

# MANUFACTURERS MOTOR VEHICLE SPECIFICATIONS

METRIC (U.S. Customary)

# 1989

<b>Manufacturer</b> SAAB-SCANIA AB	<b>Vehicle Line</b> SAAB 900 2-DOOR HATCHBACK 2-DOOR SEDAN 2-DOOR CONVERTIBLE 4-DOOR SEDAN	
<b>Mailing Address</b> S-461 80 TROLLHÄTTAN SWEDEN	<b>Issued</b> 1988-09-01	<b>Revised</b>

Direct questions concerning these specifications to the manufacturer listed above.

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The General Specifications herein are those in effect at date of compilation and are subject to change without notice or incurring obligation by the manufacturer.



Motor Vehicle Manufacturers Association  
of the United States, Inc.

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# **· MVMA Specifications Form**

**METRIC (U.S. Customary)**

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### **NOTE:**

1. This form uses both SI metric units and U.S. Customary units. The metric unit of measure is presented first, and the U.S. Customary unit follows in parentheses.
2. **UNLESS OTHERWISE INDICATED:**
  - a. Specifications apply to standard models without optional equipment. Significant deviations are noted.
  - b. Nominal design dimensions are used throughout these specifications.
  - c. All linear dimensions are in millimeters (inches), and all mass (weight) specifications are in kilograms (pounds).
3. The General Specifications herein are those in effect at date of compilation and are subject to change without notice or incurring obligation by the manufacturer.
4. Additional Vehicle Dimensions (based in part on SAE J1100 "Motor Vehicle Dimensions") may be available from the manufacturer.

# MVMA Specifications Form

METRIC (U.S. Customary)

Vehicle Line SAAB 900  
Model Year 1989 Issued 1988-09-01 Revised (•) \_\_\_\_\_

## Vehicle Origin

Design & development (company)	
Where built (country)	
Authorized U.S. sales marketing representative	

## Vehicle Models

Model Description & Drive (FWD/RWD/4WD/4WD)*	Introduction Date	Make, Vehicle Models, Series, Body Type (Mfr's Model Code)	No. of Designated Seating Positions (Front/Rear)	Max. Trunk/Cargo Load—Kilograms (Pounds)
SAAB 900 base	M89	2-DOOR HATCHBACK (3d)	2/3	82 kg (180 lb)
	M89	4-DOOR SEDAN (4d)	2/3	82 kg (180 lb)
SAAB 900 S16	M86	2-DOOR HATCHBACK (3d)	2/3	82 kg (180 lb)
	M86	4-DOOR SEDAN (4d)	2/3	82 kg (180 lb)
SAAB 900 T16	M85	2-DOOR HATCHBACK (3d)	2/3	82 kg (180 lb)
	M85	4-DOOR SEDAN (4d)	2/3	82 kg (180 lb)
SAAB 900 T16S	M85	2-DOOR HATCHBACK (3d)	2/3	82 kg (180 lb)
SAAB 900 T16CV	M86 1/2	2-DOOR CONVERTIBLE	2/2	82 kg (180 lb)

NOTE: 900  
900/S16/T16/T16S/T16CV

= medium luxury degree  
= high luxury degree

\* FWD - Front Wheel Drive RWD - Rear Wheel Drive  
AWD - All Wheel Drive 4WD - Four Wheel Drive

## METRIC (U.S. Customary)

**Power Teams** (Indicate whether standard or optional)

SAE J1349 Net bhp (brake horsepower) and net torque corrected to 77°F/25° C and 29.61 in. Hg/100 kPa atmospheric pressure.

SERIES AVAILABILITY	ENGINE						E x h a u s t S/D*	TRANSMISSION/ TRANSAXLE	AXLE RATIO (Std. first)
	Code	Displ. Liters (in <sup>3</sup> )	Induction (FI, CARB/ BBL, etc.)	Compr. Ratio	SAE Net at RPM				
					Power kW (bhp)	Torque N·m (lb. ft.)			
900 base		1,985	-	10,1:1	94 (128) at	173 (127) at	S	Manual 5-speed	3,89:1
900 base		1,985	-	10,1:1	6000	3000	S	Automatic 3-speed	3,89:1
900 S16		1,985	-	10,1:1	94 (128) at	173 (127) at	S	Manual 5-speed	3,89:1
900 S16		1,985	-	10,1:1	6000	3000	S	Automatic 3-speed	3,89:1
900 T16/T16S /T16CV		1,985	-	9,0:1	118 (160) at	255 (188) at	S	Manual 5-speed	3,89:1
900 T16/T16S		1,985	-	9,0:1	5500	3000	S	Automatic 3-speed	3,89:1
(Both federal and California)									

\* Single / Dual

# MVMA Specifications Form

Vehicle Line SAAB 900Model Year 1989 Issued 1988-09-01 Revised (•) \_\_\_\_\_

## METRIC (U.S. Customary)

Engine Description/Carb.  
Engine Code

### ENGINE - GENERAL

Type & description (inline, V, angle,  
flat, location, front, mid, rear,  
transverse, longitudinal, sohc, dohc,  
ohv, hemi, wedge, pre-camber, etc.)Incline, front, longitudinal  
DOCH

Manufacturer

SAAB-SCANIA AB

No. of cylinders

4

Bore

90 mm

Stroke

78 mm

Bore spacing (C/L to C/L)

103

Cylinder block material &amp; mass kg (lbs.) (machined)

Cast iron special alloy

Cylinder block deck height

213

Cylinder block length

Deck clearance (minimum)  
(above or below block)

0

Cylinder head material &amp; mass kg (lbs.)

Cast aluminium alloy

Cylinder head volume (cm<sup>3</sup>)

44,4 ± 1

Cylinder liner material

Head gasket thickness  
(compressed)

1,2 mm

Minimum combustion chamber  
total volume (cm<sup>3</sup>)

51,16/58,78

Cyl. no. system  
(front to rear)\*

L. Bank

R. Bank

1-2-3-4 Cylinder 1 nearest firewall

Firing order

1-3-4-2

Intake manifold material &amp; mass [kg (lbs.)]\*\*

Cast aluminium 2,9 kg

Exhaust manifold material &amp; mass [kg (lbs.)]\*\*

Nodular iron 7,6 kg

Fuel required unleaded, diesel, etc.

Fuel antiknock index (R + M) + 2

Engine  
mounts

Number

Material and type (elastomeric,  
hydroelastic, hydraulic damper, etc.)Added isolation (sub-frame,  
crossmember, etc.)

Total dressed engine mass (wt) dry\*\*\*

140 kg/155 kg

### Engine - Pistons

Material & mass, g  
(weight, oz.) - piston onlyCast aluminium  
500 /520 ± 6 (make Mahle)

### Engine - Camshaft

Location

Overhead

Material &amp; mass kg (weight, lbs.)

Cast iron 2,1 kg each

Drive type

Chain / belt

Chain

Width / pitch

13,5 mm over pins/9,525 mm

\* Rear of engine - drive takeoff. View from drive takeoff end to determine left &amp; right side of engine.

\*\* Finished state.

\*\*\* Dressed engine mass (weight) includes the following:

# MVMA Specifications Form

Vehicle Line SAAB 900Model Year 1989Issued 1988-09-02 Revised (●)

## METRIC (U.S. Customary)

Engine Description/Carb.  
Engine Code2,0 litres

### Engine - Valve System

T16 when different

Hydraulic lifters (std., opt., NA)		Yes
Valves	Number intake / exhaust	8/8
	Head O.D. intake / exhaust	32/29

### Engine - Connecting Rods

Material & mass (kg., (weight, lbs.))*	Forged steel, 818 ± 29 g max 9 g difference in one engine
Length (axes $\perp$ to Q) mm	

### Engine - Crankshaft

Material & mass (kg., (weight, lbs.))*		Forged steel 16,2 kg
End thrust taken by bearing (no.)		3
Length & number of main bearings		5
Seal (material, one, two piece design, etc.)	Front	Rubber, one piece design
	Rear	Rubber, one piece design

### Engine - Lubrication System

Normal oil pressure (kPa (psi) at engine rpm)	Min 3,0 bar (kp/cm <sup>2</sup> ) at 2000 r/m tot max 4-5 bar
Type oil intake (floating, stationary)	Stationary
Oil filter system (full flow, part, other)	Full flow
Capacity of c/case, less filter-refill-L (qt.)	3,6 4,1 incl oil cooler

### Engine - Diesel Information

Diesel engine manufacturer		
Glow plug, current drain at 0°F ---		
Injector nozzle	Type	
	Opening pressure (kPa (psi))	NA
Pre-chamber design		
Fuel injection pump	Manufacturer	
	Type	
Fuel injection pump drive (belt, chain, gear)		
Supplementary vacuum source (type)		
Fuel heater (yes/no)		
Water separator, description (std., opt.)		
Turbo manufacturer		
Oil cooler-type (oil to engine coolant; oil to ambient air)		
Oil filter		

