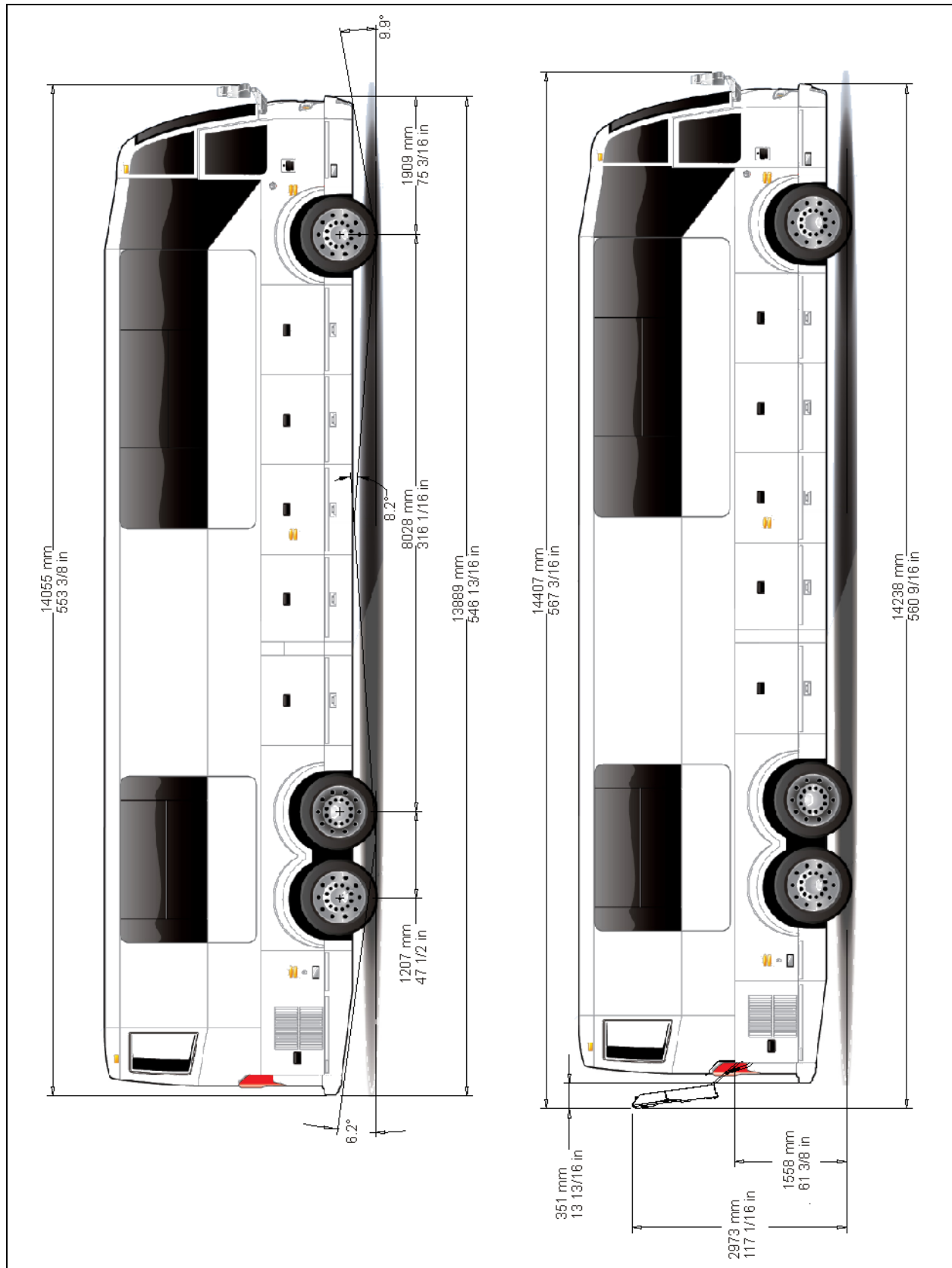


SECTION 9 TECHNICAL INFORMATION

DIMENSIONS AND WEIGHTS	5
CAPACITIES	5
FUEL TYPE	5
BIODIESEL FUELS.....	5
WHEELS AND TIRES	6
RECOMMENDED TIRE INFLATION PRESSURE AT MAXIMUM COLD LOAD.....	6
BELTS	6
ENGINE	7
ALLISON TRANSMISSION	7
PROPELLER SHAFT	7
BRAKES	7
BRAKE CHAMBER EFFECTIVE AREA.....	7
AIR SYSTEM	7
ANTILOCK BRAKING SYSTEM (ABS)	7
TROUBLESHOOTING AND TESTING	7
AUTOMATIC TRACTION CONTROL (ATC) – ELECTRONIC STABILITY CONTROL (ESC)	8
STEERING	8
ELECTRICAL SYSTEM	8
AXLES	8
FRONT AXLE.....	8
DRIVE AXLE	8
AUXILIARY AXLE	8
SUSPENSION	9
INDEPENDENT FRONT SUSPENSION	9
DRIVE AXLE.....	9
AUXILIARY AXLE.....	9
ALIGNMENT SPECIFICATIONS	9
COOLING SYSTEM	9
FUEL SYSTEM	10
EXHAUST SYSTEM	10

