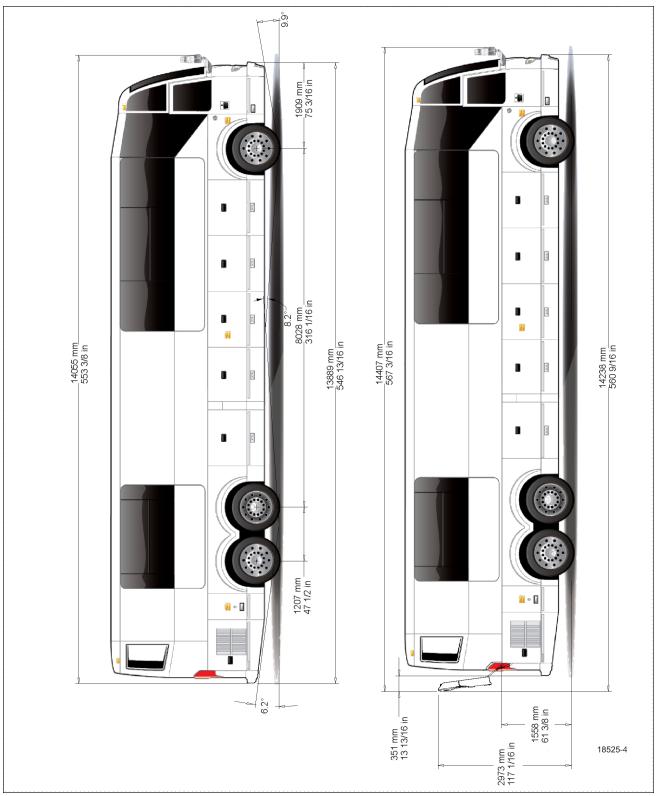
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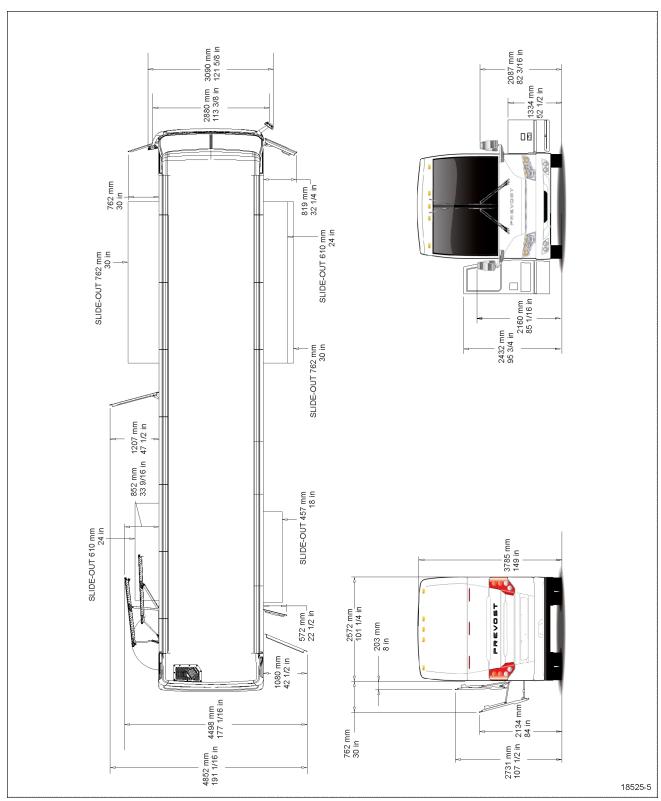
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DIMENSIONS AND WEIGHTS