### Engine - Intake System

Turbo charger - manufacturer	YES
Super charger - manufacturer	NA
Intercooler	YES

\*Finished State

# MVMA Specifications Form

Vehicle Line SAAB 900

Model Year 1989

Issued 1988 09-01

Revised •

## METRIC (U.S. Customary)

Engine Description/Carb.  
Engine Code

2,0 litres

### Engine - Cooling System

T16 when different

Coolant recovery system (std., opt., n.a.)		Std
Coolant fill location (rad., bottle)		Bottle
Radiator cap relief valve pressure (kPa (psi))		100 (1,0 bar)
Circulation thermostat	Type (choke, bypass)	Bypass with wax
	Starts to open at °C (°F)	88/82
Water pump	Type (centrifugal, other)	Centrifugal
	GPM 1000 pump rpm	5,5
	Number of pumps	1
	Drive (V-belt, other)	V-belt
	Bearing type	Ballbearing
	Impeller material	Cast iron
	Housing material	Cast aluminium
By-pass recirculation [type (inter.. ext.)]		Internal
Cooling system capacity	With heater—L(qt.)	10
	With air cond.—L(qt.)	10
	Opt. equipment [specify—L(qt.)]	NA
Water jackets full length of cyl. (yes, no)		YES
Water all around cylinder (yes, no)		YES
Water jackets open at head face (yes, no)		NO
Radiator core	Std., A/C, HD	Std
	Type (cross-flow, etc.)	Cross-flow
	Construction (fin & tube mechanical, braze, etc.)	Fin & tube, brazed
	Material, mass [kg (wgt, lbs.)]	Copper and brass, 4,5 - 5,2 kg
	Width	598 mm
	Height	324 mm
	Thickness	32 mm
	Fins per inch	13
Radiator end tank material		Brass
Fan	Std., elec., opt.	Elec
	Number of blades & type (flex, solid, material)	5
	Diameter & projected width	(280 x 65) mm *
	Ratio (fan to crankshaft rev.)	NA
	Fan cutout type	NA
	Drive type (direct, remote)	Electric
	RPM at idle (elec.)	2,400
	Motor rating (wattage) (elec.)	15+
	Motor switch (type & location) (elec.)	Thermo-contact located in radiator
	Switch point (temp., pressure) (elec.)	Switch on at 92°C and Switch off at 87°C
	Fan shroud (material)	Polyamid

\*) Models with A/C have an additional fan (280 x 55) mm of 215 W =used fan on the T16-engines

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## METRIC (U.S. Customary)

Engine Description, Carb.  
Engine Code

2,0 litres

T16 when different

### Engine - Fuel System

(See supplemental page for details of Fuel Injection, Supercharger, Turbocharger, etc. if used)

Induction type: carburetor, fuel  
injection system, etc.

Fuel injection system or turbocharger with fuel injection

Manufacturer

Bosch

Carburetor no. of barrels

Idle A.F. mix.

Fuel  
injection

Point of injection (no.)

50/50 puls relation of lambda-system

Constant pulse flow

Pulse

Control (electronic, mech.)

Electronic

System pressure (kPa (psi))

3 bar/43,5 psi

2,5 bar/36,3 psi

Idle spd.-rpm  
(spec.  
neutral or  
drive and  
propene if  
used)

Manual

Automatic

Intake manifold heat control (exhaust  
or water thermostatic or fixed)

NA

Air cleaner type

Paper element

Fuel filter (type/location)

Fuel  
pump

Type (elec. or mech.)

Electric

Location (eng., tank)

In fuel tank

Pressure range (kPa (psi))

0-0,1 bar/14,5 psi and see system pressure above

Flow rate at regulated pressure  
(L (gal)/hr @ kPa (psi))

### Fuel Tank

Capacity (refill L (gallons))

63

Location (describe)

Under luggage compartment floor between rear wheels

Attachment

By two metal bands

Material & Mass (kg (weight lbs))

Polyethylene, 5,4 kg

Filler  
pipe

Location & material

Rear right fender, Polyethylene

Connection to tank

Hose

Fuel line (material)

Polyamid

Fuel hose (material)

PVC-nitril/Hypalon-rubber

Return line (material)

Polyamid

Vapor line (material)

"

Extended  
range  
tank

Opt., n.a.

NA

Capacity (L (gallons))

Location & material

Attachment

Auxiliary  
tank

Opt., n.a.

NA

Capacity (L (gallons))

Location & material

Attachment

Selector switch or valve

Separate fill



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## METRIC (U.S. Customary)

Engine Description: Carb.  
Engine Code

2,0 litres

### Vehicle Emission Control

T16 when different

Exhaust Emission Control	Type (air injection, engine modifications, other)		Engine modification, closed loop 3-way catal. system
	Air Injection	Pump or pulse	NA
		Driven by	
		Air distribution (head, manifold, etc.)	
		Point of entry	
	Exhaust Gas Recirculation	Type (controlled flow, open orifice, other)	NA
		Exhaust source Point of exhaust injection (spacer, carburetor, manifold, other)	
	Catalytic Converter	Type	3-way catalyst
		Number of	1 (dual-type)
		Location(s)	Under front floor
		Volume (L (in <sup>3</sup> ))	Substrate-volume = 0,839+0,839 = 1,678+1,259=2,098
		Substrate type	Monolith
Noble metal type			
Crankcase Emission Control	Type (ventilates to atmosphere, induction system, other)		Induction system
	Energy source (manifold vacuum, carburetor, other)		Inlet manifold vacuum
	Discharges (to intake manifold, other)		Inlet manifold upstream and downstream throttle valve      Air filter vacuum
	Air inlet (breather cap, other)		NA
Evaporative Emission Control	Vapor vented to (crankcase, canister, other)	Fuel tank	Canister
		Carburetor	NA
	Vapor storage provision		Canister
Electronic system	Closed loop (yes/no)		Yes
	Open loop (yes/no)		No

### Engine - Exhaust System

Type (single, single with cross-over, dual, other)		Single
Muffler no. & type (reverse flow, straight thru, separate resonator) Material & Mass (kg (weight lbs))		One rear, straight thru = absorption type      One rear, reverse flow = reflexion type
Resonator no. & type		NA
Exhaust pipe	Branch o.d., wall thickness 2)	NA
	Main o.d., wall thickness	48 x 1,5 mm      60 x 1,5 mm
	Material & Mass (kg (weight lbs)) 3)	Al-plated steel
Inter-mediate pipe	o.d. & wall thickness 4)	48 x 1,5 mm      60 x 1,5 mm
	Material & Mass (kg (weight lbs)) 5)	Steel + al-plated steel      Al-plated steel
Tail pipe	o.d. & wall thickness 6)	44 x 1,25 mm      60 x 1,25 mm
	Material & Mass (kg (weight lbs))	Al-plated steel      Stainless steel

#### Difference for the S16-engines

- 1) One centre, reverse flow = reflexion and one rear straight thru = absorption
- 2) Two branches, 45 x 1,5 mm
- 3) Al-plated steel
- 4) 48 x 1,25 mm
- 5) Al-plated + stainless steel
- 6) 48 x 1,25 stainless steel

## METRIC (U.S. Customary)

Engine Description/Carb.  
Engine Code

2,0 litres

## Transmissions/Transaxle (Std., Opt., N.A.)

Manual 3-speed (manufacturer/country)	NA
Manual 4-speed (manufacturer/country)	NA
Manual 5-speed (manufacturer/country)	SAAB-SCANIA/Sweden
Automatic (manufacturer/country)	NA Borg-Warner/England
Automatic overdrive (manufacturer/country)	NA

## Manual Transmission/Transaxle

Number of forward speeds		5	TRANS RATIO X PRIMARY RATIO
Gear ratios	1st	4,55	3.56
	2nd	2,64	2.07
	3rd	1,73	1.36
	4th	1,25	0.98
	5th	1,0	0.78
	Reverse	5,01	3.91
Synchronous meshing (specify gears)		All forward gears	
Shift lever location		Floor mounted	
Trans. case mat'l. & mass kg (lbs)*			
Lubricant	Capacity (L (pt.))	3,0	
	Type recommended		
		10W30 alt 10W40, alt EP75	
		"	
		"	

## Clutch (Manual Transmission)

Clutch manufacturer		Valeo	Fichtel & Sachs (T16)
Clutch type (dry, wet; single, multiple disc)		Single dry plate, hydraulic	
Linkage (hydraulic, cable, rod, lever, other)			
Max. pedal effort (nom. spring load, new) N (lbs)	Depressed		
	Released		
Assist (spring, power/percent, nominal)		No	
Type pressure plate springs		Diaphragm	
Total spring load (nominal, new) N (lbs)		Min 5340	
Clutch facing	Facing mat'l. & material coding		
	Facing material & construction	Textar 314	
	Rivets per facing	Ø 5 x 1 = 7 mm	
	Outside x inside dia. (nominal)	(216 x 146) mm	
	Total eff. area (cm <sup>2</sup> (in. <sup>2</sup> ))	199	
	Thickness (pressure plate side/fly wheel side)	7,3 mm	
	Rivet depth (pressure plate side/fly wheel side)	16	
	Engagement cushion method	Segments	
Release bearing type & method lub.		Ball bearing, permanently lubricated	
Torsional damping method, springs, hysteresis		Multi stage spring centre	

\* Includes shift linkage, lubricant, and clutch housing. If other specify.

## METRIC (U.S. Customary)

Engine Description/Carb.  
Engine Code

2,0 litres

## Automatic Transmission/Transaxle

T16 when different

Trade name		Borg Warner type 37
Type and special features (describe)		Torque converter, primary drive, three speed gearbox final drive
Selector	Location	Floor mounted
	Ltr. No. designation	P, R, N, D, ", !
Gear ratios	1st	2,39
	2nd	1,45
	3rd	1,0
	4th	NA
	Reverse	2,09
Max. upshift speed - drive range (km/h (mph))		107-119 114-127
Max. kickdown speed - drive range (km/h (mph))		90-105 95-111
Min. overdrive speed (km/h (mph))		NA
Torque converter	Number of elements	3
	Max. ratio at stall	2,38:1
	Type of cooling (air, liquid)	Liquid
	Nominal diameter	9,5"
	Capacity factor "K"	
Lubricant	Capacity (refill L (pt.))	8
	Type Recommended	According to ford M2C33-G
Oil cooler (std., opt., NA, internal, external, air, liquid)		
Transmission case material & mass kg (lbs)**		

## Axle or Front Wheel Drive Unit

Type (front, rear)		Front
Description		Trans-axle type
Limited slip differential (type)		NA
Drive pinion offset		0
Drive pinion (type)		Spiral bevel
No. of differential pinions		2
Pinion/differential adjustment (shim, other)		Shim
Pinion/differential bearing adjustment (shim, other)		Shim
Driving wheel bearing (type)		Tapered roller bearings
Lubricant	Capacity (L (pt.))	1,25
	Type recommended	EP oil SAE 80W according to API-GL-4 or GL-5

## Axle or Transaxle Ratio and Tooth Combinations (See 'Power Teams' for axle ratio usage.)

Axle ratio (or overall top gear ratio)		3,67:1
No. of teeth	Pinion	9
	Ring gear or gear	33
Ring gear o.d.		179 mm
Transaxle	Transfer gear ratio	NA
	Final drive ratio	NA

\* Input speed +  $\sqrt{\text{torque}}$ 

\*\* Includes shift linkage, lubricant, &amp; clutch housing. If other specify.