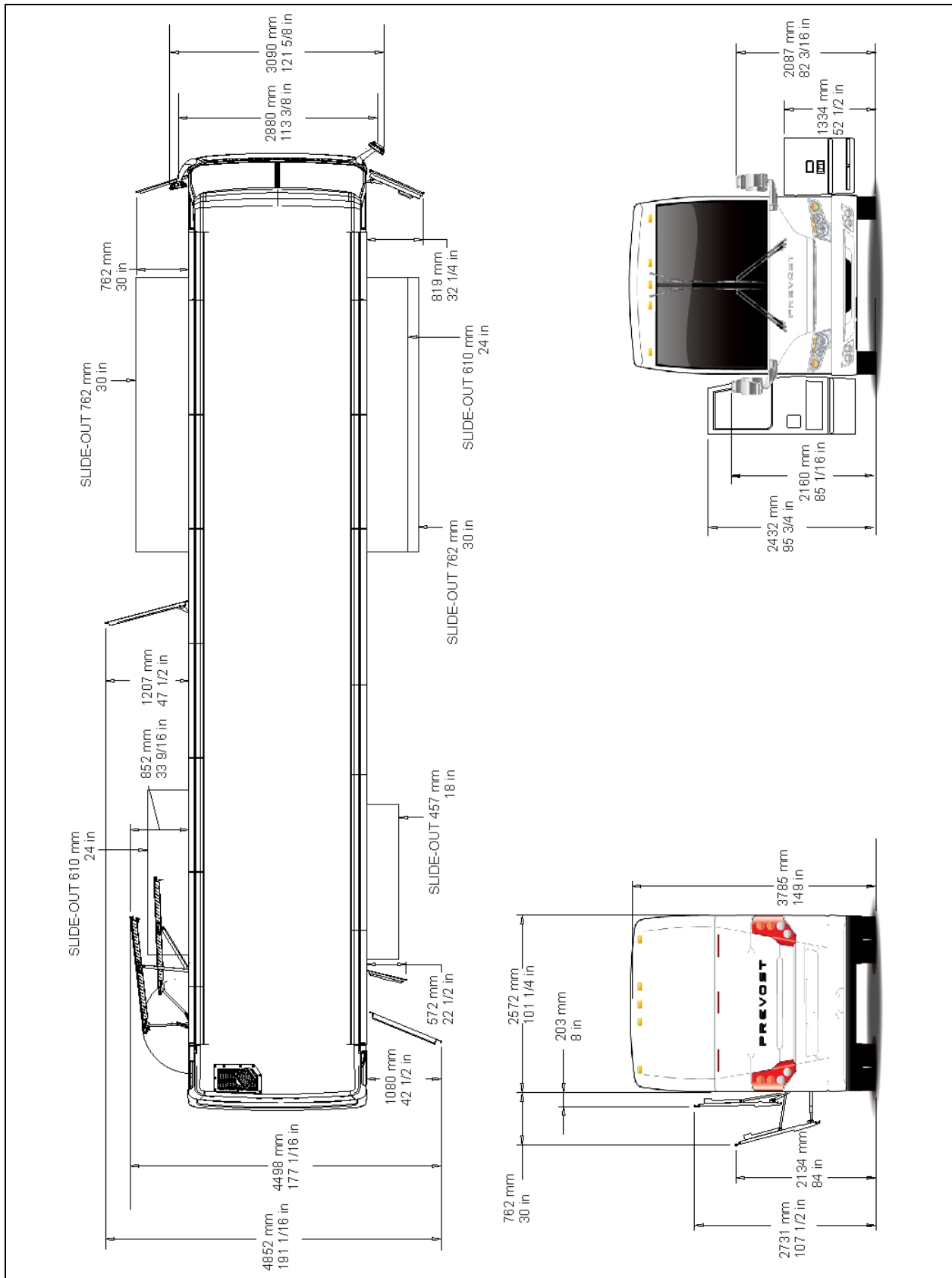
9-2 TECHNICAL INFORMATION

HEATING AND AIR CONDITIONING	10
OIL SPECIFICATIONS	10
ENGINE	10
ALLISON TRANSMISSION	11
DIFFERENTIAL.....	11
POWER STEERING RESERVOIR.....	11
PLATES AND CERTIFICATION	11
SAFETY CERTIFICATION	11
DOT CERTIFICATION PLATE.....	11
VEHICLE IDENTIFICATION NUMBER (VIN)	12
COACH FINAL RECORD	12



H3-45 VIP OVERALL DIMENSIONS

9-4 TECHNICAL INFORMATION



H3-45 VIP OVERALL DIMENSIONS

DIMENSIONS AND WEIGHTS	
Overall length (over bumpers)	45' (13.72m)
Overall width	102" (2.59 m)
Overall height (normal ride height)	149" (3.785 m)
Wheelbase (center of front axle to center of drive axle)	313.4" (7.960m)
Floor height from ground	63" (1.6 m)
Ground clearance	10.75" (273 mm)
Step height from ground	14" (356 mm)
Headroom	83" (1.956 m)
Entrance door opening width	28" (711mm)
Front overhang	75" (1,91 m)
Rear overhang	108 37" (2.753 m)
Front track	86.3" (2.193 m)
Drive track	74.3" (1.888 m)
Rear track (auxiliary axle)	83.8" (2.128 m)
Turning circle radius	41.6' (12.64 m)
Curb weight (before conversion/small AC & no slide-out)	31400 lbs (14 124 Kg)
Gross Vehicle Weight Rating (G.V.W.R.)	55000 lbs (25 174 kg)
Front axle Gross Axle Weight Rating (G.A.W.R.)	19 000 lbs (8 618 kg)
Drive axle G.A.W.R.	22 500 lbs (10 230 kg)
Auxiliary axle G.A.W.R.	14 000 lbs (6 365 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 Gross Vehicle Weight Rating (G.V.W.R.) and the Gross Axle Weight Rating (G.A.W.R.) for front, drive and auxiliary axles are listed on a certification plate located on the L.H. control panel in driver's section.

CAPACITIES	
Volvo D13 Engine oil (refill volume with filter change)	40 U.S. QRTS (38 L)
