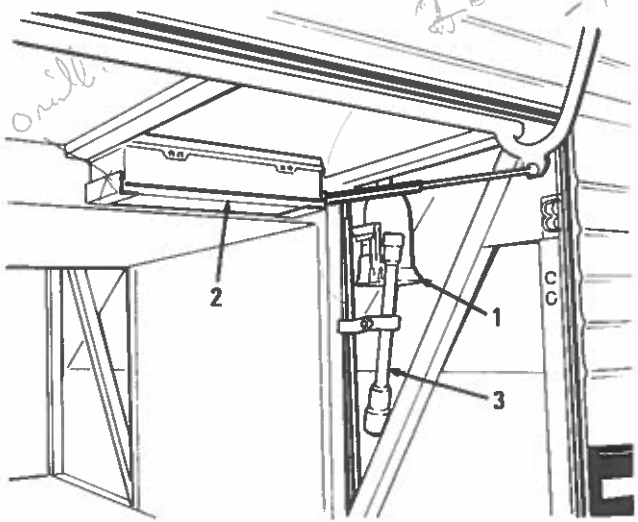
■ **Caution:** The two bumper retaining bolts should be checked to make sure they are firmly tightened after compartment door has been closed.

1. Holding chain
2. Support and rail extension
3. Tire carrier pull out strap
4. Tire covering



● **Warning:** Ensure that spare tire attachment is tightly held inside compartment before moving vehicle. This check should be done periodically to prevent tire from moving inside compartment.

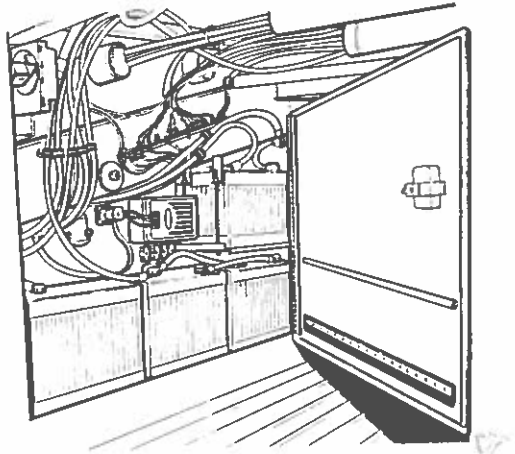
A 12 1/2-Ton hydraulic jack and a kit of triangular reflectors are provided inside the first R.H. side baggage compartment, near the entrance door.



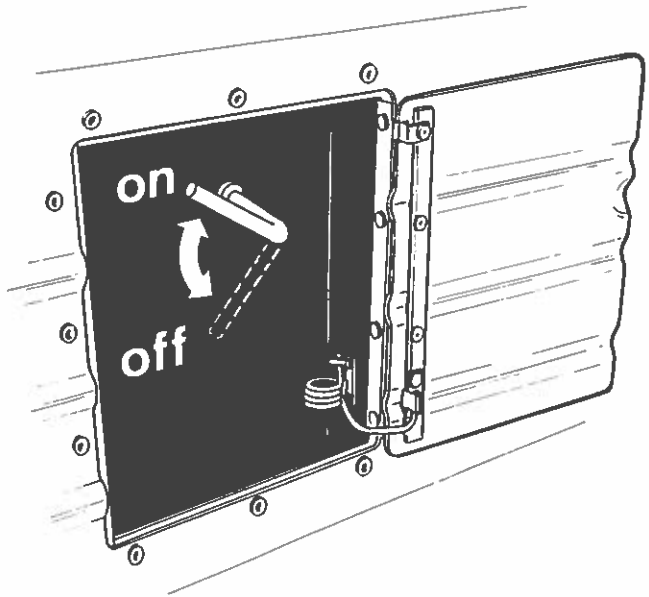
1. Hydraulic Jack
2. Triangular reflector box
3. Wheel nut wrench

BATTERY COMPARTMENT

Batteries are accessible behind an access door which is located at the back of the rear baggage compartment. Four maintenance free type batteries are provided. When battery main power switch is turned to «OFF» position, all electrical supply from the batteries is cut off, except for tachometer clock, engine and battery (when requested) compartment fire detectors, and radio programming memory.