H3-45 VIP OVERALL DIMENSIONS



H3-45 VIP OVERALL DIMENSIONS

DIMENSIONS AND WEIGHTS	H3-45 VIP
Overall length (including bumpers)	45' (13,7 m)
Overall width	102" (2 591 mm)
Overall height	149" (3 785 mm)
Wheelbase (center of front axle to center of drive axle)	313.4" (7 960 mm)
Floor height from ground	63" (1600 mm)
Ground clearance	11" (280 mm)
Step height from ground	14" (356 mm)
Step height (other steps)	7" (178 mm)
Headroom	83" (2 260 mm)
Entrance door opening width	28" (711 mm)
Front overhang	75" (1 905 mm)
Rear overhang	108" (2 743 mm)
Front track	86.3" (2 192 mm)
Drive track	74.3" (1 887 mm)
Rear track (Tag axle)	83.8" (2 128 mm)
Curb weight (before conversion,	
Gross Vehicle Weight Rating (G.V.W.R.)	55 000 lb (25 174 kg)
Front axle Gross Axle Weight Rating (G.A.W.R.)	19 000 lb (8 618 kg)
Drive axle (G.A.W.R.)	22 500 lb (10 206 kg)
Tag axle (G.A.W.R.)	14 000 lb (6 350 kg)

NOTE

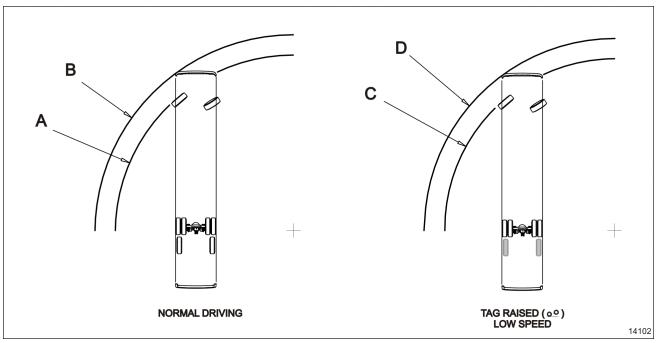
Curb weight is given as an indication only and is subject to vary from coach to coach, mostly due to optional equipment

The actual Gross Vehicle Weight Rating (G.V.W.R.) and the Gross Axle Weight Rating (G.A.W.R.) for front, drive and tag axles are listed on a certification plate located on the L.H. control panel in driver's section.

CAPACITIES

CAPACITIES	H3-45 VIP
Volvo D13 Engine oil (refill volume with filter change)	40 US quarts (38 liters)
Fuel tank (legal capacity equal to 95% of volume)	222 US gal (840 liters)
Diesel Exhaust fluid tank (DEF)	16 US gal (60 liters)
Cooling system	26.2 US gal (99 liters)
	11.75 US gal (45 liters) initial
Allison Automatic Transmission (does not include external circuit)	6 US gal (23 liters) refill
	6.9 US gal (26 liters) refill with retarder
Differential oil	20 US qts (19 liters)
Power steering reservoir	4 US qts (3,8 liters)
A/C compressor oil (high capacity system)	2.8 US quarts (2.6 liters)
Windshield washer reservoir	5.3 US gal (20 liters)
Refrigerant	26 lb (11.8 kg) (high capacity system)
I Cangerant	6 lb (2.75 kg) (small A/C system)

TURNING RADIUS



TURNING RADIUS DIAGRAM

Table below shows the turning radius values. The values are presented in by model and front axle type. Values A and B are for normal driving. Values C and D show values for low speed maneuvering where the tag axle is raised \bullet \bullet



CAUTION

Do not drive vehicle with tag axle raised at speeds exceeding 12 mph (20 km/h). For additional details, refer to <u>"TAG AXLE CONTROL VALVE" on page 14</u> in Section 4 Controls and Instruments and <u>"RETRACTABLE TAG AXLE" on page 29 in Section 5 Other Features.</u>

NOTE

Supplied values are theoretical. Factors such as ground surface, vehicle speed and road conditions may significantly affect the turning radius.

Turning Radius 1, 2	H3-45, H3-45 VIP with Front Independent Suspension
A (Curb to Curb)	11.34m (37'3")
B (Wall to Wall)	12.64m (41'6")
C (Curb to Curb)	10.84m (35'7")
D (Wall to Wall)	12.13m (39'10")

 $^{^{\}mbox{\scriptsize 1}}\mbox{Curb}$ to Curb value corresponds to the outer tire's track on the ground.