Fuel tank (legal capacity equal to 95% of volume)	222 US gal. 840 liters
DEF tank	16 US gal. 60 liters
Cooling system	26.2 US gal. 99 liters
Allison transmission (does not include external circuit)	6 US gal. 23 liters 6.9 US gal (26 liters) with retarder
Differential oil	5 US gal. 19 liters
Power steering reservoir	4 US qts 3.7 liters
Carrier 05G A/C compressor oil	6.3 US pints (3 liters)
Windshield washer reservoir	5 US gal. (19 l)
Refrigerant	26 lbs (11.8 kg) 6 lbs (2.75 kg) small A/C

FUEL TYPE

Diesel engines for 2010 and later model year vehicles are designed to operate only with **Ultra Low Sulfur Diesel** (ULSD) fuel, which can contain no more than 15 ppm sulfur.

	<p>CAUTION</p>
<p>ULSD fuel is necessary to avoid fouling the engine's Aftertreatment Device (ATD). Use of fuel other than ULSD will reduce the efficiency and durability of the engine.</p>	

BIODIESEL FUELS

Biodiesel up to a maximum of 20% blend (B20) may be used and will not affect the manufacturer's mechanical warranty as to engine and emissions system related components, provided the biofuel used in the blend conforms to ASTM D6751, B1 to B5 blends conform to ASTM D975, and B6 to B20 blends conform to ASTM D7467. Also, any

9-6 TECHNICAL INFORMATION

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

Drive Axle Aluminum forged wheels... 9" X 22½"

Drive Axle Super Single Aluminum forged wheels 14" X 22½"

Drive Axle Tires 315/80 R 22½"

Drive Axle Super Single Tires..... 455/55 R 22½"

Auxiliary & Front Axle Aluminum forged Wheels 10½" X 22½"

Auxiliary & Front Axle Tires 365/70 R 22½"

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.