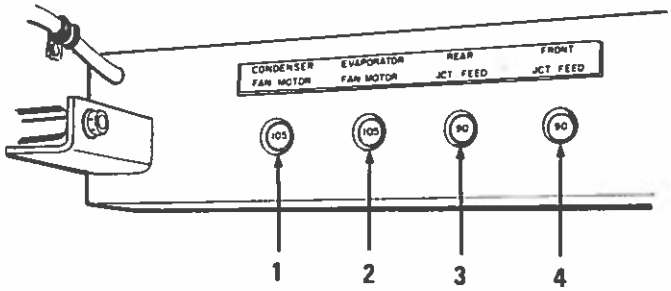


Battery main switch, located rear of L.H. side rear baggage compartment door.



Caution: When coach is parked overnight or for a longer period of time, main battery disconnect switch should be put in off position.

Four breakers are mounted on the roof of the same baggage compartment and they are identified as follows:



1. Condensor fan motor - 105 amp.
2. Evaporator fan motor - 105 amp.
3. Rear junction feed - 90 amp.
4. Front junction feed - 90 amp.

JUMP STARTING

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.

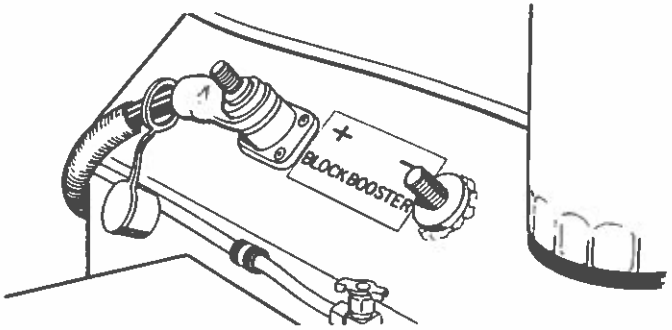
2. Connect the other end of the red jumper cable to the positive (+) terminal of the booster block, located rear of the R.H. side engine door.

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 block.

Warning: Turn off all lights, heaters and other electrical loads. Make sure the parking brake is 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.



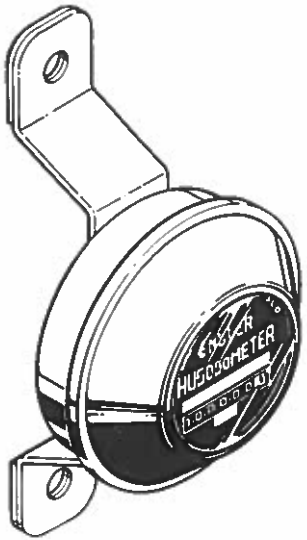
5. To remove the cables, perform the above procedure in reverse order, and replace protective cap on booster block terminal.

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

ACCESSORIES

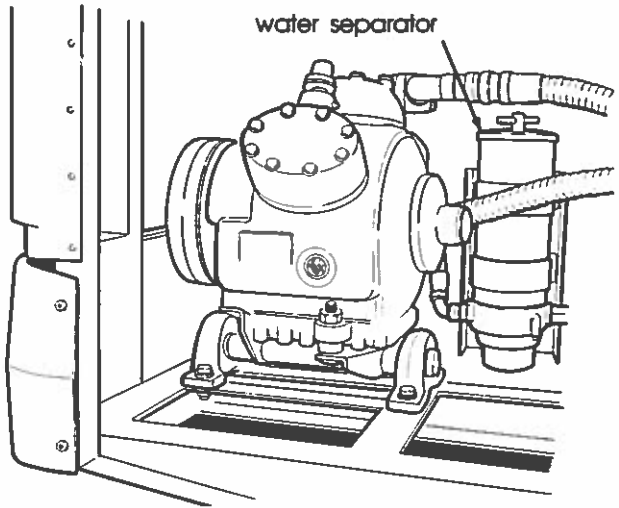
HUBODOMETER

A wheel hubodometer is provided at the R.H. side end of the drive axle. It indicates the total distance (in miles or kilometers) covered by the coach since leaving the factory including road testing.



WATER SEPARATOR

A water separator may have been installed in A/C compressor compartment, 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 turn to drain.



PRE-RIDE INSPECTION (OR DAILY CHECK LIST)

ITEMS TO CHECK

EXTERIOR of vehicle

GENERAL: Check for general vehicle condition and visually inspect for loose bolts and nuts.

TIRES AND WHEELS: All tires should be checked, including the spare tire. Check all wheels for loose wheel nuts. They should be tightened to a torque of 450-500 ft-lb (610-680 Nm). Apply hand on wheel bearing cover and check for overheating. This should be done during a fuel stop, specially 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.

AIR SYSTEM: Purge drain valves in A/C compressor and steering compartment.

