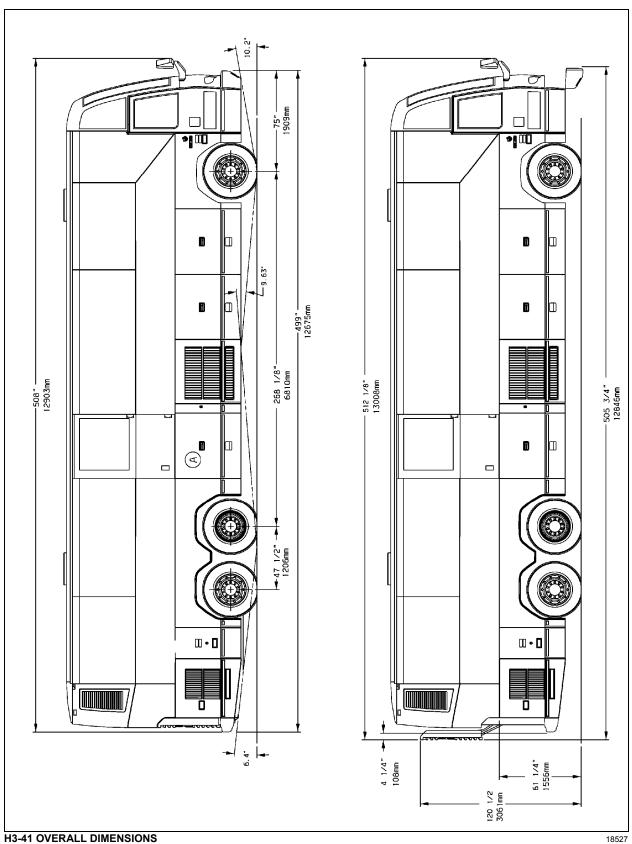
#### **SECTION 9 TECHNICAL INFORMATION**

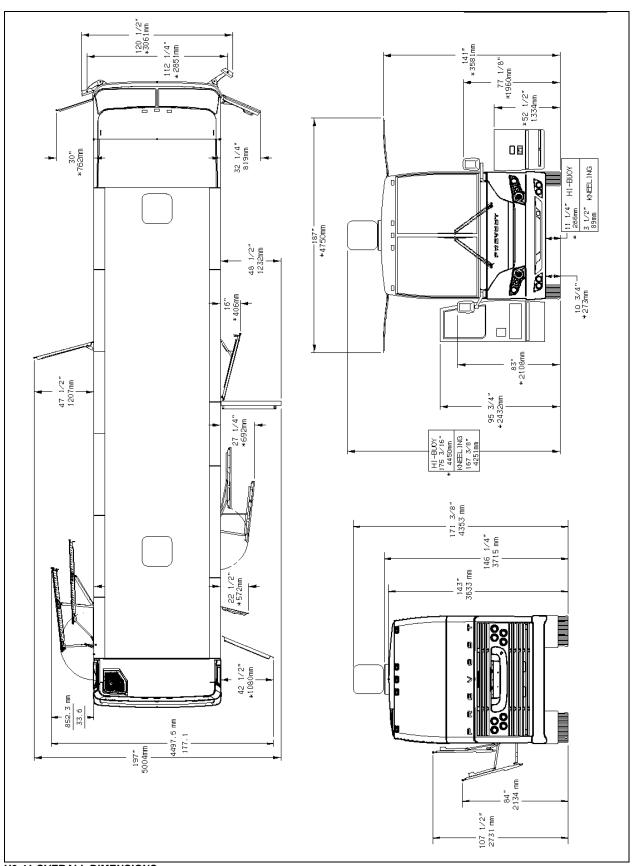
DIMENSIONS AND WEIGHTS	8
CAPACITIES	8
BAGGAGE COMPARTMENTS	8
FUEL TYPE	8
BIODIESEL FUELS	
WHEELS AND TIRES	9
RECOMMENDED TIRE INFLATION PRESSURE AT MAXIMUM COLD LOAD	9
BELTS	9
ENGINES	10
VOLVO D13	10
TRANSMISSION	10
VOLVO I-SHIFT TRANSMISSION	
PROPELLER SHAFT	10
BRAKES	10
BRAKE CHAMBER EFFECTIVE AREA	10
AIR SYSTEM	10
ANTILOCK BRAKING SYSTEM (ABS)	10
TROUBLESHOOTING AND TESTING	11
AUTOMATIC TRACTION CONTROL (ATC) - ELECTRONIC STABILITY CONTROL (ESC)	11
STEERING	11
ELECTRICAL SYSTEM	11
AXLES	11
I-BEAM FRONT AXLE	
FRONT AXLE IFS (INDEPENDENT FRONT SUSPENSION)	11
DRIVE AXLETAG AXLE	
SUSPENSION	12
I-BEAM FRONT AXLE	
INDEPENDENT FRONT SUSPENSION (IFS)	
DRIVE AXLETAG AXLE	
ALIGNMENT SPECIFICATIONS	12