NOTE

Bus Shells vehicles, before being converted, are not at their maximum weight and tire pressures are adjusted at lower level than the maximum allowed appearing on the DOT plate. Tires pressure must be re-adjusted once converted.

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 need to be increased accordingly.



WARNING

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



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 nonstandard tire and wheel specifications, see Prevost tire pressure tabulation in "Coach Final Record" or special specification chart affixed next to the DOT certification plate.

BELTS

With high capacity Bitzer compressor

Use	Model	Qty
Coolant pump	Poly-V 10PK1512	1
HD10 alternators 28V, 150 Amps. Driver's side	Poly-V 10PK1892	1
HD10 alternators 28V, 150 Amps. Curb side	Poly-V 8PK1575	1
Limp home belt	Poly-V 8PK1512	
A/C compressor W/4 alternators)	5VX950	2
A/C compressor (W/Volta alternator)	5VX740 & 5VX940	1 1

With small A/C compressor

Use	Model	Qty
Coolant pump	Poly-V 10PK1512	1
HD10 alternators 28V, 150 Amps. Driver's side	Poly-V 10PK1892	1
HD10 alternators 28V, 150 Amps. Curb side	Poly-V 8PK1575	1
Limp home belt (w/4 alternators)	Poly-V 8PK1512	
Drive belt (from crankshaft pulley to auxiliary alternators and compressor intermediary drive)	Poly-V 8PK1840	1
With Volta alternator	5VX950	2
Compressor w/Volta alternators	AX-32	2

NOTE

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

ENGINE

Type: 4 cycles / inline six cylinders
 Displacement: 12.8 liters, SOHC, 4 valves per cylinder
 Power 500 HP
 Torque 1851 lbf-ft
 Recom. cruise speed range.....1300-1500rpm
 Full dress, dry weight..... 2519 lb

ALLISON TRANSMISSION

Allison MH4000 electronically controlled six speeds automatic transmission.

Gear Ratios

1 st	3.510
2 nd	1.906
3 rd	1.429
4 th	1.000
5 th	0.737
6 th	0.639
Reverse	4.801
Converter	1.9

PROPELLER SHAFT

Dana SPL250

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 Knorr SN7000 ventilated pneumatic disc brake type with ABS and automatic slack adjusters on front drive and auxiliary axles. Model 24/24 spring brakes on drive axle provide emergency and parking brakes. Emergency brake application will be automatic if pressure drops below 40 psi. At 60 psi a warning light and buzzer will come on so the driver can bring the vehicle to a safe stop simply by a conventional application of the foot brake pedal.

BRAKE CHAMBER EFFECTIVE AREA

Front axle (IFS)24 in²
 Front axle (I-Beam).....24 in²
 Drive axle24 in² service, 24 in² emerg/parking
 Auxiliary axle 16 in² (service)

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 four channel system. A wheel slip sensor is mounted at each front axle and drive axle wheel. The axle wheels are slave to the drive axle wheels.

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°F (-40 to 75°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 troubleshooting and testing of the vehicle's anti-lock braking system, refer to Meritor-WABCO Maintenance Manual MM-0112 "Anti-Lock Braking System For Trucks, Tractors and

9-8 TECHNICAL INFORMATION


Buses" or use menu "Diagnostics" of the DID (see "Driver information display menus" in *Other Features* chapter).


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

In addition to the ABS function, vehicle may be equipped with an advanced model of Bendix EC-60 controller to provide an **Automatic Traction Control (ATC)** feature. 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 EC-60 advanced model controller also provides ABS-based stability features referred to as **ESC[®] Electronic Stability Control**.

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

 WARNING
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 .

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

STEERING

ZF 8098 integral steering gear model.

- Variable assistance in function of speed is optional.
- ZF servocomtronic integral steering gear model.
- ZF hydraulic pump gear driven from engine drive.