COOLANT LEVEL: With engine stopped, open coolant tank drain valve. If water runs, level is O.K. (see page 76)

● **Warning:** Hot engine coolant under pressure. Allow engine to cool before checking coolant level.

ENGINE OIL: Check oil level; replenish directly into engine or from reserve tank (see page 78)

☐ **Note:** Coach must be on level ground.

TRANSMISSION: Check oil level (see page 90 (auto) and 85 (man.).

POWER STEERING: Check oil level (see page 83)

BELTS: Check for worn belts.

WITH ENGINE RUNNING

LEAKS: Listen for any air leak at all 6 wheels.

BELT TENSIONERS: Visually check belt tension and tensioner shaft length.

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

INSIDE vehicle

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 cleaniness, 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 buzzers 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). Make full brake application; loss should not exceed 7 psi (42 kPa).

PARKING AND EMERGENCY BRAKES: With air pressure above 65 psi (448 kPa), deplete air unit, check that buzzer works and that control button lifts up. Wait for air pressure to exceed 85 psi (585 kPa) before releasing parking brake.

LIGHT BULB DATA

TRADE NO.	APPLICATION	WATTS OR CANDLE POWER	QTY	TYPE	VOLT
307	Steering compartment light	21	1	S-8	24
308	Driver's light	21	2	S-8	24
356	Engine compartment light	3.5	6	—	24
456	Side directional light	2	8	G-4 1/2	24
456	Side marker light	2	12	G-4 1/2	24
456	Luggage compartment light	2	26	G-4 1/2	24
456	Front electrical compartment light	2	2	G-4 1/2	24
456	Emergency exit lamp	2	18	G-4 1/2	24
464	Identification light	3	6	T -3 1/4	24
464	Clearance light	3	4	T -3 1/4	24
623	Rear directional light	32	4	S-8	24
623	Rear stop light	32	2	S-8	24
623	Back-up light	32	2	S-8	24
1251	Aisle lamp	3	6	—	24
1251	Front destination sign lamp	3	AR	—	24
1309	Step light	15	4	B-6	24
1683	Rear tail light	32	2	S-8	24
1683	Front directional light	32	2	S-8	24
1683	Rear center stop light	32	1	S-8	24
1829	Instrument light - 1/unit	1	AR	T -3 1/4	24
1843	Lavatory occupied lamp	2	1	T -3 1/4	24
OSRAM 2741	Switch light - 1/unit	IW	AR	T -3 1/4	24
OSRAM 3797	Indicator light - 1/unit	2W	AR	BA95	24

TRADE NO.	APPLICATION	WATTS OR CANDLE POWER	QTY	TYPE	VOLT
93-0209	Licence plate light	—	2	sealed	24
961-4140	Reading lamp	8W	46	BA95	24
F15T8/CW	Fluorescent lighting	15W	20	—	—
H-3	Fog light	70W	2	H-3	24
H4651	Hi-beam, headlamp	50W	2	IAI	12
H4656	Lo-beam, headlamp	35W	2	2A1	12
PL7	Fluorescent (aisle)	7W	14	—	—

LUBRICATION & SERVICING SCHEDULE

LUBRICATION

A lubrication chart is included in this section to give approximate location of key service points on the coach. Where cleaning, removal or disassembly are required for lubrication purposes, these procedures are covered in the applicable sections of this manual.

Lubrication intervals are based on recommendations for normal operating conditions. Where more severe service is encountered, more frequent attention will be required.

NEW COACHES

Lubricant in the manual transmission and differential supplied as «factory fill» in new coaches should be drained and refilled after 1000 miles (1,600 km) and in no case over 3000 (5,000 km) of initial operation.

ROUTINE SERVICE

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.

OIL CHANGES

The oil change period is dependent on operating conditions (e.g. load factors etc.) of the engine and will vary. It is recommended however, that the oil change interval be based on 300 operating hours time the average vehicle operating speed (10,000 miles or 16,000 km approx.).

The drain interval may then be gradually increased or decreased with experience on a specific lubricant while also considering the recommendations of the oil supplier (analysis of drained oil can be helpful here) 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 manufactured. For the 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 jecketed thermometer in the dipstick opening immediately after stopping a hot, loaded engine. If the oil temperature exceeds the coolant temperature by more than 60°F (33°C), the oil cooler may be clogged.

CHECKING OIL LEVELS

Lubricant compartments of the engine and transmission are provided with dipsticks for checking lubricant level. They are connected to a two-gallon oil reserve tank by two shut-off valves, allowing oil to be added to crankcase or manual transmission by opening the corresponding valve. Comparison of oil levels in sight gauge, before and after adding oil, shows how much oil has been added.