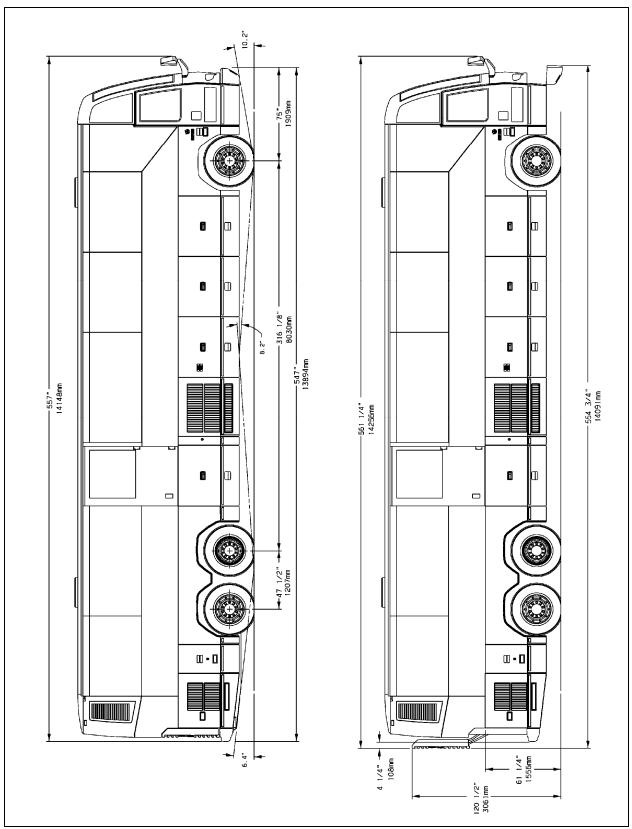
# 9-2 TECHNICAL INFORMATION

COOLING SYSTEM	12
FUEL SYSTEM	13
EXHAUST SYSTEM	13
HEATING AND AIR CONDITIONING	13
OIL SPECIFICATIONS	13
ENGINE	
PRE-HEATING SYSTEM	14
PLATES AND CERTIFICATION	14
SAFETY CERTIFICATION	15 15
COACH FINAL RECORD	16