²Wall to Wall value includes the vehicle's body overhang.

FUEL TYPE

Your Prevost vehicle is powered by a diesel engine designed to operate only with Ultra Low Sulfur Diesel (ULSD) fuel, which can contain no more than 15 ppm sulfur.



WARNING

ULSD fuel is necessary to avoid fouling the engine's Exhaust Aftertreatment System. Use of fuel other than ULSD will reduce the efficiency and durability of the engine.

BIODIESEL FUEL

Biodiesel with up to a maximum of 5% biofuel (B5) may be used and will not affect the manufacturer's mechanical warranty as to engine and emissions system related components. The biofuel used in the various blends must conform to ASTM D6751; therefore B1 to B5 blends conforming to ASTM D975. Also, any engine performance problem related to the use of biodiesel fuel would not be recognized nor considered as Volvo or Prevost's responsibility.

However, Volvo engines are certified to comply with U.S. EPA and California emissions standards based upon the use of test fuels with specifications established by these regulatory agencies.

Alternative fuels, including biodiesel, that are not substantially similar to the required test fuels may adversely affect engine emissions compliance. As a result, Volvo does not warrant the engine will conform to applicable Federal or California emissions limits when operated on biodiesel or other alternative fuels that are not substantially similar to specified test fuels used for certification.

Additional maintenance is required and is covered in Section 03: FUEL SYSTEM of the maintenance manual.

WHEELS AND TIRES

WHEELS DIMENSION

Alcoa aluminum wheels (front & tag axles): 10½" X 22½"

Alcoa super single wheels (drive axle): 14" X 221/2"

TIRE DIMENSIONS

Front & tag axles: 365/70 R22.5 load range L tires on both axles

Drive axle: 315/80 R22.5 load range L tires

Drive axle: super single 455/55 R22.5 load range L

tire

RECOMMENDED TIRE INFLATION PRESSURE AT MAXIMUM COLD LOAD

The recommended tire inflation pressures are given in the applicable documents supplied with the vehicle. In addition, cold tire inflation pressures are listed on the Department of Transport (DOT) certification plate, affixed on the wall behind the driver's seat.

For special tire selection, a "Prevost coach special specification" chart is supplied with the vehicle and is affixed next to the DOT certification plate.

Vehicles equipped with TPMS: The TPMS target pressures are factory set to equal the prevailing tire pressure at delivery time. When tire pressures are increased to account for higher vehicle weight, the TPMS set point needs to be increased accordingly.

NOTE

Before being converted, Bus Shells vehicles are not at their maximum weight and tire pressures are adjusted at a lower level value than the maximum allowed appearing on the DOT plate. Tire pressure must be readjusted once converted.



CAUTION

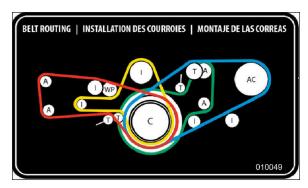
These tire pressures are established in accordance with the maximum allowable load on each axle. A lower pressure is recommended if the axle load is less than the above specifications. Weigh vehicle fully loaded and pressurize according to tire manufacturer's recommendations. For non-standard tire and wheel specifications, see Prevost tire pressure tabulation in "Coach Final Record" or special specification chart affixed next to the DOT certification plate.

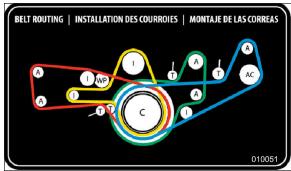


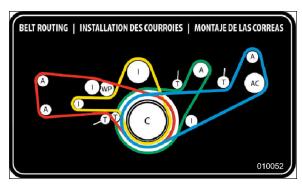
WARNING

Special tire selection may lower maximum allowable speed limit, even below posted speed limit. For maximum safety, check with tire manufacturer.