- Hydraulic reservoir and dipstick accessible from engine compartment.
- System pressure 2320 psi.
- Steering wheel diameter 17 3/4". Tilt and telescopic, pneumatically locked with foot operated switch for adjustment.
- Number of turns: 5¾.
- Outside turning radius: see Dimensions and Weight.

ELECTRICAL SYSTEM

- 24 volt, negative ground;
- 12 volt exterior lighting;
- 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.
- Four 28 volts (large capacity A/C system), 150 amp, self-regulated, belt-driven, air-cooled HD 10 Bosch alternators.
- 100 amp battery equalizer;

AXLES

FRONT AXLE

- Prevost independent front suspension with recalibrated air springs for improved comfort.
- 19,000 lbs capacity (loading limit could be less depending on wheel and tire selection).
- Wide apart double A-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 floating banjo type.
- Induction hardened bearing journals for greater durability.
- Oil lubricated wheel bearing.
- Axle ratio 4.30 to 1 for optimized fuel economy at 65 mph (standard).
- Proposed ratios: 4.56 for performance.
- Differential ratios: Suggested standard 4.30. Option with Allison B500: 3.42, 4.10.

AUXILIARY AXLE

- Prevost hollow square beam.

- Unitized wheel bearings (maintenance free).
- Auxiliary axle may be lifted to provide better traction in snow and mud.

SUSPENSION

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

INDEPENDENT FRONT SUSPENSION

- 2 14-inch Bellows for a G.A.W.R. of 19,000 lb;
- 2 Shock absorbers;
- 2 Upper A-arms;
- 2 Lower A-arms;
- 1 Height control valve;
- 1 sway bar (1¾" diameter).

DRIVE AXLE

- 4 Bellows (11");
- 4 Shock absorbers;
- 3 Radius rods;
- 2 Height control valves;
- 1 Panhard rod
- 1 Anti-roll bar, 2" diameter

AUXILIARY AXLE

- 2 Bellows (12");
- 2 Shock absorbers;
- 3 Radius rods;
- 1 Panhard (transverse) 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:

AUXILIARY AXLE			
	Minimum value	Nominal value	Maximum value
Thrust angle *	-0.02°	0°	0.02°
Total toe	0.08° toe-in	0°	0.02° toe-out

(*) Use the drive axle as reference

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

FRONT AXLE (INDEPENDENT FRONT SUSPENSION)						
Load	Minimum value		Nominal value		Maximum value	
	Non-converted	Converted	Non-converted	Converted	Non-converted	Converted
Right camber	0.20°	-0.20°	0.30°	0°	0.50°	0.20°
Left camber	0.20°	-0.20°	0.30°	0°	0.50°	0.20°
Right caster	2.55°		2.8°		3.05°	
Left caster	2.55°		2.8°		3.05°	
Total toe	0.02°	0.04°	0.04°	0.06°	0.06°	0.08°

COOLING SYSTEM

- Radiator & Charge Air Cooler mounted side by side.
- Mounted low at the rear left hand side of the bus.
- Radiator: Aluminum fin, louvered 12 fpi, plastic tanks. Corrosion resistant Aluminum tubes and fins.
- On demand proportional speed electrical fan, engine ECU controlled.
- Rubber insulated from the body.
- Expansion tank above radiator and remote mounted.
- System pressure 15 psi.
- Thermostat: 82 / 92deg. C (180 / 198 deg. F) – (cracking / fully open).
- 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, all aluminium, 12 fpi.
- CAC fans: pusher type, 2 high power 24 Volts electrical fans, 12 inches diameter.

9-10 TECHNICAL INFORMATION

- System capacity 99 L (26.2 US gal).
- Coolant filter.

FUEL SYSTEM

Polyethylene 222 US gallons (840 liters) fuel tank located in middle of second baggage bay (heating and a/c section) includes:

- Anti-spill device.
- Two Safety filler cap, providing filling access on each side of the vehicle.
- Pressure relief valve.
- Electric fuel gage.
- Fuel cooler.
- Low level signal at 26 US gallon/98 liters.
- Primary filter 25 microns (standard).
- Fuel pro 382 filter available as an option as a primary filter.
- Secondary filter 3 to 5 microns.
- Shut-off valve on fuel supply line.