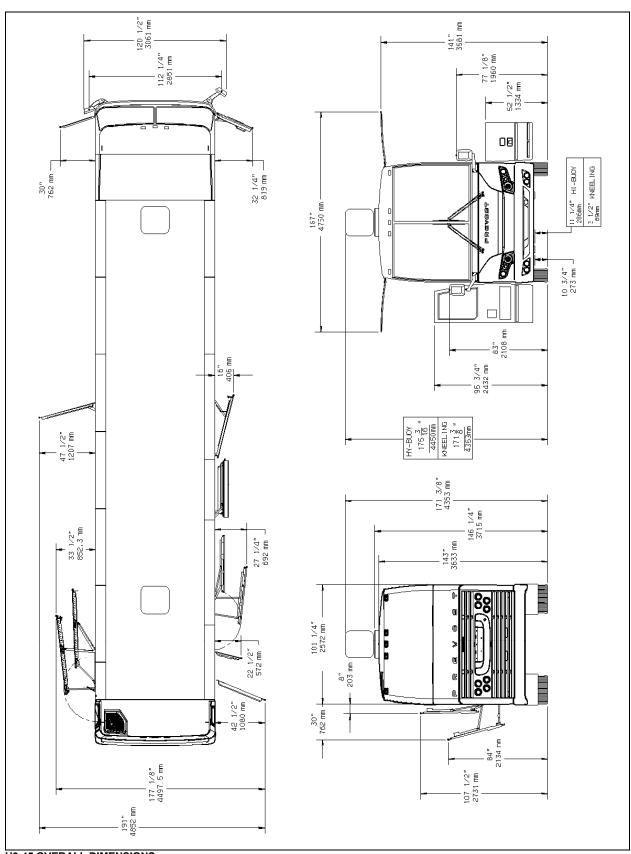


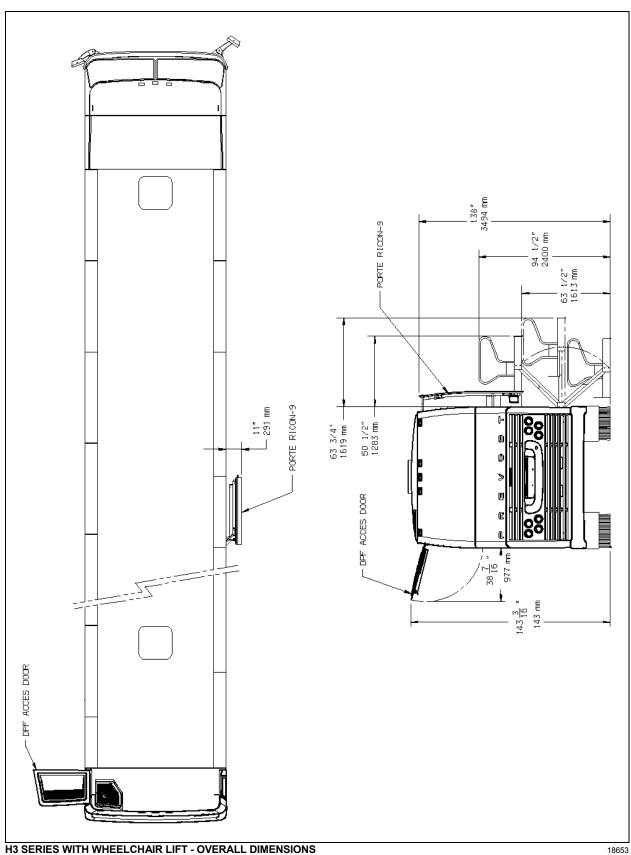
H3-41 OVERALL DIMENSIONS





**H3-45 OVERALL DIMENSIONS** 





H3 SERIES WITH WHEELCHAIR LIFT - OVERALL DIMENSIONS

DIMENSIONS AND WEIGHTS	H3-41	H3-45
Overall length	41' 7"	45' 8"
(over bumpers)	(12.7 m)	(13.9 m)
Overall width	102" (2	2.59 m)
Overall height (normal ride height)	146 1⁄4" (	3.715 m)
Wheelbase (center of front axle to center of drive axle)	267" (6.782 m)	
Floor height from ground	63" ( <sup>-</sup>	1.6 m)
Ground clearance		30 mm)
Step height from ground		56 mm)
Step height (other steps)	7" (17	8 mm)
Seats	48	56 - 58
Headroom	77" (1.	956 m)
Entrance door opening width	27" (686 mm)	
Aisle width (minimum)	14" (3	55mm)
Front overhang	75" (1	,91 m)
Rear overhang	107" (2	.096 m)
Front track	85.6" (2	2.176 m)
Drive track	74.9" (1.902 m)	
Rear track (tag axle)	81.9" (2	2.082 m)
Turning circle radius	39' 4"	44' 6"
(I-beam axle)		(13.6 m)
Turning circle radius IFS	42' (1	2.8 m)
Curb weight <sup>1</sup>		36,585 lbs (16 600 Kg)
Gross Vehicle Weight	52,060 lbs	
Rating (G.V.W.R.) <sup>2</sup>	(23 665 kg)	
Front axle Gross Axle	16,500 lbs	
Weight Rating		
(G.A.W.R.)	(7 500 kg)	
Drive axle G.A.W.R.	22,500 lbs (10 230 kg)	
Tag 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 tag axles are listed on a

certification plate located on the L.H. control panel in driver's section.

CAPACITIES			
Volvo D13 Engine oil (in crankcase)	38 quarts 36 liters		
Fuel tank (legal capacity equal to 95% of volume)	230 US gal. 870 liters		
DEF tank	16 US gal. 60 liters		
Cooling system	27.6 US gal. 104 liters		
Allison transmission (does not include external circuit)	6 US gal. (23 liters) 6.9 US gal. (26 liters) with retarder		
Volvo I-Shift transmission	16 quarts 15 liters		
Differential oil	5 US gal. 19 liters		
Power steering reservoir	4 quarts 3.7 liters		
A/C compressor oil	6.3 US pints 3 liters		
Windshield washer reservoir	5 US gal. 19 liters		
Refrigerant	26 lbs (11.8 kg)		
Toilet septic tank  23.8 US gal. (90 liters)			

# **BAGGAGE COMPARTMENTS**

Total volume (H3-45)	470 ft <sup>3</sup>
Total volume (H3-41)	355 ft <sup>3</sup>
Loading capacity	2500 lbs/comp

# **FUEL TYPE**

Diesel engines for 2007 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.