BELTS







A: Alternator I: Idler T: Tensioner

C: Crank WP: Water pump AC: A/C compressor

Belt application	Туре	Qty
A/C compressor - high capacity HVAC system with four altern- ators	5VX950	2
A/C compressor - high capacity HVAC system with Volta altern- ator	5VX940 + 5VX740	1+1
A/C compressor - small HVAC system with Volta alternators	AX-32	2
Alternator - twin Bosch, curb side	Multi-V-8 Rib 8PK1575	1

Belt application	Туре	Qty
Alternator - emergency belt on upper alternator, curb side	Multi-V-8 Rib 8PK1512	1
Alternator - twin Bosch, street side	Multi-V-10 Rib 10PK1892	1
Alternator - supplemental Bosch above A/C compressor, curb side	Multi-V-8 Rib 8PK1512	
Alternator - Volta on small HVAC system	5VX950	2
Drive beltfrom crankshaft pulley to intermediary drive of auxiliary alternator & compressor - small HVAC system:	Multi-V-8 Rib 8PK1840	2
Coolant pump	Multi-V-10 Rib 10PK1512	1

NOTE

Belts specifications and configurations may vary. For proper belt selection, always consult your vehicle "Coach Final Record".

VOLVO D13 ENGINE

Type: 4-stroke / inline six cylinders

Displacement: 12.8 I, SOHC, 4-valve /cylinder

Power. 500 HP

Torque: 1851 lbf·ft (2509 Nm)

Cruise speed range: 1400-1800 rpm

Full dress, dry weight: 1174 kg / 2588 lb

ALLISON TRANSMISSION

Allison World MH4000 electronically controlled six speed automatic transmission (MH4000R with the optional output retarder).

GEAR RATIOS

1st	3.51
2nd	1.91
3 rd	1.43

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<i>4</i> th	1.00
5th	0.74
6th	0.64
Reverse:	4.80
Converter:	1.90

PROPELLER SHAFT

Dana Spicer SPL250 type tubular shafts, provided with heavy-duty universal joints.

BRAKES

The features of the braking system include a dual system where the front and rear circuits are completely independent from each other. The brakes are air operated disc type brakes. The emergency/parking brakes are located on the drive. To ensure a constant running clearance between pads and disc, the brakes are equipped with a non-wearing, automatic adjuster mechanism.

BRAKE CHAMBER EFFECTIVE AREA

Front axle: 24 in²

Drive axle: 24/24 in² (service /emergency)

Tag axle: 16 in²

AIR SYSTEM

Compressed air is provided by a twin cylinder, 31.8 cfm Wabco, gear-driven, water-cooled and engine oil lubricated air compressor.

ANTILOCK BRAKING SYSTEM (ABS)

The antilock braking system has one Electronic Control Unit (ECU) controlling a 6- sensor/5-modulator (6s/5m) system. A wheel slip sensor is mounted at each wheel.

The Electronic Control Module (ECM) is maintenance free. Its operating voltage is 24 ± 6 volts DC. The thermal operating range for the ECM is from -40 to $167^{\circ}F$ (-40 to $75^{\circ}C$).

The solenoid control valves are maintenance free. Their operating voltage is 24 (+4.8, -2.4) volts DC.

The rated current draw is 1.65 amps. The thermal operating range of the solenoid control valves is from -40 to 176°F (-40 to 80°C).

TROUBLESHOOTING AND TESTING

For detailed information, troubleshooting and testing refer to Bendix booklet "Bendix Service Data EC80 ESP Controller (SD- 13- 4986)" found on the Technical Publications USB flash drive and web site or use menu "Diagnostics" of the DID (see "DRIVER INFORMATION DISPLAY (DID) MENUS " on page 11 in Section 5 Other Features).