## METRIC (U.S. Customary)

Engine Description/Carb.  
Engine Code

All models

## Axle Shafts – Front Wheel Drive

Manufacturer and number used		Two	
Type (straight, solid bar, tubular, etc.)		Left	Solid bar
		Right	Solid bar
Outer diam. x length* x wall thickness	Manual transaxle	Left	Ø 28 x 454,55
		Right	Ø 28 x 508,85
	Automatic transaxle	Left	Ø 28 x 454,55
		Right	Ø 28 x 508,85
	Optional transaxle	Left	NA
		Right	NA
Slip yoke	Type	NA	
	Number of teeth	NA	
	Spline o.d.	NA	
Universal joints	Make and mtg. no.	Inner	Glaenzer Spicer
		Outer	Löbro
	Number used	Two	
	Type, size, plunge	Inner	Tripod joints
		Outer	Rzeppa
	Attach (u-bolt, clamp, etc.)	Lock ring	
	Bearing	Type (plain, anti-friction)	Balls (outer), Needle bearing (inner)
Lubrication (fitting, prepack)		Prepack	
Drive taken through (torque tube, arms or springs)		Shaft joints	
Torque taken through (torque tube, arms or springs)		Shaft joints	

## All Wheel / 4 Wheel Drive

Description and type (part-time, full-time, 2/4 shift while moving, mechanical, elect., chain/gear, etc.)		
Transfer case	Manufacturer	
	Type	
	Model	
Low-range gear ratio		
System disconnect (describe)		
Center differential	Type (bevel, planetary, w or w/o viscous bias, torsen, etc.)	
	Torque split (% front/rear)	

\* Centerline to centerline of universal joints, or to centerline of attachment.

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## METRIC (U.S. Customary)

Body Type And/Or  
Engine Displacement

All models

### ☒ Suspension - General Including Electronic Controls

T16 when different

Car leveling	Standard/optional/not avail.	NA
	Manual/automatic control	NA
	Type (air/hydraulic)	NA
	Primary/assist spring	NA
	Rear only/4 wheel leveling	NA
	Single/dual rate spring	NA
	Single/dual ride heights	NA
Shock absorber damping controls	Provision for jacking	NA
	Standard/option/not avail.	NA
	Manual/automatic control	NA
	Number of damping rates	NA
	Type of actuation (manual/electric motor/air, etc.)	NA
	s e n s o r s	Lateral acceleration
		Deceleration
		Acceleration
		Road surface
Shock absorber (front & rear)	Type	Hydraulic monotube gas, telescopic
	Make	Tokico or Fichtel & Sachs
	Piston diameter	Twin tube gas = 25 mm
	Rod diameter	" " = 12,5 mm

### ☒ Suspension - Front

Type and description		Unequal length wishbones
Travel*	Full jounce	100 mm
	Full rebound	80 mm
Spring	Type (coil, leaf, other) & material	Coil
	Insulators (type & material)	Steel
	Size (coil design height & i.d., bar length x dia.)	Design height = 373 mm, inner dia: 110 mm Design height 301 mm bar dia = 13,9 - 14,5 mm Inner dia = 110 mm bar dia = 15,7 mm
	Spring rate [N/mm (lb./in.)]	31,7 KN/m 60,8 KN/m
	Rate at wheel [N/mm (lb./in.)]	18,8 KN/m 36,0 KN/m
Stabilizer	Type (link, linkless, frameless)	Linkless Link
	Material & bar diameter	Steel 60 Sigr) Ø 18

### ☒ Suspension - Rear

Type and description		Rigid axle, 2 forward and 2 rearward longitudinal links and 1 lateral link.
Travel*	Full jounce	95 mm
	Full rebound	75 mm
Spring	Type (coil, leaf, other) & material	Coil
	Size (length x width, coil design height & i.d., bar length & dia.)	Length = 300 mm inner dia = 84 mm bar dia = 147 - 15,1 mm bar dia = 15,8 mm
	Spring rate [N/mm (lb./in.)]	70,8 KN/m 83,4 KN/m
	Rate at wheel [N/mm (lb./in.)]	27,3 KN/m 32,2 KN/m
	Insulators (type & material)	Rubber seat
	H leaf	No. of leaves
		Shackle (comp. or tens.)
Stabilizer	Type (link, linkless, frameless)	Linkness
	Material & bar diameter	Std (Boron Steel) Tube
Track bar (type)		Panhard rod 26,9/9,20

\* Define load condition:

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## METRIC (U.S. Customary)

Body Type And/Or  
Engine Displacement

All models

### Brakes - Service

Description		Front = floating caliper. Rear = floating caliper. Vacuum operated power assist. Dual diagonal brake lines	
Manufacturer and brake type (std., opt., n.a.)	Front (disc or drum)	Disc	
	Rear (disc or drum)	Disc	
Valving type (proportion, delay, metering, other)		NA	
Power brake (std., opt., n.a.)		NA	
Booster type (remote, integral, vac., hyd., etc.)		Vac	
Vacuum	Source (inline, pump, etc.)	Engine	
	Reservoir (volume in. <sup>3</sup> ) and source	NA	
	Pump type (elec, gear driven, belt driven)		
Traction control	Operational speed range	NA	
	Type engine intervention (electronic, mech.)	NA	
Anti-lock device	Front/rear (std., opt., n.a.)	NA	
	Manufacturer	NA	
	Type (electronic, mech.)		
	Number sensors or circuits		
	Number anti-lock hydraulic circuits		
	Integral or add-on system		
	Yaw control (yes, no)		
	Hydraulic power source (elect., vac. mtr., pwr. strg.)		
Effective area [cm <sup>2</sup> (in. <sup>2</sup> )]*		212	
Gross lining area [cm <sup>2</sup> (in. <sup>2</sup> )]**(F/R)			
Swept area [cm <sup>2</sup> (in. <sup>2</sup> )]*** (F/R)			
Rotor	Outer working diameter	F/R	278/256, 2 mm
	Inner working diameter	F/R	178/189, 6 mm
	Thickness	F/R	23,5/9 mm
	Material & type (vented/solid)	F/R	Cast iron solid/Cast iron solid
Drum	Diameter & width	F/R	NA/NA
	Type and material	F/R	NA
Wheel cylinder bore		54/30 mm	
Master cylinder	Bore/stroke	F/R	22,23 mm (7/8 in)/max 34,9 mm
Pedal arc ratio		4,0:1	
Line pressure at 445 N(100 lb.) pedal load [kPa (psi)]			
Lining clearance		F/R	0,1/0,1
Brake lining	Front wheel	Bonded or riveted (rivets/seg.)	Bonded
		Rivet size	NA
		Manufacturer	Textar
		Lining code*****	1474GF
		Material	Asbestos free, organic
		Size Primary or out-board	11 x 40 x 88 mm
		Size Secondary or in-board	11 x 40 x 88 mm
		Shoe thickness (no lining)	5,5 mm
	Rear wheel	Bonded or riveted (rivets/seg.)	Bonded
		Manufacturer	Roulunds
		Lining code*****	DB 870 FE
		Material	Organic
		Size Primary or out-board	11 x 33 x 77 mm
		Size Secondary or in-board	11 x 33 x 77 mm
Shoe thickness (no lining)		5,5 mm	

\*Excludes rivet holes, grooves, chamfers, etc.

\*\*Includes rivet holes, grooves, chamfers, etc.

\*\*\*Total swept area for four brakes. (Drum brake: Widest lining contact width for each brake x its contact circumference.)  
(Disc brake: Square of Outer Working Dia. minus Square of inner Working Dia. multiplied by Pi/2 for each brake.)

\*\*\*\*Size for drum brakes includes length x width x thickness.

\*\*\*\*\*Manufacturer I.D., catalog or formulation designation and coefficient of friction classification.

## METRIC (U.S. Customary)

Body Type And/Or  
Engine Displacement

All models

## Tires And Wheels (Standard)

T16 when different

Tires	Size (load range, ply)		185/65 R15 87T	195/60 R15 86H *)
	Type (bias, radial, steel, nylon, etc.)		Steel radial, tubeless	
	Inflation pressure (cold) for recommended max. vehicle load	Front (kPa (psi))	2,2 bar	2,4 bar
		Rear (kPa (psi))	2,3 bar	2,5 bar
	Rev./mile—at 70 km/h (45 mph)			
Wheels	Type & material		Disc wheels, steel	Light alloy wheels
	Rim (size & flange type)		5 1/2 J x 15" H2	
	Wheel offset		40 mm	
	Attachment	Type (bolt or stud)	Stud	
		Circle diameter	114,3 mm	
Spare	Number & size		4 1/2" 20 UNF-2B	
	Tire and wheel		Tyre = T115/70 D15 or R15, Steel rim = 4J H1 x 15 E55 Inflation pressure = 4,2 bar	
	Storage position & location (describe)		Under luggage compartment floor to the left behind the fuel tank inside the car	

## Tires And Wheels (Optional)

\*) T16S have 195/60 VR15

Tire size (load range, ply)	
Type (bias, radial, steel, nylon, etc.)	
Wheel (type & material)	
Rim (size, flange type and offset)	
Tire size (load range, ply)	
Type (bias, radial, steel, nylon, etc.)	
Wheel (type & material)	
Rim (size, flange type and offset)	
Tire size (load range, ply)	
Type (bias, radial, steel, nylon, etc.)	
Wheel (type & material)	
Rim (size, flange type and offset)	
Tire size (load range, ply)	
Type (bias, radial, steel, nylon, etc.)	
Wheel (type & material)	
Rim (size, flange type and offset)	
Spare tire and wheel size	
(if configuration is different than road tire or wheel, describe optional spare tire and/or wheel location & storage position)	