# **CAUTION**

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.

<sup>&</sup>lt;sup>1</sup> Weight of a motor vehicle complete with body excluding the payload. Includes standard equipment, a full load of engine fuel, oil, and coolant and, if so equipped, air conditioning and the additional weight of any optional engine.

<sup>&</sup>lt;sup>2</sup> Maximum weight specified by the manufacturer for a single vehicle. The gross vehicle weight rating is equivalent to the sum of the gross axle weights specified by the manufacturer under each wheels of the axles (front, drive & tag) of the vehicle.

#### **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 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

Accuride steel wheels9" X 22½"
Alcoa aluminum forged wheels9" X 22½"
Alcoa aluminum forged wheels (for super single tire)14" X 22½"
Tires 315/80 R22.5 load range "L"
Tires 365/70 R22.5 load range "L"
Tires (super single) 455/55 R22.5 load range "L"

# 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, located on the left wall close to the driver's seat.

Vehicle 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.



# **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.

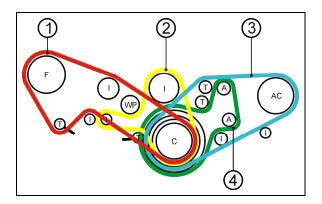


# WARNING

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

# **BELTS**

	Use	Model	Qty
1	Cooling fan drive	Poly-V14PK2213	1
2	Coolant pump	Poly-V 10PK1512	1
3	A/C compressor	BX71	2
4	HD10 alternators	Poly-V 8PK1575	1
	1 HD10 alternator limp-home mode	Poly-V 8PK1512	1



#### NOTE

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

#### **ENGINES**

#### **VOLVO D13**

#### **TRANSMISSION**

#### **VOLVO I-SHIFT TRANSMISSION**

Electronically controlled twelve speed automatic transmission

1/ 0/

#### **Gear ratios**

₁ st

I	
2 <sup>nd</sup>	11.73
3 <sup>rd</sup>	9.04
<b>₄</b> <sup>th</sup>	7 09
5 <sup>th</sup>	5.54
5 <sup>th</sup>	4.35
/"·	3 44
8 <sup>th</sup>	2.70
9 <sup>th</sup>	2.08
10 <sup>th</sup>	1.63
11 <sup>th</sup>	1.27
12 <sup>th</sup>	1.00
Reverse 1 <sup>st</sup>	17.48
Reverse 2 <sup>nd</sup>	13.73

# **ALLISON TRANSMISSION**

Allison B500 (B500R with the optional output retarder) electronically controlled six speed automatic transmission.

See appendix C for the fluid level sensor code description.

#### **Gear Ratios**

1 <sup>st</sup>		.3.510
2 <sup>nd</sup>	d	1.91
3 <sup>rd</sup>		1.43
4 <sup>th</sup>	l	1.00
5 <sup>th</sup>		0.74
6 <sup>th</sup>		0.64

Reverse	4.80
Converter	1.58
Differential ratio	3.91
Differential ratio (optional)	3.58

#### 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 air operated disc type brakes with automatic slack adjusters on front, drive and tag 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 (Rigid	front axle)2	4 in²
Drive axle	24/24 in <sup>2</sup> (service/emerge	ency)
Tag axle	1	6 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 four channel system. A wheel slip sensor is mounted at each front axle and drive axle wheel. The Tag axle wheels are slave to the drive axle wheels.

The Electronic Control Module (ECM) is maintenance free. Its operating voltage is  $24 \pm 6$  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 troubleshooting and testing of the vehicle's anti-lock braking system, refer to Meritor WABCO Maintenance Manual: "Anti-Lock Brake Systems For Trucks, Tractors and Buses" or use menu "Diagnostics" of the DID (see "Driver information display menus" in Section 5 Other Features).

# 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 **Electronic Stability Control**.

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.