AUTOMATIC TRACTION CONTROL (ATC) – ELECTRONIC STABILITY CONTROL (ESC)

In addition to the ABS function, vehicle is equipped with a Traction Control System (TCS) feature. This feature is provided by the Bendix ESP EC-80 controller. Bendix refers to this feature as Automatic Traction Control (ATC). Bendix ATC can improve vehicle traction during acceleration, and lateral stability while accelerating through curves. ATC utilizes Engine Torque Limiting (ETL) where the ECU communicates with the engine's controller and/or Differential Braking (DB) where individual wheel brake applications are used to improve vehicle traction.

The ESP EC-80 model controller also provides an ABS- based Electronic Stability Control (ESC) feature. Bendix refers to it as ESC Electronic Stability Control.

The Bendix ESC system is an ABS-based stability system that enhances vehicle stability by both reducing engine throttle and by applying vehicle braking based on actual vehicle dynamics

Refer to Maintenance Manual, Section 12: Brake and Air System for more information on this system.



CAUTION

Even with ESC-equipped vehicles, the driver remains responsible for ensuring vehicle stability during operation.



DANGER

ESC may reduce the vehicle speed automatically.

ESC can make the vehicle decelerate automatically. ESC can slow the vehicle with or without the operator applying the brake, and even when the throttle is being applied

STEERING

ZF 8098 integral hydraulic assisted steering gear

- ZF hydraulic pump gear driven from engine .
- ZF Servocomtronic variable ratio and variable assistance in function of vehicle speed available.
- Hydraulic reservoir and dipstick accessible from engine compartment.
- System pressure: 2320 psi (160 bars).
- Steering wheel diameter 18". Tilt steering wheel and telescopic steering column; pneumatically locked with foot-operated switch for adjustment.
- Number of turns: 5³/₄.
- Outside turning radius: see Dimensions and Weight table.

ELECTRICAL SYSTEM

- 24-volt, negative ground;
- 12-volt exterior lighting;
- Various arrangements of 24V-150A and 12V-200A, self-regulated, belt-driven, air-cooled Bosch alternators;
- Four 12 Volts, group 31 AGM type batteries connected in series/parallel. Each one has a reserve capacity of 200 minutes and a cold cranking capacity of 800 amps.
- 100 amp battery equalizer.

AXLES

FRONT AXLE - INDEPENDENT FRONT SUSPENSION (IFS)

- Prevost independent front suspension with calibrated air springs for improved comfort
- 19 000 lbs capacity (loading limit could be less depending on the wheel and tire selection)
- Wide apart double V -arm design mounted on ball joints with torque link
- Double sealed taper roller bearings bell crank and idler steering arm
- Unitized wheel bearing (maintenance-free bearing)
- Factory pre-adjusted caster

DRIVE AXLE

- Meritor model RC23-165 full banjo type dual tire drive
- Meritor RC23-165 ratio: 4.30 standard for optimized fuel economy at 65 mph. 3.42, 4.10 option with Allison B500
- Oil lubricated wheel bearings on Meritor RC23-165
- · Factory pre-adjusted caster

TAG AXLE

- Prevost hollow square beam
- FAG Unitized wheel bearings (maintenance free)
- Tag axle may be lifted to provide better traction in snow, mud and reduce the turning radius and tire scrub at low cornering speed

SUSPENSION

Goodyear rolling lobe type air springs (bellows) are used throughout.

INDEPENDENT FRONT SUSPENSION

2 Bellows (14") for a GAWR of 19 000 lbs;

2 Shock absorbers;

2 Upper V-arms:

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- 2 Lower V-arms:
- 2 Torque rods;
- 2 Steering Levers;
- 1 Height control valve;
- $1^{3}/_{4}$ sway bar;

DRIVE AXLE (ALL)

- 4 Bellows;
- 4 Shock absorbers;
- 3 Radius rods;
- 1 Panhard rod;
- 2 Height control valves;
- 1 Anti-roll bar;

TAG AXLE

- 2 Bellows;
- 2 Shock absorbers;
- 3 Radius rods;
- 1 Panhard rod;