## Brakes - Parking

Type of control		Hand operated lever
Location of control		Between front seats
Operates on		Rear wheels
If separate from service brakes	Type (internal or external)	NA
	Drum diameter	NA
	Lining size (length x width x thickness)	NA

# MVMA Specifications Form

Vehicle Line SAAB 900  
Model Year 1989 Issued 1988-09-01 Revised 01

## METRIC (U.S. Customary)

Body Type And/Or  
Engine Displacement

All models

### Steering

Manual (std., opt., n.a.)				NA
Power (std., opt., n.a.)				Std
Adjustable steering wheel/column (tilt, telescope, other)	Type	NA		
	Manufacturer			
	(Std., opt., n.a.)	NA		
Wheel diameter** (W9) SAE J1100	Manual	NA		
	Power	382 mm		
Turning diameter m (ft.)	Outside front	Wall to wall (l. & r.)	11,2	
		Curb to curb (l. & r.)	10,3	
	Inside rear	Wall to wall (l. & r.)		
		Curb to curb (l. & r.)		
Scrub Radius*				21 mm
Manual	Gear	Type	NA	
		Manufacturer	NA	
		Ratios	Gear	NA
		Overall	NA	
	No. wheel turns (stop to stop)			
Power	Type (coaxial, elec., hyd., etc.)			Coaxial
	Manufacturer			Saginaw Steering wheel
	Gear	Type	Rack and pinion	
		Ratios	Gear	18,9:1
		Overall	NA	
	Pump (drive)			V-belt
	No. wheel turns (stop to stop)			3,7
Linkage	Type			One tie rod on each side
	Location (front or rear of wheels, other)			Rear
	Tie rods (one or two)			2
Steering axis	Inclination at camber (deg.)			11,5 ± 0,5
	Bearings (type)	Upper	Ball joint	
		Lower	"-	
		Thrust		
	Steering spindle & joint type			
Wheel spindle/hub	Diameter	Inner bearing	NA	
		Outer bearing	NA	
	Thread (size)			NA
	Bearing (type)			NA

\*The horizontal distance in the front elevation between wheel centerline and kingpin (ball joint) axis at ground.

\*\*See Page 22



## METRIC (U.S. Customary)

Body Type And/Or  
Engine Displacement

All models

## Wheel Alignment

Front wheel at curb mass (wt.)	Service checking	Caster (deg.)	$2 \pm 1/2$
		Camber (deg.)	$1/2 \pm 1/2$
		Toe-in [outside track-mm (in.)]	$2 \pm 1$
	Service reset*	Caster	Adjustable
		Camber	"
		Toe-in	"
	Periodic M.V. inspection	Caster	
		Camber	
		Toe-in	
Rear wheel at curb mass (wt.)	Service checking	Camber (deg.)	$-1/2 \pm 1/4$
		Toe-in [outside track-mm (in.)]	$4 \pm 1 \ 1/2$
	Service reset*	Camber	Pre-set
		Toe-in	"
	Periodic M.V. inspection	Camber	
		Toe-in	

\* Indicates pre-set, adjustable, trend set or other.

## Electrical - Instruments and Equipment

Speedometer	Type (analog, digital, std., opt.)	Magnetic torque drive
	Trip odometer (std., opt., n.a.)	Std
EGR maintenance indicator EXH		Amber lamp on panel
Charge indicator	Type	Red lamp
	Warning device (light, audible)	Lights up when alternator is not charging
Temperature indicator	Type	Electric gauge
	Warning device (light, audible)	Red zone indicates too high temperature
Oil pressure indicator	Type	Red lamp
	Warning device (light, audible)	Lights up when oil pressure falls under 0,3-0,5 bar kp/cm
Fuel indicator	Type	Electric gauge and amber lamp
	Warning device (light, audible)	Lamp indicates less than 7 l
Wind-shield wiper	Type (standard)	Electric and intermittent, 2-speed
	Type (optional)	NA
	Blade length	400 mm
	Swept area (cm <sup>2</sup> (in. <sup>2</sup> ))	7874
Wind-shield washer	Type (standard)	Electrical centrifugal pump
	Type (optional)	NA
	Fluid level indicator (light, audible)	Transparent plastic container
Rear window wiper, wiper/washer (std., opt., n.a.)		
Horn	Type	Vibrator
	Number used	Two
Other		Handbrake indicator light, brake warning light, hazard warning flasher indicator, high beam indicator light, direction indicator lamp, seat belt reminder light, buzzer for left ignition key, clock and tachometer, electric rear window defroster indicator light, rheostat control illumination and instrument panel lighting. Gear shaft indicator light.

## METRIC (U.S. Customary)

Engine Description/Carb.  
Engine Code

2,0 litres

## Electrical - Supply System

Battery	Manufacturer	Noach
	Model, std., (opt.)	Maintenance free, std
	Voltage	12V, 78 plates
	Amps at 0°F cold crank	
	Minutes-reserve capacity	
	Amp/hrs. - 20 hr. rate	62 Ah
	Location	In engine compartment floor on R/H front
Alternator	Manufacturer	
	Rating (idle/max. rpm)	Max output 80A
	Ratio (alt. crank/rev.)	2,3:1
	Output at idle (rpm. park)	
Regulator	Optional (type & rating)	NA
	Type	Voltage regulator built in into alternator, electronic

## Electrical - Starting System

Start, motor	Manufacturer	
	Current drain at 0°F	300 A
	Power rating [kw (hp)]	
Motor drive	Engagement type	Bendix
	Pinion engages from (front, rear)	Front

## Electrical - Ignition System

Type	Electronic (std., opt., n.a.)	Std
	Other (specify)	NA
Coil	Manufacturer	Bosch
	Model	S3
	Current	Engine stopped - A
		Engine idling - A
Spark plug	Manufacturer	NGK
	Model	BCP6ES
	Thread (mm)	M14 x 1,25
	Tightening torque [N-m (lb. ft)]	25-29
	Gap	0,6 - 0,7 mm
Distributor	Number per cylinder	1
	Manufacturer	Bosch TZ59H
	Model	JHFU 4

## Electrical - Suppression

Locations & type	Suppression cables between coil - distributor , 1,15 - 1,3 k distributor - spark plugs 1,7 - 3,6 k and rotor 1 K manufacturer Bougicord, type 403.
------------------	---

# MVMA Specifications Form

Vehicle Models SAAB 900

Model Year 1989 issued 1988-09-01 Revised (•)

## METRIC (U.S. Customary)

Body Type

All models

### Body

Structure

☒ Bumper system  
front - rear

Bumper material = aluminium alloy  
Energy absorbtion material = plyeten  
Cover material = olephine based elastomer

Anti-corrosion treatment

### ☒ Body - Miscellaneous Information

Type of finish (lacquer, enamel, other)		Enamel
Hood	Material & mass	
	Hinge location (front, rear)	Front
	Type (counterbalance, prop)	Counterbalance
	Release control (internal, external)	Internal and external
Trunk lid	Material & mass	
	Type (counterbalance, other)	Balanced steel springs
	Internal release control (elec., mech., n.a.)	NA
Hatch-back lid	Material & mass	
	Type (counterbalance, other)	Telescopic gas springs
	Internal release control (elec., mech., n.a.)	NA
Tailgate	Material & mass	
	Type (drop, lift, door)	
	Internal release control (elec., mech., n.a.)	
Vent window control (crank, friction, pivot, power)	Front	NA
	Rear	NA
Window regulator type (cable, tape, flex, drive, etc.)	Front	
	Rear	
Seat cushion type (e.g., 60/40, bucket, bench, wire, foam etc.)	Front	Elastic spring mat, cold cure foam fabric cover
	Rear	Coils spring, fabric cover
	3rd seat	NA
Seat back type (e.g., 60/40, bucket, bench, wire, foam etc.)	Front	Fabric cover
	Rear	" -
	3rd seat	NA

# MVMA Specifications Form

## METRIC (U.S. Customary)

Vehicle Line SAAB 900  
 Model Year 1989 Issued 1988-09-02 Revised (•)

Body Type

All models

### Restraint System

Seating Position			Left	Center	Right
Active	Type & description (lap & shoulder belt, lap belt, etc.)  Standard/optional	First seat	Standard shoulder belt		Standard shoulder belt
		Second seat	Standard shoulder belt	Standard lap belt <sup>1)</sup> 1) Not convertible	Standard shoulder belt.
		Third seat			
Passive	Type & description (air bag, motorized - 2-point belt, fixed belt, knee bolster, manual - lap belt)  Standard/optional	First seat	Optional Motorized-2 point belt		Optional Motorized-2 point belt
		Second seat			
		Third seat			

### Glass

	SAS Ref. No.	
Windshield glass exposed surface area (cm <sup>2</sup> (in. <sup>2</sup> ))	S1	
Side glass exposed surface area (cm <sup>2</sup> (in. <sup>2</sup> )) - total 2-sides	S2	
Backlight glass exposed surface area (cm <sup>2</sup> (in. <sup>2</sup> ))	S3	
Total glass exposed surface area (cm <sup>2</sup> (in. <sup>2</sup> ))	S4	
Windshield glass (type)		Laminated, tinted
Side glass (type)		Tempered, tinted
Backlight glass (type)		

### Lamps and Headlamp Locations

Headlamps	Description - sealed beam, halogen, replaceable bulb, etc.	Sealed beam
	Shape	
	Lo-beam type (2A1, 2B1, 2C1, etc.)	
	Quantity	
	Hi-beam type (1A1, 2A1, 1C1, 2C1, etc.)	
	Quantity	

### Frame

Type and description (separate frame, unitized frame, partially-unitized frame)	Unitized body
---	---------------