# 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.

#### **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 20". Tilt and telescopic, pneumatically locked with foot operated switch for adjustment
- Number of turns: 53/4.
- Outside turning radius: see Dimensions and Weight

#### **ELECTRICAL SYSTEM**

- 24 volt, negative ground
- 12 volt exterior lighting
- Twin 28 volt, 140 amp, self-regulated, beltdriven, air-cooled Bosch alternators
- Four 12 volt, group 31 format maintenancefree batteries connected in series/parallel.
   Cold cranking capacity is 1900 amps with a reserve capacity of 195 minutes
- 100 amp battery equalizer

#### **AXLES**

#### **I-BEAM FRONT AXLE**

- Dana Spicer model S84V with forged "I" beam
- Reverse Elliot type
- Unitized wheel bearings (maintenance free)
- Factory pre-adjusted caster

# FRONT AXLE IFS (Independent Front Suspension)

- Prevost independent front suspension with recalibrated air springs for improved comfort
- 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
- Oil lubricated wheel bearings

# 9-12 TECHNICAL INFORMATION

Factory pre-adjusted caster

#### **TAG AXLE**

- Prevost hollow square beam
- Unitized wheel bearings (maintenance free)

# **SUSPENSION**

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

#### I-BEAM FRONT AXLE

- 2 Bellows (12")
- 2 Shock absorbers
- 4 Radius rods
- 1 Transverse radius rod
- 1 Height control valve
- 1 Anti-roll bar, 2" diameter

# **INDEPENDENT FRONT SUSPENSION (IFS)**

- 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
- 2 Torque rods
- 2 Steering Levers
- 1 Height control valve
- 1 sway bar (1<sup>3</sup>/<sub>4</sub>" diameter)

#### **DRIVE AXLE**

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

#### **TAG AXLE**

- 2 Bellows (12")
- 2 Shock absorbers
- 3 Radius rods
- 1 Transverse radius rod

# **ALIGNMENT SPECIFICATIONS**

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

I-BEAM FRONT AXLE			
	Minimum Nominal Ma		
	value	value	value
Right camber	-0.25°	0.125°	0.375°
Left camber	-0.25°	0.125°	0.375°
Right caster	2.0°	2.75°	3.5°
Left caster	2.0°	2.75°	3.5°
Total toe	0.04°	0.06°	0.08°

INDEPENDENT FRONT SUSPENSION			
	Minimum value	Nominal value	Maximum value
Right camber	0.0°	0.150°	0.30°
Left camber	0.0°	0.150°	0.30°
Right caster	2.35°	2.6°	2.85°
Left caster	2.35°	2.6°	2.85°
Total toe-in	0.04°	0.06°	0.08°

DRIVE AXLE			
	Minimum value	Nominal value	Maximum value
Thrust angle	-0.04°	0°	0.04°
Total toe	0.18°	0°	0.18°
	toe-in	U	toe-out

AUXILIARY AXLE			
	Minimum value	Nominal value	Maximum value
Thrust angle	-0.02°	0°	0.02°
Total toe	0.18°	0°	0.18°
	toe-in	O	toe-out
(*) Use the drive axle as reference			

# **COOLING SYSTEM**

- Extra capacity, copper fin radiator and aluminum charge air cooler arranged one behind the other
- 3 speed fan clutch EMS controlled
- Rubber insulated from the body

- Expansion tank above radiator and remote mounted
- System pressure 14 psi
- One (1) 185° F thermostat
- · System capacity 27.6 us gal
- · Coolant filter.
- Radiator fan: 38" fan.

# **FUEL SYSTEM**

Polyethylene 230 US gallons (870 liters) fuel tank located in middle of second baggage bay (heating and a/c section) includes:

- Anti-spill device
- Safety filler cap on each side of coach
- Pressure relief valve
- Electric fuel gage
- Low level signal at 22 US gallon (83 liters)
- Primary filter 25 microns (standard).
- Primary fuel filter with electrical water indicator (Volvo D13)
- 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:

- 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 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**

A large capacity, central A/C provides enough conditioned and filtered air for all climatic conditions. Fresh air is drawn into the system from the evaporator compartment on 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. Optionally, condensers installed in the overhead storage compartments

provide cool air to the seated passengers from the overhead registers.

A/C SYSTEM	_
Cooling capacity	9 tons
Refrigerant type	134a
Heating capacity	152 000 Btu/h
Airflow	2 600 cfm (73.6 m <sup>3</sup> /min)

COMPRESSOR	
Number of cylinders	4
Operating speed	500-3500 rpm
Oil capacity	2.6 US 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 D13H (EPA 2010 version), SAE 10W30 oil meeting *EO-O Premium Plus* or *Volvo VDS-4* specifications is recommend.

Volvo VDS-4 oils exceed API service category CJ-4 oils.

#### **ALLISON TRANSMISSION**

The Allison transmission must be filled with Dexron-III® automatic transmission fluid, Castrol TranSynd™/TES 295 fluid or equivalent.