ALIGNMENT SPECIFICATIONS

Use static wheel alignment systems which work with angle measurements only, such as Josam or Hunter systems. Static alignment specifications are listed in the following tables:

DRIVE AXLE - MERITOR				
	Minimum value	Nominal value	Maximum value	
Thrust angle	±0.11°			
Total toe	0.18°	0°	0.18°	
Total toe	toe-in	0	toe-out	

TAG AXLE			
	Minimum value	Nominal value	Maximum value
Thrust angle*	-0.02°	0	0.02°

TAG AXLE				
Total toe	0.08°	0°	0.02°	
Total toe	toe-in		toe-out	
(*) Use the drive axle as reference				

INDEPENDENT FRONT SUSPENSION					
CONVERTED VEHICLE					
	Minimum value	Nominal value	Maximum value		
Right camber	-0.20°	0.0°	0.20°		
Left camber	-0.20°	0.0°	0.20°		
Right caster	2.55°	2.8°	3.05°		
Left caster	2.55°	2.8°	3.05°		
Total toe	0.04°	0.06°	0.08°		

INDEPENDENT FRONT SUSPENSION				
NON-CONVERTED VEHICLE				
	Minimum value	Nominal value	Maximum value	
Right camber	0.20°	0.30°	0.50°	
Left camber	0.20°	0.30°	0.50°	
Right caster	2.55°	2.8°	3.05°	
Left caster	2.55°	2.8°	3.05°	
Total toe	0.02°	0.04°	0.06°	

COOLING SYSTEM

- Extra capacity, Aluminum radiator and aluminum charge air cooler arranged side by side.
- 24V ECU speed controlled electrical cooling fans, total of eight, six over radiator side and two on charge air cooler.
- Rubber insulated from the body.

- Expansion tank above radiator and remote mounted.
- System pressure 15 psi.
- Radiator fans: pusher type, 6 high power 24 Volts electrical fans, 12 inches diameter.
- Coolant: -Volvo engine: ELC (Extended life coolant), color red, with No-SCA filter.
- CAC fans: pusher type, 2 high power 24 Volts electrical fans, 12 inches diameter.
- Thermostat: 82 / 92 °C (180 / 198 °F) (cracking / fully open).
- Full system capacity 26.2 US gal (99 I).
- Coolant filter.

FUEL SYSTEM

- · Anti-spill device.
- Two safety filler caps providing filling access on both sides of the vehicle.
- · Pressure relief valve.
- Electric fuel gauge.
- · Primary filter 25 microns (standard).
- Primary fuel filter with electrical water indicator (Volvo D13).
- Fuel Pro 382 filter available as an optional primary filter.
- Secondary filter 3 to 5 microns.
- Shut-off valve on fuel supply line.

EXHAUST SYSTEM

One all stainless steel exhaust & aftertreatment system including:

- Catalylic converter to reduce NOx.
- Aftertreatment system made of a DPF (Diesel Particulate Filter), DOC (Diesel Oxidation Catalyst) and SCR system. Noise, vibration and heat insulated. This ATD is mounted to the vehicle structure and is accessible through an exterior access door.
- Tail pipe diffuser and rain deviation device.
- Exhaust pipe with Insulation and a flexible section.
- Exhaust to rear rooftop left hand corner.

 Diesel exhaust fluid (DEF) tank (60 liters) and injection system.

HEATING AND AIR CONDITIONING

Two air conditioning systems are available: the large capacity (central HVAC system) or the small capacity A/C (small HVAC system). Vehicles equipped with the large capacity HVAC system benefit from a combination heating and cooling system that provides adequate capacity of conditioned and filtered air for all climatic conditions. Fresh air is drawn into the system from the left (driver's) side of the vehicle. Return air is taken from the middle of the vehicle. The driver's heater and defogger are controlled separately from the central unit. An air mixture selector enables air to be drawn into the system from outside the vehicle or recirculated. Driver's air provides cooling for the driver's area only, maximizing available baggage space for other uses. The small capacity HVAC system enables cooling the driver's area only.