## METRIC (U.S. Customary)

Body Type

All models

## Convenience Equipment (standard, optional, n.a.)

Electronic	<input checked="" type="checkbox"/> Air conditioning (manual, auto. temp control)	Manual Opt/Std
	Clock (digital, analog)	Analog
	Compass/thermometer	Std
	Console (floor, overhead)	Opt/Std
	Defroster, elec. backlight	Std
	Diagnostic monitor (integrated, individual)	NA
	Instrument cluster (list instruments)	NA
	Keyless entry	NA
	Trip/finder (avg. spd., fuel)	NA
	Voice alert (list items)	NA
	Other	
Lamps	Fuel door lock (remote, key, electric)	Remote
	Auto head on/off delay, dimming	Opt/Std
	Cornering	Std. lighted when direction indicator is turned on
	Courtesy (map, reading)	Std
	Door lock, ignition	NA/Std
	Engine compartment	NA
	Fog	Opt/Std
	Glove compartment	Std
	Trunk	Std
	Illuminated entry system (list lamps, activation)	
Mirrors	Other	
	Day/night (auto. man.)	Manual
	L.H. (remote, power, heated)	Remote/Power
	R. H. (convex, remote, power, heated)	Convex remote/Power
Navigation system (describe)	Visor vanity (RH / LH, illuminated)	Std
<input checked="" type="checkbox"/> Navigation system (describe)		
Parking brake-auto release (warning light)		

Body Type

**Convenience Equipment (standard, optional, n.a.)**

Power equipment	Deck lid (release, pull down)		
	Door locks (manual, automatic, describe system)		Automatic. Central locking with electrical engine.
	Seats	2 - 4 - 6 way, etc.	
		Reclining (R.H., L.H.)	
		Memory (R.H., L.H., preset, recline)	
		Lumbar, hip, thigh, support	
		Heated (R.H., L.H., other)	
	Side windows		Std/opt
Vent windows			
Rear windows		Std/opt	
Radio systems	Antenna (location, whip, w / shield, power)		Rear left side power, opt/std
	Standard	AM, FM, stereo, tape, compact disc, graphic equalizer, theft deterrent, radio prep package, headphone jacks, etc.	AM/FM stereo, tape
	Optional		AM/FM stereo, tape
	Speaker (number, location)		2 front + 2 rear opt/std
	Roof open air fixed (flip-up, sliding, "T")		Sliding manual/Power opt/std
Speed control device		Std, some models	
Speed warning device (light, buzzer, etc.)		NA	
Tachometer (rpm)		Std, some models	
Telephone system (describe)		NA	
Theft deterrent system		NA	

# MVMA Specifications Form

Vehicle Models SAAB 900

Model Year 1989

Issued 1988-09-01 Revised (●)

## METRIC (U.S. Customary)

### Vehicle Dimensions See Key Sheets for definitions

All dimensions to ground are for comparative purposes only. Dimensions are to be shown for all base body models of each vehicle line.  
SAE Ref. no. refers to the definition published in SAE Recommended Practice J1100 "Motor Vehicle Dimensions," unless otherwise specified.

Body Type	SAE Ref. No.	2/4 doors	T16 when different
Width			
Tread (front)	W101	1430 1) mm 1432 2) mm	
Tread (rear)	W102	1440 1) mm 1442 2) mm	
Vehicle width	W103	1690 mm	1695 mm
Body width at Sg RP (front)	W117		
Vehicle width (front doors open)	W120		
Vehicle width (rear doors open)	W121		
Front fender overall width	W106		
Rear fender overall width	W107		
Tumble-home (deg.)	W122		
Vehicle width including mirrors			

### Length

3 doors

Wheelbase	L101	2517 mm	
Vehicle length	L103	4680 mm	4687 mm
Overhang (front)	L104	1032 mm	
Overhang (rear)	L105	1131 mm	1138 mm
Upper structure length	L123		
Rear wheel C/L "X" coordinate	L127		
Cowl point "X" coordinate	L125		
Front end length at centerline	L126		
Rear end length at centerline	L129		

### Height\*

T16CV/T16S when different

Passenger distribution (front/rear)	PD1.2.3	2/3	
Trunk/cargo load		82 (180 lbs)	
Vehicle height	H101	1400 mm	1380/1390
Cowl point to ground	H114		
Deck point to ground	H138		
Rocker panel-front to ground	H112		
Bottom of door closed-front to ground	H133		
Rocker panel-rear to ground	H111		
Bottom of door closed-rear to ground	H135		
Windshield slope angle	H122		
Backlight slope angle	H121		

### Ground Clearance\*

Front bumper to ground	H102		
Rear bumper to ground	H104		
Bumper to ground (front at curb mass (wt.))	H103		
Bumper to ground (rear at curb mass (wt.))	H105		
Angle of approach (degrees)	H106	140	
Angle of departure (degrees)	H107		
Ramp breakover angle (degrees)	H147		
Axle differential to ground (front / rear)	H153		
Min. running ground clearance	H156	135 mm	120 mm
Location of min. run. grd. clear.		Catalytic converter	

\* All vehicle height and ground clearances are measured at the Manufacturer's Design Load Weight.  
Manufacturers Design Load Weight is defined with indicated passenger distribution and trunk/cargo load, unless otherwise specified.  
All linear dimensions are in millimeters (inches) unless otherwise noted.

- 1) 5 1/2" alloy rims
- 2) 5 1/2" steel rims

# MVMA Specifications Form

Vehicle Models

Model Year 1989

Issued 1988-09-01

Revised (•)

## METRIC (U.S. Customary)

Vehicle Dimensions See Key Sheets for definitions

Body Type

### Front Compartment

SAE  
Ref.  
No.

2/3d

4d when different

CV when diff.

Sg RP front, "X" coordinate	L31	2252 = drivers seat, 2215 = passenger seat		
Effective head room	H81	960 = without sunroof, 940 = with sunroof		955
Max. eff. leg room (accelerator)	L34	1060		
SgRP to heel point	H30	280		
SgRP to heel point	L53			
Back angle	L40	250		
Hip angle	L42			
Knee angle	L44			
Foot angle	L46			
Design H-point front travel	L17	177 = drivers seat, 140 = passenger seat		
Normal driving & riding seat track trvl.	L23			
Shoulder room	W3	1330	1350	1350
Hip room	W5	1230	1345	1345
Upper body opening to ground	H50	1290		
Steering wheel maximum diameter*	W9			
Steering wheel angle	H18	26,50		
Accel. heel pt. to steer. whl. cntr	L11			
Accel. heel pt. to steer. whl. cntr	H17			
Steering wheel to C/L of thigh	H13			
Steering wheel torso clearance	L7			
Headlining to roof panel (front)	H37			
Undepressed floor covering thickness	H67			

### Rear Compartment

Sg RP Point couple distance	L50	741 = behind drivers seat, 778 = behind passenger seat		1)
Effective head room	H83	950		920
Min. effective leg room	L51	880 = behind drivers seat, 915 = behind passenger seat		2)
Sg RP (second to heel)	H31	340		
Knee clearance	L48	-15 = behind drivers seat, 5 = behind passenger seat		3)
Compartment room	L3	620"		
Shoulder room	W4	1355	1345	1000
Hip room	W6	1300	1350	1085
Upper body opening to ground	H51	-	1280	
Back angle	L41			
Hip angle	L43			
Knee angle	L45			
Foot angle	L47			
Headlining to roof panel (second)	H38			
Depressed floor covering thickness	H73			

### Luggage Compartment

3d

2/4d

CV

Usable luggage capacity [L (cu. ft.)]	V1	421	408	279
Liftover height	H195	-	740	740

### Interior Volumes (EPA Classification)

Vehicle class		Compact car		
Interior volume index (cu. ft.)		109,7	104,2/102,6	85,8
Trunk/cargo index (cu. ft.)				

\* See Page 14.

- 1) CV = 720 behind drivers seat  
757 behind passenger seat
- 2) CV = 875 behind drivers seat
- 3) CV = -51 behind drivers seat



# MVMA Specifications Form

Vehicle Line SAAB 900Model Year 1989Issued 1988-09-01 Revised (●)

METRIC (U.S. Customary)

Vehicle Dimensions See Key Sheets for definitions

Body Type

All models

## Station Wagon - Third Seat

SAE  
Ref.  
No.

NA

Seat facing direction	SD1
Sg RP couple distance	L85
Shoulder room	W95
Hip room	W86
Effective leg room	L86
Effective head room	H86
Sg RP to heel point	H87
Knee clearance	L87
Back angle	L88
Hip angle	L89
Knee angle	L90
Foot angle	L91

## Station Wagon - Cargo Space

NA

Cargo length (open front)	L200
Cargo length (open second)	L201
Cargo length (closed front)	L202
Cargo length (closed second)	L203
Cargo length at belt (front)	L204
Cargo length at belt (second)	L205
Cargo width (wheelhouse)	W201
Rear opening width at floor	W203
Opening width at belt	W204
Min. rear opening width above belt	W205
Cargo height	H201
Rear opening height	H202
Tailgate to ground height	H250
Front seat back to load floor height	H197
Cargo volume index [ $m^3(ft^3)$ ]	V2
Hidden cargo volume index [ $m^3(ft^3)$ ]	V4
Cargo volume index-rear of 2-seat	V10

## Hatchback - Cargo Space

Cargo length at front seatback height	L208
Cargo length at floor (front)	L209
Cargo length at second seatback height	L210
Cargo length at floor (second)	L211
Front seatback to load floor height	H197
Second seatback to load floor height	H198
Cargo volume index [ $m^3(ft^3)$ ]	V3
Hidden cargo volume index [ $m^3(ft^3)$ ]	V4
Cargo volume index-rear of 2-seat	V11

## Aerodynamics\*

T16CV

Wheel lip to ground, front	660 mm. At design load = 2 pers front and 30 kg luggage
Wheel lip to ground, rear	640 mm. "
Frontal area [ $m^2(ft^2)$ ]	1.95 $m^2$ , photographic method MIRA 2.01 $m^2$
Drag coefficient (Cd)	

\* EPA Loaded Vehicle Weight, Loading Conditions

# MVMA Specifications Form

## METRIC (U.S. Customary)

Vehicle Line SAAB 900  
 Model Year 1989 Issued 1988-09-01 Revised •

Body Type

All models

### Vehicle Fiducial Marks

Fiducial Mark Number*	Define Coordinate Location
Front	
Rear	
Fiducial Mark Number	
Front	W21° L54° H81° H161° H163°
Rear	W22° L55° H82° H162° H164°

\* Reference - SAE Recommended Practice, J182, Motor Vehicle Fiducial Marks.