EXHAUST SYSTEM

One all stainless steel exhaust system including:

- FleetGuard aftertreatment system made of a Diesel Particulate Filter (DPF), Diesel Oxidation Catalyst (DOC) and Selective Catalytic Reduction (SCR) unit. Noise, vibration and heat insulated. This ATD is mounted to the bus 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 left hand top of rear cap.

HEATING AND AIR CONDITIONING

Two air conditioning systems are available: the large capacity (central A/C) or the small capacity A/C (also known as driver's air). Vehicles equipped with the large capacity A/C 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 A/C enables cooling the driver's area only.

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

COMPRESSOR (for small HVAC system)	
Number of cylinders	7
Operating speed	700 to 6 000 rpm
Oil capacity	6.0 U.S. oz (0,18 l)
Approved oil	SP-20 (PAG)

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

COMPRESSOR (For Central HVAC System)	
Number of cylinders	4
Operating speed	500-3500 rpm
Oil capacity	2.6 U.S. qts (2,5 l)
Approved oil	Bitzer BSE55 (POE)

NOTE

The above oils are suitable for use with reciprocating compressors using refrigerant R-134a and with evaporator temperatures above -40°F (-40°C).

OIL SPECIFICATIONS

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-2105-E: 85W140 is recommended for use in 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), 80W90 should be used, and below -15°F (-26°C), 75W90 should be used. In extreme conditions or for better performance, full synthetic gear oil should be used.

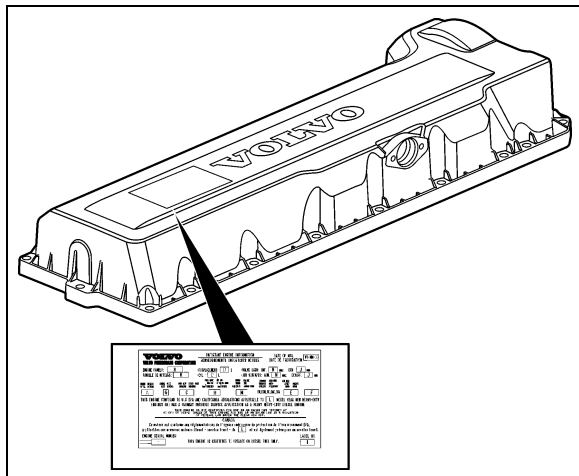
POWER STEERING RESERVOIR

Use Automatic Transmission Fluid (ATF) Dexron-IIIE or Dexron-III for this system.

PLATES AND CERTIFICATION

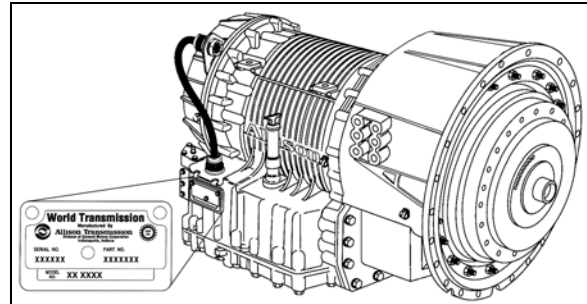
The main components of the vehicle, such as engine, transmission, axles and the chassis are identified by different serial numbers. It may be necessary to locate these numbers for warranty purposes.

In addition, option decals are located on the rocker cover (starter side). The engine serial and model number and a list of the optional engine equipment are written on these decals. Refer to this information when ordering replacement parts.



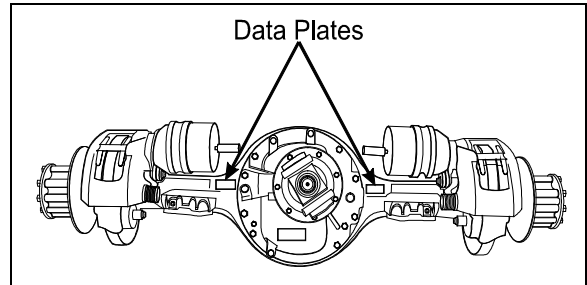
VOLVO D13 ENGINE DATA PLATE

00052



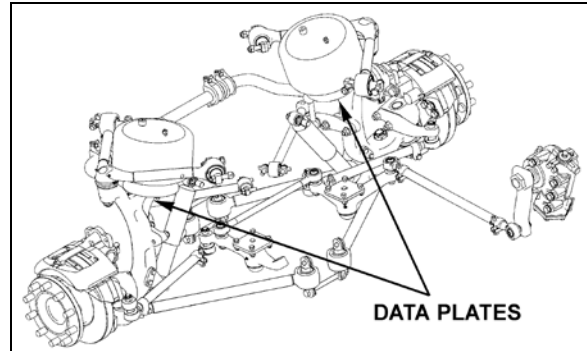
TRANSMISSION DATA PLATE

07076



DRIVE AXLE

11019



IFS TYPICAL SERIAL & MODEL NUMBERS

00025C

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 applicable components.