CENTRAL HVAC SYSTEM		
Air conditioning capacity	9 tons	
Refrigerant type	134A	
Heating capacity	150 000 Btu/h	
Air flow	2 600 cfm (73,6 m ³ /min)	

SMALL HVAC SYSTEM		
Air conditioning capacity	2 tons	
Refrigerant type	134A	
Air flow	450 cfm (12,7 m ³ /min)	
Refrigerant nominal charge	6 lbs	

COMPRESSOR (central HVAC system)		
Number of cylinders	4	
Operating speed	500 to 3500 rpm	
Oil capacity	2.8 US quarts (2.6 liters)	
Approved oil	Bitzer BSE55 (POE)	

COMPRESSOR (small HVAC system)		
Number of cylinders	7	
Operating speed	700 to 6000 rpm	
Oil capacity	6 US oz (0.18 liters)	
Approved oil	SP-20 (PAG)	

NOTE

The above oils are suitable for use with reciprocating compressors using refrigerant R134a and with evaporator temperatures above 40°F (-40°C).

OIL SPECIFICATIONS

Oil specifications for the vehicle's systems.

ENGINE

For the Volvo D13M engine, we recommend using SAE 10W-30 "Volvo Premium Motor Oil VDS-4.5" or other Volvo approved VDS-4.5 oils.

Volvo VDS-4.5 oils exceed API service category CK-4 oils.

ALLISON TRANSMISSION

Allison Transmission recommends the following fluids:

- Castrol TranSynd™ or TES-295 specification equivalent fluid;
- TES-389 specification equivalent fluid.

DIFFERENTIAL

Multigrade gear oil meeting MIL-PRF-2105E: 85W-140 is recommended for use in the Meritor drive axle. This lubricant performs well over a broad temperature range, providing good gear and bearing protection in a variety of climates. If temperature drops below 10°F (-12°C), 80W-90 should be used, and below -15°F (-26°C), 75W-90 should be used. In extreme conditions or for better performance, full synthetic gear oil should be used.

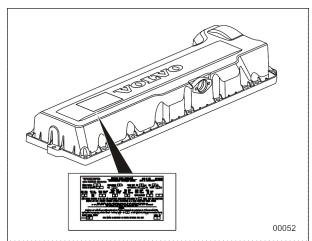
POWER STEERING RESERVOIR

Use Automatic Transmission Fluid (ATF) Dexron-III (F, G or H) or Dexron-IV for this system.

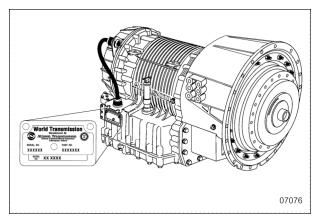
PLATES AND CERTIFICATION

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

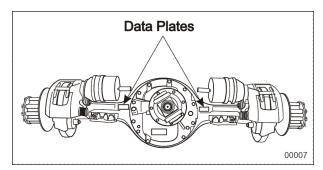
The engine data plate is located on the rocker cover. The engine serial and model number and a list of the optional engine equipment are written on this plate. Refer to this information when ordering replacement parts. Also the engine data plate certifies that the engine conforms to federal and any state exhaust emissions regulations.



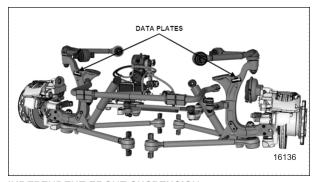
VOLVO D13 ENGINE DATA PLATE



ALLISON TRANSMISSION
I-SHIFT TRANSMISSION



MERITOR DRIVE AXLE



INDEPENDENT FRONT SUSPENSION

SAFETY CERTIFICATION

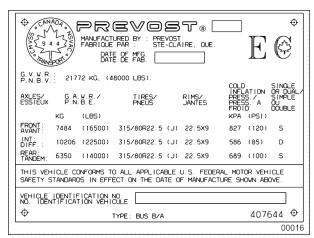
Vehicle components meet specifications and standards as follows:

- Material and parts conform to ASTM and/or SAE standards in effect at the time of manufacture.
- All factory-installed interior materials meet FMVSS 302 for fire resistance.
- Certified according to Provincial, State and Federal Safety standards (Canadian and US) BMCSS, FMVSS and CMVSS.
- Other applicable certification labels are affixed to the component.