**METRIC (U.S. Customary)**

Model Year 1989

Issued 1988-09-01 Revised (●)

**SHIPPING MASS (weight) = Curb Weight Less Kg. (lbs.)**

\* Reference - SAE J1100 Motor vehicle dimensions, curb weight definition.

\*\* ETWC - Equivalent Test Weight Class - U.S. Environmental Protection Agency emission certifications are based on the ETWC's shown.

NA - Not Applicable - applies to model / series combinations not requiring testing.

**METRIC (U.S. Customary)**

Model Year

Issued

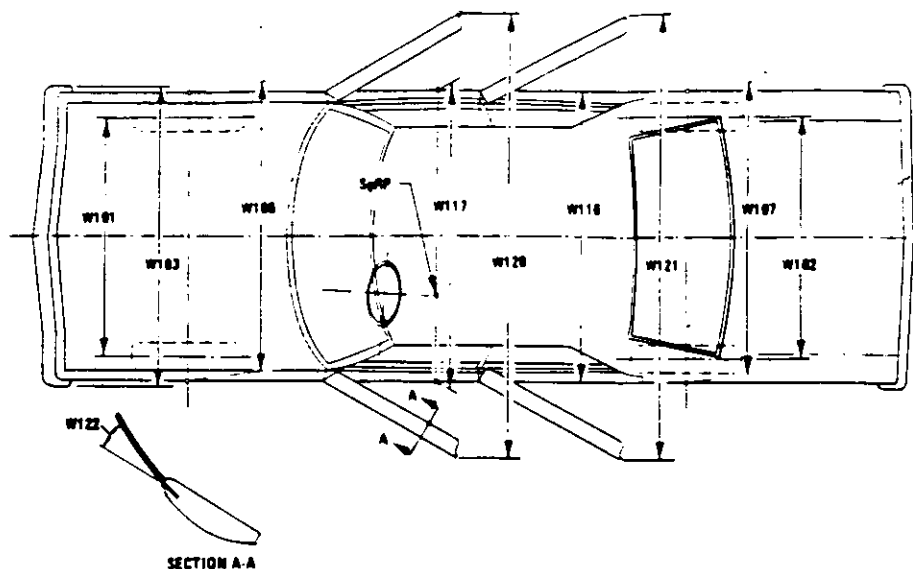
Revised (●)

**Optional Equipment Differential Mass (weight)\***

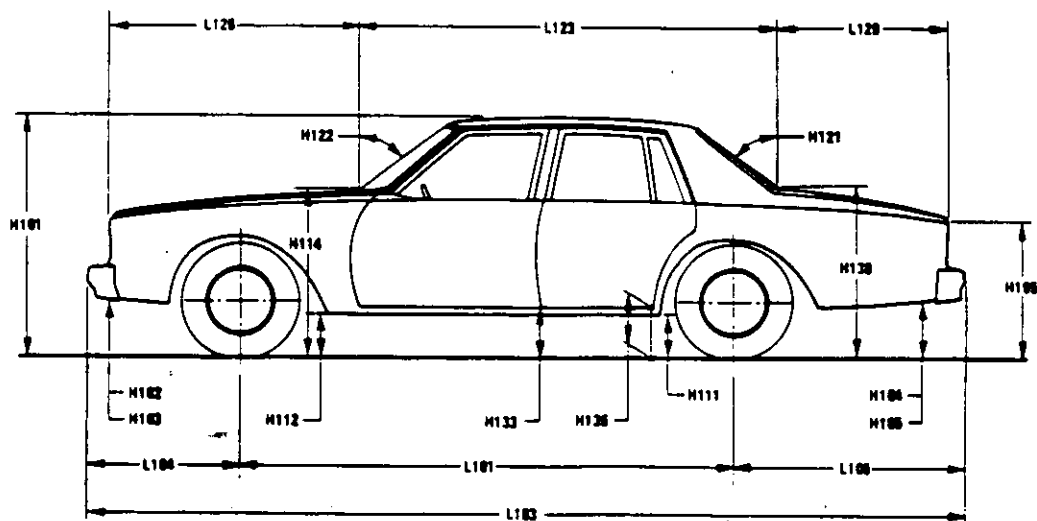
Page 26

Exterior Vehicle And Body Dimensions - Key Sheet

Exterior Width



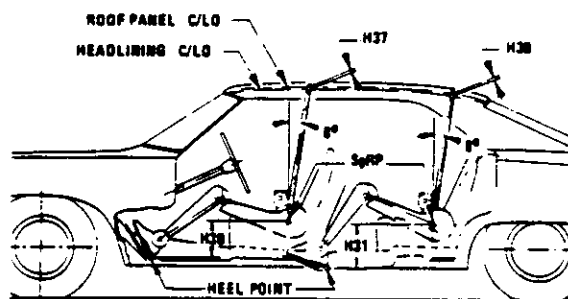
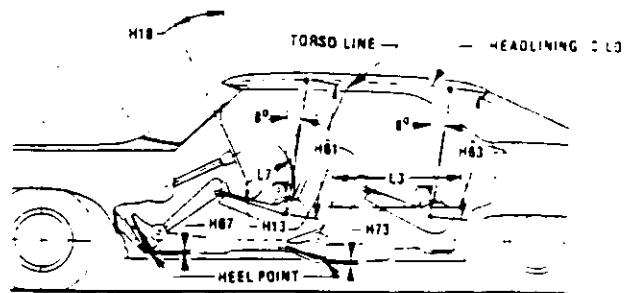
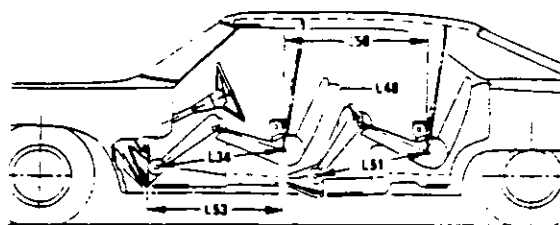
Exterior Length & Height



# MVMA Specifications Form

METRIC (U.S. Customary)

## Interior Vehicle And Body Dimensions – Key Sheet

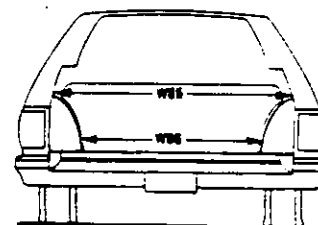
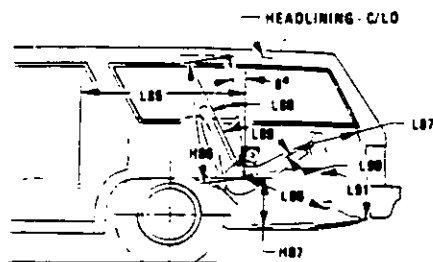


# MVMA Specifications Form

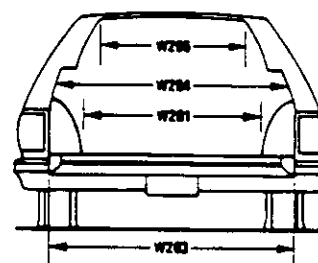
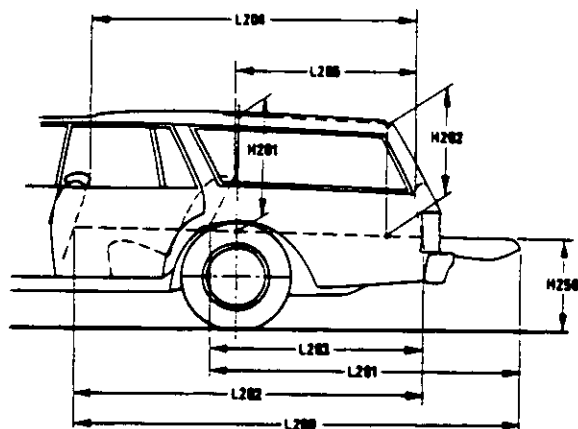
METRIC (U.S. Customary)

## Interior Vehicle And Body Dimensions - Key Sheet

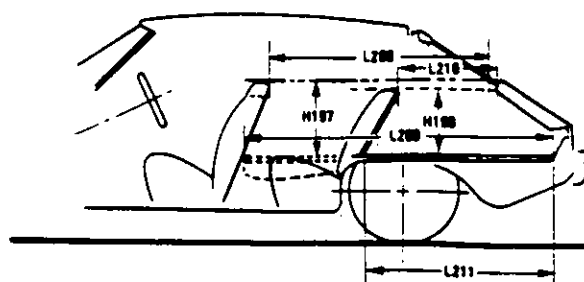
Third Seat



Cargo Space



Station Wagon



Hatchback

# MVMA Specifications Form

## METRIC (U.S. Customary)

### Exterior Vehicle And Body Dimensions - Key Sheet Dimensions Definitions

#### Seating Reference Point

SEATING REFERENCE POINT means the manufacturer's design reference point which -

- (a) Establishes the rearmost normal design driving or riding position of each designated seating position in a vehicle;
- (b) Has coordinates established relative to the design vehicle structure;
- (c) Simulates the position of the pivot center of the human torso and thigh; and
- (d) Is the reference point employed to position the two dimensional templates described in SAE Recommended Practice J826, "Devices for Use in Defining and Measuring Vehicle Seating Accommodations."