DOT CERTIFICATION PLATE

This certifies that vehicles manufactured by Prevost Car Inc. comply with all Federal Motor Vehicle Safety Standards at the time of manufacture. Information such as date of manufacture, model year, gross vehicle weight

9-12 TECHNICAL INFORMATION

rating, tire types and inflation pressure is also etched on this plate. The DOT Certification plate is affixed to the panel behind the driver's seat.

		PREVOST			
INCOMPLETE VEHICLE MANUFACTURED BY : PREVOST CAR INC. VEHICULE INCOMPLET : STE-CLAIRE, QUE. FABRIQUE PAR :		DATE OF MFG. : <input type="text"/> DATE DE FAB. :			
G.V.W.R. : 24721 KG. (54500 LBS). P.N.B.V. :		COLD INFLATION PRESS. / FROID : SINGLE OR DUAL / SIMPLE OU DOUBLE			
AXLES / ESSEUX	G.A.W.R. / P.N.B.E.	TIRES / PNEUS	RIMS / JANTES	COLD INFLATION PRESS. / FROID	SINGLE OR DUAL / SIMPLE OU DOUBLE
	KG (LBS)			KPA (PSI)	
FRONT : AVANT :	8165 (18000)	365/70R22.5 (L)	22.5X10.5	724 (105)	S
INT. DIFF. :	10206 (22500)	315/80R22.5 (L)	22.5X9 (OUT) 22.5X8.25 (IN)	655 (95)	D
REAR : TANDEM :	6350 (14000)	365/70R22.5 (L)	22.5X10.5	552 (80)	S
THIS INCOMPLETE VEHICLE CONFORMS TO ALL APPLICABLE U.S. FEDERAL MOTOR VEHICLE SAFETY STANDARDS IN EFFECT ON THE DATE OF MANUFACTURE SHOWN ABOVE. IF COMPLETED IN ACCORDANCE WITH THE INSTRUCTIONS OF INCOMPLETE VEHICLE DOCUMENTS FURNISHED PURSUANT TO CFR PART 568, CONFORMITY TO THE OTHER SAFETY STANDARDS IS NOT SUBSTANTIALLY AFFECTED BY THE DESIGN OF THE INCOMPLETE VEHICLE.					
VEHICLE IDENTIFICATION NO. : <input type="text"/> NO. IDENTIFICATION VEHICULE :		#405444			

DOT CERTIFICATION PLATE

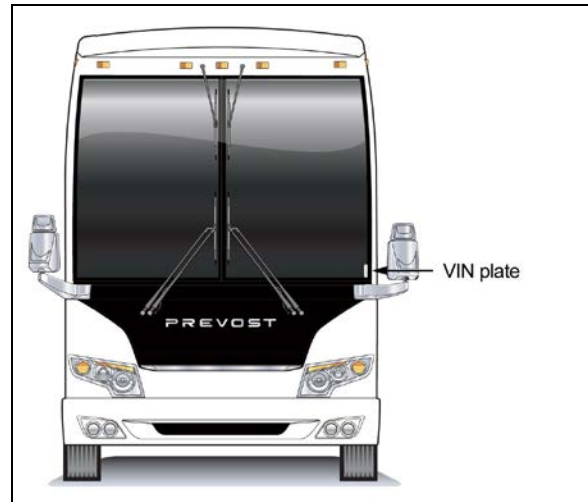
00016

VEHICLE IDENTIFICATION NUMBER (VIN)

The Vehicle Identification Number is stamped on the DOT Certification plate behind the driver's seat, also on a plate located on the windshield frame pillar (driver's side). The VIN is visible from the outside of the vehicle. The VIN is also stamped on the DOT certification plate affixed behind the driver's seat. 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.



VEHICLE IDENTIFICATION NUMBER

18680

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 owner via a courier company. Retain this record in the company records office for reference and safe-keeping.