DOT CERTIFICATION PLATE

This certifies that vehicles manufactured by Prevost comply with all Federal Motor Vehicle Safety Standards at the time of manufacture. Information such as the date of manufacture, model year, gross vehicle weight rating, tire types and inflation pressure is also etched on this plate.

The DOT certification plate is affixed behind the driver's seat.



DOT CERTIFICATION PLATE

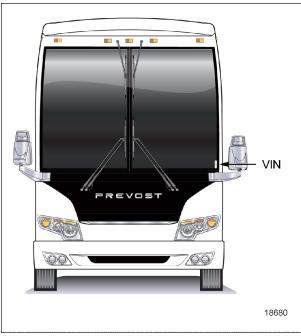
EPA ENGINE LABEL

The emissions certification label affixed in the engine compartment certifies that the engine conforms to federal and any state exhaust emissions regulations.



EPA CERTIFICATION LABEL

VEHICLE IDENTIFICATION NUMBER (VIN)



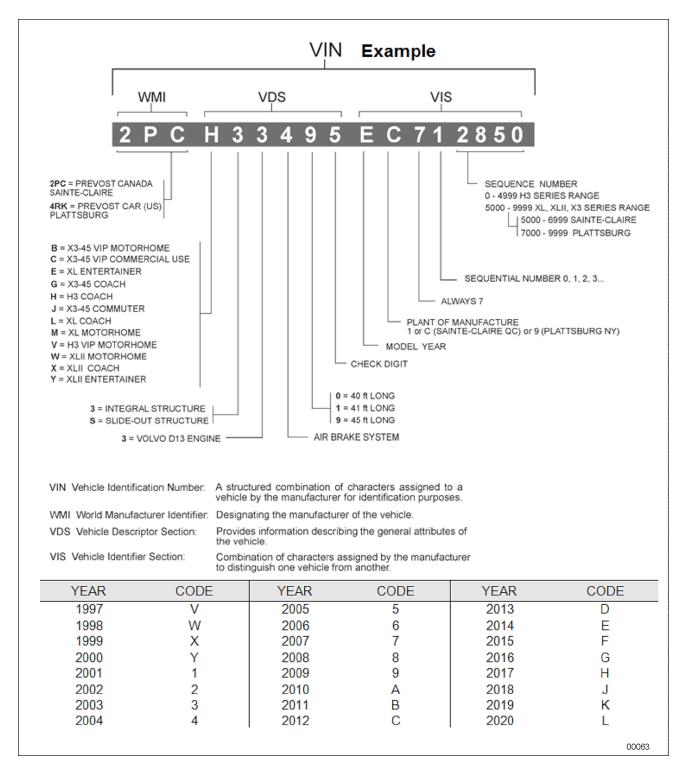
VEHICLE IDENTIFICATION NUMBER (H3 SERIES)

The Vehicle Identification Number is stamped on the DOT certification plate and also on a plate located on the windshield frame pillar (driver's side). The VIN is visible from the outside of the vehicle. Make sure the correct vehicle identification number is given when ordering replacement parts. Using the VIN when ordering parts will facilitate processing.

NOTE

Record the VIN in the vehicle documentation and keep with company records. The VIN will normally be used for vehicle registration, service reference needs and for obtaining vehicle insurance coverage.

VIN DEFINITION



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COACH FINAL RECORD

The Coach Final Record is a record of all data pertaining to the assembly of the vehicle. This record is shipped to the new customer via a courier company. Retain this record in the company records office for reference and safe-keeping.