☐ **Note:** On vehicle equipped with an automatic transmission, the oil reserve tank is connected to the engine only.

OIL RECOMMENDATIONS

Satisfactory prolonged heavy-duty engine operation requires heavy-duty lubricating oils with additives. These oils provide better lubrication, have more heat resistance and counteract sludge formation more effectively than the straight mineral type oils.

Heavy duty engine oil meeting MIL-L-2104C or MIL-L-46152 specifications should be used for both the engine and manual transmission. Oil grade should be SAE-40 for vehicles operating at temperatures above 0°F (-18°C), and SAE-30 for operation below 0°F (-18°C).

☐ **Note:** Multi-viscosity type oil is not recommended.

On vehicles equipped with an automatic transmission, transmission must be filled with Dexron automatic transmission fluid.

General purpose gear lubricant SAE-140 grade, is recommended for use in the differential.

FLEXIBLE HOSE MAINTENANCE

The performance of engine and auxiliary equipment is greatly dependent on the ability of flexible hoses to transfer 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-START INSPECTION

Check hoses daily as part of the pre-start up 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 hazardous areas. Since all machinery vibrates and moves to a certain extent, clamps and ties can fatigue with age. To ensure continual 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 expense 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

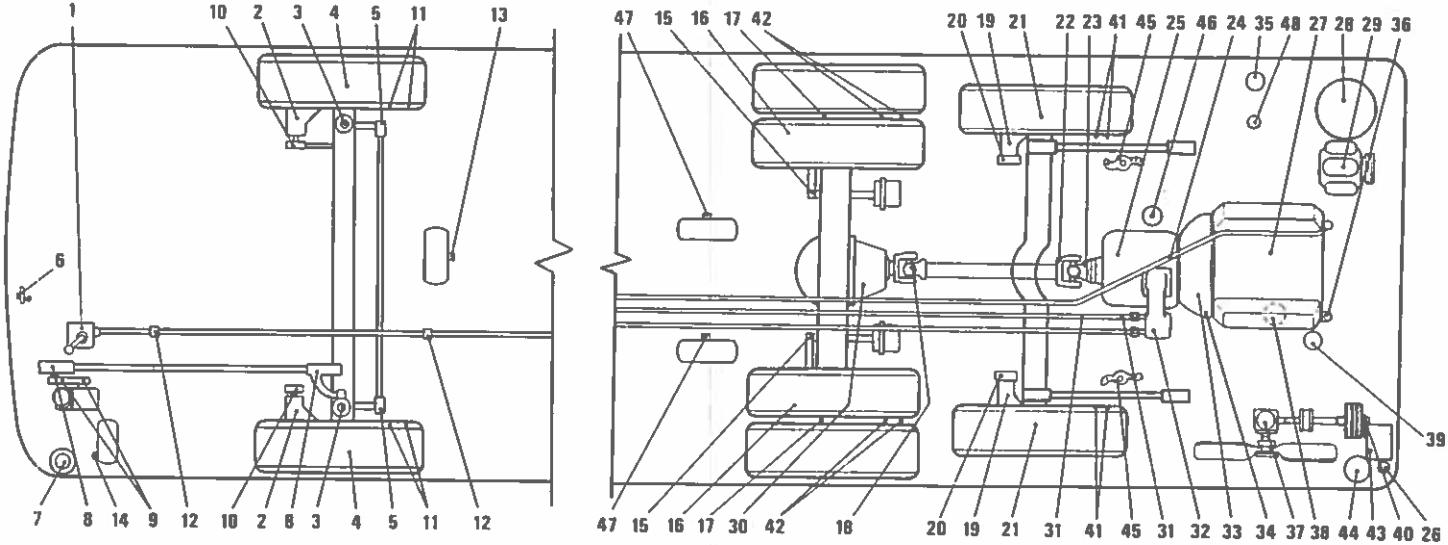
A hose has a limited service life. The service life of a hose is determined by the temperature and pressure of the gas or fluid within it, the time in service, the mounting, the ambient temperatures, amount of flexing, and the vibration it is subject to. With this in mind, it is recommended that all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

It is also recommended that all hoses in or out of machinery be replaced during major overhaul and/or after a maximum of five years service. Replacement hose assemblies should always be equal to or superior than the original equipment supplied with this engine.