#### Width Dimensions

- W101 TREAD-FRONT. The dimension measured between the tire centerlines at the ground.
- W102 TREAD-REAR. The dimension measured between the tire centerlines at the ground. In case of dual wheels, the dimension will be measured to the centerline of tire and wheel assemblies.
- W103 VEHICLE WIDTH. The maximum dimension measured between the widest point on the vehicle, excluding exterior mirrors, flexible mud flaps, marker lamps, but including bumpers, moldings, sheet metal protrusions or dual wheels, if standard equipment.
- W106 FRONT FENDER WIDTH. The dimension measured between the widest points at the front wheel centerline, excluding moldings.
- W107 REAR FENDER WIDTH. The dimension measured between the widest points at the rear wheel centerline, excluding moldings.
- W117 BODY WIDTH AT SgRP-FRONT. The dimension measured laterally between the widest points on the body at the SgRP-front, excluding door handles, applied moldings, or appliques.
- W120 VEHICLE WIDTH-FRONT DOORS OPEN. The dimension measured between the widest point on the front doors in maximum hold-open position.
- W121 VEHICLE WIDTH-REAR DOORS OPEN. The dimension measured between the widest point on the rear doors in maximum hold-open position. For vehicles with a rear door on only one side, this dimension is to the zero "Y" plane.
- W122 TUMBLE-HOME. STRAIGHT SIDE GLASS. The angle measured from a vertical to the outside surface of the front door glass at the SgRP "X" plane.  
CURVED SIDE GLASS. The angle measured from a vertical to a chord extending from the upper DLO to the lower DLO at the outside surface of the front door glass at the front SgRP "X" plane.

#### Length Dimensions

- L101 WHEELBASE (WB). The dimension measured longitudinally between front and rear wheel centerlines. In case of dual rear axles, the dimension shall be to the midpoint of the centerlines of the rear wheels.
- L103 VEHICLE LENGTH. The maximum dimension measured longitudinally between the foremost point and the rearmost point on the vehicle, including bumper, bumper guards, tow hooks and/or rub strips, if standard equipment.
- L104 OVERHANG-FRONT. The dimension measured longitudinally from the centerline of the front wheels to the foremost point on the vehicle including bumper, bumper guards, tow hooks and/or rub strips, if standard equipment.
- L105 OVERHANG-REAR. The dimension measured longitudinally from the centerline of the rear wheels; or in the case

of dual rear axles, the dimension shall be the midpoint of the centerlines of the rear wheels, to the rearmost point on the vehicle including rear bumpers, bumper guards, tow hooks and rub strips, if standard equipment.

- L123 UPPER STRUCTURE LENGTH. The dimension measured longitudinally from the cowl point to the deck point.
- L125 COWL POINT "X" COORDINATE.
- L126 FRONT END LENGTH. The dimension measured longitudinally from the cowl point to the foremost point on the vehicle at the zero "Y" plane excluding ornamentation or bumpers. In cases where bumpers and/or grills are integrated with the profile, measurement is made at the foremost point of front end contour.
- L127 REAR WHEEL CENTERLINE "X" COORDINATE or in the case of dual rear axles, the coordinate shall be the midpoint of the distance between the rear axle centerlines.
- L129 REAR END LENGTH. The dimension measured longitudinally from the deck point to the rearmost visible point of the body sheet metal at the zero "Y" plane, excluding ornamentation or bumpers.

#### Height Dimensions

- H101 VEHICLE HEIGHT. The dimension measured vertically from the highest point on the vehicle body to ground.
- H111 ROCKER PANEL-REAR TO GROUND. The dimension measured vertically from the bottom of the rocker or side quarter panel at the front of the rear wheel opening, excluding flanges, to ground.
- H112 ROCKER PANEL-FRONT TO GROUND. The dimension measured vertically from the foremost point on the bottom of the rocker panels, excluding flanges, to ground.
- H114 COWL POINT TO GROUND. Measured at zero "Y" plane.
- H121 BACKLIGHT SLOPE ANGLE. The angle between the vertical reference line and the surface of backlight at vehicle zero "Y" plane. For curve backlight, the angle is to chord of backlight arc from lower DLO to upper DLO.
- H122 WINDSHIELD SLOPE ANGLE. The angle between the vertical reference line and a chord of the windshield arc running from the lower DLO to the upper DLO at the vehicle zero "Y" plane. In the case of wrap over glass, the angle to be measured will be formed by a chord 457 mm (18.0 in) long drawn from the lower DLO to the intersecting point on the windshield.
- H133 BOTTOM OF DOOR CLOSED-FRONT TO GROUND. The dimension measured vertically from the bottom outside corner of the door on the lock pillar side, in maximum closed position, to ground.
- H135 BOTTOM OF DOOR CLOSED-REAR TO GROUND. The dimension measured vertically from the bottom outside corner of the door on the lock pillar side, in maximum closed position, to ground.
- H138 DECK POINT TO GROUND. Measured at zero "Y" plane.
- H109 STATIC LOAD-TIRE RADIUS-REAR. Specified by the manufacturer in accordance with composite TIRE SECTION STANDARD.

#### Ground Clearance Dimensions

- H102 FRONT BUMPER TO GROUND. The minimum dimension measured vertically from the lowest point on the front bumper to ground, including bumper guards, if standard equipment.
- H103 FRONT BUMPER TO GROUND-CURB MASS (WT.). Measured in the same manner as H102.



**Interior Vehicle And Body Dimensions - Key Sheet**  
**Dimensions Definitions**

- H104 REAR BUMPER TO GROUND. The minimum dimension measured vertically from the lowest point on the rear bumper to ground, including bumper guards, if standard equipment.
- H105 REAR BUMPER TO GROUND - CURB MASS (WT.). Measured in the same manner as H104.
- H106 ANGLE OF APPROACH. The angle measured between a line tangent to the front tire static loaded radius arc and the initial point of structural interference forward of the front tire to ground. The limiting structural component shall be designated.
- H107 ANGLE OF DEPARTURE. The angle measured between a line tangent to the rear tire static loaded radius arc and the initial point of structural interference rearward of the rear tire to ground. The limiting component shall be designated.
- H147 RAMP BREAKOVER ANGLE. The angle measured between two lines tangent to the front and rear tire static loaded radius and intersecting at a point on the underside of the vehicle which defines the largest ramp over which the vehicle can roll.
- H153 REAR AXLE DIFFERENTIAL TO GROUND. The minimum dimension measured from the rear axle differential to ground.
- H156 MINIMUM RUNNING GROUND CLEARANCE. The minimum dimension measured from the sprung vehicle to ground. Specify location.

**Glass Areas**

- S1 Windshield area.
- S2 Side windows area. Includes the front door, rear door, vents, and rear quarter windows on both sides of the vehicle.
- S3 Backlight areas.
- S4 Total area. Total of all areas (S1 + S2 + S3).

**Fiducial Mark Dimensions**

- Fiducial Mark - Number 1**
- L54 "X" coordinate.
- W21 "Y" coordinate.
- H81 "Z" coordinate.
- H161 Height "Z" coordinate to ground at curb weight.
- H163 Height "Z" coordinate to ground.
- Fiducial Mark - Number 2**
- L55 "X" coordinate.
- W22 "Y" coordinate.
- W82 "Z" coordinate.
- H162 Height "Z" coordinate to ground at curb weight.
- H164 Height "Z" coordinate to ground.

**Front Compartment Dimensions**

- L7 STEERING WHEEL TORSO CLEARANCE. The minimum dimension measured in the side view from the rearmost edge of the steering wheel, with front wheels in the straight ahead position, to the torso line.
- L11 ACCELERATOR HEEL POINT TO STEERING WHEEL CENTER. The dimension measured horizontally from the AHP to the intersection of the steering column centerline and a plane tangent to the upper surface of the steering wheel rim.
- L17 DESIGN H-POINT-FRONT TRAVEL. The dimension measured horizontally between the design H-point-front in the foremost and rearmost seat track positions. (See SAE J1100)
- L23 NORMAL DRIVING AND RIDING SEAT TRACK TRAVEL. The dimension measured horizontally between a point on the design H-point travel line from the SgRP to the displaced point on the design H-point travel line with the seat moved to the foremost seat position, but not to include seat track travel used for purposes other than normal driving and riding positions. (See SAE J1100)

- L31 SgRP-FRONT. "X" COORDINATED.
- L34 MAXIMUM EFFECTIVE LEG ROOM-ACCELERATOR. The dimension measured along a line from the ankle pivot center to the SgRP-front plus 254 mm (10.0 in.) measured with right foot on the undepressed accelerator pedal. For vehicles with SgRP to heel (H30) greater than 18 in., the accelerator pedal may be depressed as specified by the manufacturer. If the accelerator is depressed, the manufacturer shall place foot flat on pedal and note the depression of the pedal.
- L40 BACK ANGLE-FRONT. The angle measured between a vertical line through the SgRP-front and the torso line. If the seatback is adjustable, use the normal driving and riding position specified by the manufacturer.
- L42 HIP ANGLE-FRONT. The angle measured between torso line and thigh centerline.
- L44 KNEE ANGLE-FRONT. The angle measured between thigh centerline and lower leg centerline measured on the right leg.
- L46 FOOT ANGLE-FRONT. The angle measured between the lower leg centerline and a line tangent to the ball and heel of the bare foot flesh line measured on the right leg. Ref SAE J826.
- L53 SgRP-FRONT TO HEEL. The dimension measured horizontally from the SgRP-front to the accelerator heel point.
- W3 SHOULDER ROOM-FRONT. The minimum dimension measured laterally between the trimmed surfaces on the "X" plane through the SgRP-front at height between the belt line and 254 mm (10.0 in.) above the SgRP-front, excluding the door assist strap and attaching parts.
- W5 HIP ROOM-FRONT. The minimum dimension measured laterally between the trimmed surfaces on the "X" plane through the SgRP-front within 25 mm (1.0 in.) below and 76 mm (3.0 in.) above the SgRP-front and 76 mm (3.0 in.) fore and aft of the SgRP-front.
- W9 STEERING WHEEL MAXIMUM OUTSIDE DIAMETER. Define if other than round.
- H13 STEERING WHEEL TO CENTERLINE OF THIGH. The minimum dimension measured from the bottom of steering wheel, with front wheels in the straight position, to the thigh centerline.
- H17 ACCELERATOR HEEL POINT TO THE STEERING WHEEL CENTER. The dimension measured vertically from the AHP-front to the intersection of the steering column centerline to a plane tangent to the upper surface of the steering wheel rim.
- H18 STEERING WHEEL ANGLE. The angle measured from a vertical to the surface plane of the steering wheel.
- H30 SgRP-FRONT TO HEEL. The dimension measured vertically from the SgRP-front to the accelerator heel point.
- H37 HEADLINING TO ROOF PANEL-FRONT. The dimension measured from the intersection of the headlining and the extended effective head room line normal to the sheet metal.
- H50 UPPER BODY OPENING TO GROUND-FRONT. The dimension measured vertically from the trimmed body opening to the ground on the SgRP-front "X" plane.
- H61 EFFECTIVE HEAD ROOM-FRONT. The dimension measured along a line 8 deg. rear of vertical from the SgRP-front to the headlining plus 102 mm (4.0 in.).
- H67 FLOOR COVERING THICKNESS-UNDEPRESSED-FRONT. The dimension measured vertically from the surface of the undepressed floor covering to the underbody sheet metal at the accelerator heel point.