#### **VOLVO I-SHIFT TRANSMISSION**

The Volvo I-Shift transmission must be filled with Castrol Syntrans grade 75W-85.

#### DIFFERENTIAL

Multigrade gear oil meeting MIL-PRF-2105E: 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.

# **COOLING FAN RIGHT ANGLE GEARBOX**

Use only SAE 75W-90 synthetic gear lubricant.

#### **POWER STEERING RESERVOIR**

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

# PRE-HEATING SYSTEM

Depending on options chosen, a coolant heater may be installed on the coolant circuit. The heater can be used as a pre-heater or as an auxiliary heat source.

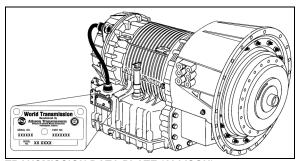
Only the Spheros 104,000 Btu preheater is available. The heater is controlled by a programmable timer. See Section 5 *Other Features* for information on how to use the timer.

Spheros		
Model		Thermo 300
Heating output		104,000 Btu/hr (30 kW)
Fuel type		Same as engine
Fuel consumption		4.8 US qts/hr (4.5 l/hr)
Rated voltage		24 V DC
Operating voltage		20-28 V DC
Electric power consi without water pump	umption	110 watts
Dimensions	(L)	24.01 (610 mm)
Inch (mm)	(W)	9.69 (246 mm)
. ,	(H)	8.66 (220 mm)
Weight	lb (kg)	41.88 (19)

# PLATES AND CERTIFICATION

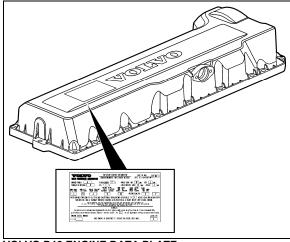
The main components of the vehicle, such as engine, transmission, axles and the chassis are identified by different serial numbers. It may be necessary to locate these numbers for warranty purposes.

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.



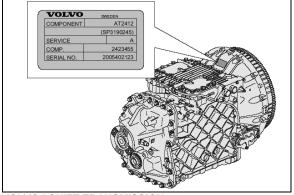
TRANSMISSION DATA PLATE (ALLISON)

07076



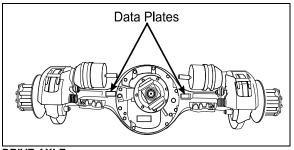
VOLVO D13 ENGINE DATA PLATE

00052

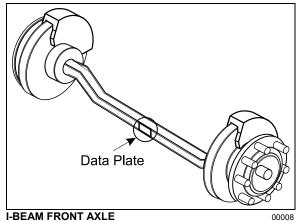


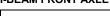
VOLVO I-SHIFT TRANSMISSION

00040

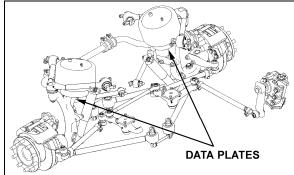


DRIVE AXLE 11019









**IFS TYPICAL SERIAL & MODEL NUMBERS** 

00025C

#### **SAFETY CERTIFICATION**

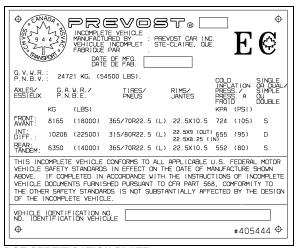
Vehicle components meet specifications and standards as follows:

- 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 rating, tire types and inflation pressure is also etched on this plate. The DOT Certification plate is affixed to L.H. control panel.

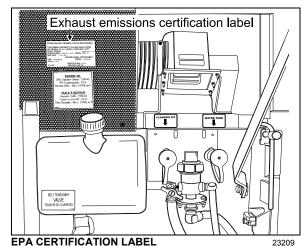


DOT CERTIFICATION PLATE

00016

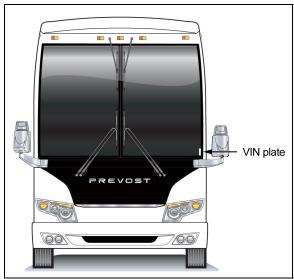
#### **EPA ENGINE LABEL**

The emissions certification label affixed to the panel over the engine oil reserve tank certifies that the engine conforms to federal and any state exhaust emissions regulations.



# **VEHICLE IDENTIFICATION NUMBER (VIN)**

The Vehicle Identification Number is stamped 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.



VEHICLE IDENTIFICATION NUMBER

18680

# 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.

# **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.