RECOMMENDED LUBRICANT CODE:

O-1 H.D. engine oil Mil-L-2104C or Mil-L-46152 (not MS)
O-2 Dexron automatic transmission oil
L-1 High melting point, water resistant, lithium base grease
L-2 Molybdenum disulphide grease
L-3 «Lubriplate» no. 105
G-1 General purpose gear lubricant - SAE 90
G-2 General purpose gear lubricant - SAE 140
A-1 Air conditioning compressor oil
S-1 Shutterstat fluid
W-1 Windshield washer fluid
W-2 Engine coolant (ethylene glycol permanent type antifreeze solution, low silicate type).

FRONT LUBRICATION AND SERVICING CHART



*1- Gear shift box
2- Brake camshaft (front axle)
3- Steering knuckles
4- Wheel bearing
5- Steering tie rod ends
6- Destination sign gears
7- Windshield washer reservoir
8- Steering drag link socket
9- Steering column U-joint
10- Slack adjuster
11- Brake shoe Anchor pin
*12- Shift control rod U-joint
13- Air tank drain valve
14- Accessories air tank drain valve
15- Slack adjuster (rear axle)
16- Brake camshaft (rear axle)
17- Wheel bearing (rear axle)
18- Propeller shaft U-joint
19- Brake camshaft (aux. axle)
20- Slack adjuster (aux. axle)
21- Wheel bearing (aux. axle)
22- Propeller shaft slip joint
23- Propeller shaft U-joint
24- Speedometer adapter
25- Transmission
26- Shutterstat lubricator
27- Engine
28- Air cleaner
29- Air conditioning compressor
30- Rear axle differential
*31- Shift control rod U-joint
*32- Clutch control cross shaft
*33- Clutch release bearing
*34- Clutch release shaft
35- Fuel strainer
36- Tachometer adapter
37- Fan gear box
38- Oil filter
39- Fuel filter
40- Fan pulley bearing
41- Brake shoe Anchor pin (aux. axle)
42- Brake shoe Anchor pin (rear axle)
43- Engine coolant
44- Power steering
45- Tag lever
46- Automatic transmission filter element
47- Air tank drain valves
48- Air system drain valve

* MANUAL TRANSMISSION ONLY

LUBRICATION AND SERVICING SCHEDULE

Note: ITEMS No. F are for front lubrification
No. R are for rear lubrification

1) CHECK DAILY - SERVICE IF REQUIRED

ITEM NO.	DESCRIPTION	SERVICE	LUBRICANT
R-13	Engine oil	Keep to «full» level	0-1 (SAE 40 or 30)
R-11	Transmission oil (manual)	Keep to «full» level	0-1
R-11	Transmission oil (automatic)	Check level	0-2
R-30	Power steering oil	Keep to «full» level	0-2
F-7	Windshield washer	Fill reservoir	W-1
F-4 & R-7	Wheel bearings	Check level in sight glass	G-1
F-14 & R-34	Air system drain valves	Purge	
	Check hoses for leaks		
	Check V-belts for tension		
	Check tire pressure		

2) SERVICE EVERY 6,250 MILES (10,000 KM)

ITEM NO.	DESCRIPTION	SERVICE	LUBRICANT
F-1	Gear shift box	1 grease fitting (steering compartment)	L-2
F-2	Brake camshaft (front axle)	1 grease fitting on each side	L-2
F-3	Steering knuckles	2 grease fittings at each side	L-2
F-5	Steering tie rod ends	1 grease fitting at each side	L-2
F-8	Steering drag link socket	1 grease fitting at each end	L-2
F-9	Steering column U-joint	2 grease fittings	L-2
F-10	Slack adjuster (front)	1 grease fitting at each side	L-2
F-11	Brake shoe Anchor pin (front)	2 grease fittings at each side	L-2
F-12	Shift control rod U-joints	2 grease fittings	L-2
R-1, R-6	Slack adjusters (rear)	2 grease fittings at each side	L-2
R-2, R-5	Brake camshafts (rear)	2 grease fittings at each side	L-2
R-4, R-9	Propeller shaft U-joints	1 grease fitting at each end	L-2
R-8	Propeller shaft slip joint	1 grease fitting at each end	L-2
R-10	Speedometer adaptor (Opt.)	1 grease fitting	L-2
R-15	A.C. compressor base	2 grease fittings	L-2
R-17	Shift control rod U-joints	2 grease fittings	L-2
R-18	Clutch control cross shaft	2 grease fittings	L-2
R-19	Clutch release bearing	1 grease fitting	L-2

ITEM NO.	DESCRIPTION	SERVICE	LUBRICANT
R-20	Clutch release shaft	1 grease fitting	L-2
R-22	Tachometer adaptor	1 grease fitting	L-2
R-26	Fan pulley bearing	1 grease fitting	L-1
R-27	Brake shoe Anchor pin (aux. axle)	2 grease fittings at each side	L-2
R-28	Brake shoe Anchor pin (rear axle)	2 grease fittings at each side	L-2
R-31	Auxiliary axle level	1 grease fitting at each side	L-2
F-6	destination sign gears	Apply lubricant on gears	L-3
R-14	Air cleaner (1)	Inspect and clean, replace element if required	
R-15	Air conditioning compressor	Check oil level in sight glass	A-1
R-16	Differential	Check oil - Keep to level of filler plug	G-2
R-23	Fan gear box	Check oil - Keep to level on dipstick	G-1
R-29	Engine coolant	Check level - Keep to level on drain plug on side of expansion tank	W-2
R-32	Automatic transmission oil filter	Replace element after first 5000 miles (8,000 km)	

(1) On vehicles equipped with oil bath type air filter, empty cup, clean out and refill with a non-volatile oil (SAE-20).

Caution: Never operate without oil. Under severe dust conditions, service daily.

3) SERVICE EVERY 12,500 MILES (20,000 KM)

ITEM NO.	DESCRIPTION	SERVICE	LUBRICANT
R-13	Engine oil	Drain and refill	O-1 (SAE 40 or 30)
R-24	Engine oil filter	Replace element	
R-21	Fuel strainer	Replace element	
R-25	Fuel filter	Replace element	
R-12	Shutterstat lubricator	Drain filter bowl and 1 ounce (30 ml) of fluid	S-1
F-13 & R-33		Drain air tanks	
		Check air gauges for leaks	
		Check steering and accelerator linkage	
		Check all lights and switches	
		Tighten wheel nuts	
		Check cooling system for leaks-test anti-freeze (-32°F) (-35°C)	
		Remove and clean heater and AC filters	
		Operate and reset emergency stop	
		Adjust brakes	

4) SERVICE EVERY 25,000 MILES (40,000 KM)

Check AC unit - service if necessary
Clean battery connections
Clean differential breather
Clean all air intake ducts and screens
Remove wheels and inspect brakes
Drain and refill wheel bearing oil (1)
Clean AC condenser coil
Check clutch pedal clearance

(1) On vehicles equipped with grease lubricated wheel bearings, clean and inspect bearings. Pack with wheel bearing grease.

5) SERVICE EVERY 50,000 (80,000 KM)

Drain transmission oil and refill
Drain differential oil and refill
Change automatic transmission oil filter
Change air dryer filter
Change power steering oil filter

OWNER ASSISTANCE

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)

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 fell free to contact the SERVICE MANAGER at PREVOST CAR INC. (418) 883-3391.

We will be pleased to help you!

4. If you have any questions about warranty, please refer to «WARRANTY AND SERVICE GUIDE» which is delivered with the new vehicle.

MACNAB BUS SALES

439 Bell Street
Ingersoll, Ontario
N5C 2P3

Tim Bannon, President
(519) 485-3340

LEVETT INTER-CITY COACH SALES LTD

440 Brooksbank Avenue
North Vancouver, British Columbia
V7J 2C2

W. Gordon Levett, President
(614) 980-0545

BUS & BODIES, INC.

Route 125, P.O. Box 464
Plaistow, New Hampshire 03865

Dennis Ciniero,
Service Representative
(603) 382-7377
(800) 537-7700

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

CENTRAL STATES PREVOST, INC.

2513 East Higgins Road
Elk Grove Village, Illinois 60007

Richard D. Bingham, President
(312) 264-4788
(800) 323-0312

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

SOUTHWEST PREVOST, INC.

219 North Briery Road
Irving, Texas 75061

William C. Jensen, Branch Manager

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(800) 323-0312

PREVOST CAR, INC.

22831 Frampton Avenue
Torrance, California 90501

Tom Pollard, Branch Manager

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

PREVOST CAR, INC.

35 Boulevard Gagnon
Ste-Claire, P.Q.
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.

- Maintenance manual
- Driver's manual
- Parts manual
- Service manual (Bulletins)
- Service center directory

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

PREVOST CAR INC.
ATT. TECHNICAL PUBLICATIONS DEPARTMENT
35, boulevard Gagnon
Ste-Claire, Québec
G0R 2V0

Specify the complete vehicle serial number and model year. Allow 30 days for delivery.

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