**Rear Compartment Dimensions**

- L3 COMPARTMENT ROOM-SECOND. The dimension measured horizontally from the back of the front seat to the front of the second seatback at a height tangent to the top of the second seat cushion.

**Interior Vehicle And Body Dimensions - Key Sheet**  
**Dimensions Definitions**

- L-41 BACK ANGLE-SECOND. The angle measured between a vertical line through the SgRP-second and the torso line.
- L43 HIP ANGLE-SECOND. The angle measured between torso line and thigh centerline.
- L45 KNEE ANGLE-SECOND. The angle measured between thigh centerline and lower leg centerline.
- L47 FOOT ANGLE-SECOND. The angle measured between the lower leg centerline and a line tangent to the ball and heel of the three-dimensional devices bare foot flesh line (Reference J826).
- L48 KNEE CLEARANCE-SECOND. The minimum dimension measured from the knee pivot center to the back of the front seatback minus 51 mm (2.0 in.).
- L50 SgRP COUPLE DISTANCE-SECOND. The dimension measured horizontally from the driver SgRP-front to the SgRP-second.
- L51 MINIMUM EFFECTIVE LEG ROOM-SECOND. The dimension measured along a line from the ankle pivot center to the SgRP-second plus 254mm (10.0 in.).
- W4 SHOULDER ROOM-SECOND. The minimum dimension measured laterally between door or quarter trimmed surfaces on the "X" plane through the SgRP-second at height between 254-406 mm (10.0-16.0 in.) above the SgRP-second, excluding the door assist straps and attaching parts.
- W6 HIP ROOM-SECOND. Measured in the same manner as W5.
- H31 SgRP-SECOND TO HEEL. The dimension measured vertically from the SgRP-second to the two dimensional device heel point on the depressed floor covering.
- H38 HEADLINING TO ROOF PANEL-SECOND. The dimension measured from the intersection of the headlining and the extended effective head room line normally to the roof sheet metal.
- H51 UPPER BODY OPENING TO GROUND-SECOND. The dimension measured vertically from the trimmed body opening to the ground on the "X" plane 330 mm (13.0 in.) forward of the SgRP-second.
- H63 EFFECTIVE HEAD ROOM-SECOND. The dimension measured along a line 8 deg. rear of vertical from the SgRP to the headlining, plus 102 mm (4.0 in.).
- H73 FLOOR COVERING-DEPRESSED-SECOND. The dimension measured vertically from the heel point to the underbody sheet metal.

**Luggage Compartment Dimensions**

- V1 USABLE LUGGAGE CAPACITY-Total of volumes of individual pieces of standard luggage set plus H-boxes stowed in the luggage compartment in accordance with the procedure described in paragraph 8.2 of SAE-J1100a.
- H195 LIFTOVER HEIGHT. The dimension measured vertically from the luggage compartment lower opening at the zero "Y" plane to ground.

**Interior Volumes (EPA Classification)**

The Interior Volume Index is listed for each body style except two seaters. The interior volume index estimates the space in a car. It is based on four measurements - head room, shoulder room, hip room, and leg room - for the front and rear seats, plus trunk capacity. The interior volume index is an estimate of the size of the passenger compartment.

The Trunk/Cargo Index is an estimate of the size of the trunk/cargo space. In station wagons and hatchbacks it is an estimate of the space behind the second seat.

**Station Wagon - Third Seat Dimensions**

- L85 SgRP COUPLE DISTANCE-THIRD. The dimension measured horizontally from the SgRP-second to the SgRP-third.
- L86 EFFECTIVE LEG ROOM-THIRD. The dimension measured along a line from the ankle pivot center to the SgRP-third plus 254 mm (10.0 in.).
- L87 KNEE CLEARANCE-THIRD. The minimum dimension from the knee pivot center to the back of second seatback minus a constant of 51mm (2.0 in.). With rear-facing third seat, dimension is measured to closure.
- L88 BACK ANGLE-THIRD. Measured in the same manner as L41.
- L89 HIP ANGLE-THIRD. Measured in the same manner as L43.
- L90 KNEE ANGLE-THIRD. Measured in the same manner as L45.
- L91 FOOT ANGLE-THIRD. Measured in the same manner as L47.
- W85 SHOULDER ROOM-THIRD. Measured in the same manner as W4.
- W86 HIP ROOM-THIRD. Measured in the same manner as W5.
- H86 EFFECTIVE HEAD ROOM-THIRD. The dimension, measured along a line 8 deg. from the SgRP-third to the headlining rear of vertical plus a constant of 102 mm (4.0 in.).
- H87 SgRP-THIRD TO HEEL POINT.
- SD1 SEAT FACING DIRECTION-THIRD.

**Station Wagon - Cargo Space Dimensions**

- L200 CARGO LENGTH-OPEN-FRONT. The minimum dimension measured longitudinally from the back of the front seatback at the height of the undepressed floor covering to the rearmost point on the undepressed floor covering on the open tailgate or cargo surface if the rear closure is a conventional door type tailgate at the zero "Y" plane.
- L201 CARGO LENGTH-OPEN-SECOND. The dimension measured longitudinally from the back of the second seatback at the height of the undepressed floor covering to the rearmost point on the undepressed floor covering on the open tailgate or cargo floor surface if the rear closure is a conventional door type tailgate, at the zero "Y" plane.
- L202 CARGO LENGTH-CLOSED-FRONT. The minimum dimension measured horizontally from the back of the front seat at the height of the undepressed floor covering to the rearmost point on the undepressed floor covering on the closed tailgate or taildoor for station wagons, trucks and mpv's at the zero "Y" plane.
- L203 CARGO LENGTH-CLOSED-SECOND. The dimension measured horizontally from the back of the second seat at the height of the undepressed floor covering to the rearmost point on the undepressed floor covering on the closed tailgate or taildoor for station wagons, trucks and mpv's at the zero "Y" plane.
- L204 CARGO LENGTH AT BELT-FRONT. The minimum dimension measured horizontally from the back of the front seatback at the seatback top to the foremost normal surface of the closed tailgate or inside surface of the cab backpanel at the height of the belt, on the zero "Y" plane.
- L205 CARGO LENGTH AT BELT-SECOND. The minimum dimension measured horizontally from the back of the second seatback at the seatback top to the foremost normal surface of the closed tailgate at the height of the belt, on the zero "Y" plane.
- W201 CARGO WIDTH-WHEELHOUSE. The minimum dimension measured laterally between the trimmed wheelhouseings at floor level. For any vehicle not trimmed, measure to the sheet metal.

Interior Vehicle And Body Dimensions - Key Sheet  
Dimensions Definitions

- W203 REAR OPENING WIDTH AT FLOOR. The minimum dimension measured laterally between the limiting interferences of the rear opening at floor level.
- W204 REAR OPENING WIDTH AT BELT. The minimum dimension measured laterally between the limiting interferences of the rear opening at belt height or top of pick up box.
- W205 REAR OPENING WIDTH ABOVE BELT. The minimum dimension measured laterally between the limiting interferences of the rear opening above the belt height.
- H197 FRONT SEATBACK TO LOAD FLOOR HEIGHT. The dimension measured vertically from the horizontal tangent to the top of the seatback to the undepressed floor covering.
- H201 CARGO HEIGHT. The dimension measured vertically from the top of the undepressed floor covering to the headlining at the rear wheel "X" coordinate on the zero "Y" plane.
- H202 REAR OPENING HEIGHT. The dimension measured vertically from the top of the undepressed floor covering to the upper trimmed opening on the zero "Y" plane with rear door fully open.
- H250 TAILGATE TO GROUND CURB MASS (WT.). The dimension measured vertically from the top of the undepressed floor covering on the lowered tailgate to ground on the zero "Y" plane.
- V2 STATION WAGON  
Measured in inches:  

$$\frac{W4 \times H201 \times L204}{1728} = \text{ft}^3$$
 Measured in mm:  

$$\frac{W4 \times H201 \times L204}{10^9} = \text{m}^3 \text{ (cubic meter)}$$
- V4 HIDDEN LUGGAGE CAPACITY-REAR OF FRONT SEAT. The total volumes of individual pieces of one set of standard luggage stowed in any hidden cargo area below the load floor rear of the front seat.
- V5 TRUCKS AND MPV'S WITH OPEN AREA.  
Measured in inches:  

$$\frac{L506 \times W500 \times H503}{1728} = \text{ft}^3$$
 Measured in mm:  

$$\frac{L506 \times W500 \times H503}{10^9} = \text{m}^3 \text{ (cubic meter)}$$
- V6 TRUCKS AND MPV'S WITH CLOSED AREA.  
Measured in inches:  

$$\frac{L204 \times W500 \times H505}{1728} = \text{ft}^3$$
 Measured in mm:  

$$\frac{L204 \times W500 \times H505}{10^9} = \text{m}^3 \text{ (cubic meter)}$$
- V8 HIDDEN LUGGAGE CAPACITY-REAR OF SECOND SEAT. The total volume of individual pieces of one set of standard luggage stowed in any hidden cargo area below the load floor rear of the second seat.
- V10 STATION WAGON CARGO VOLUME INDEX.  
Measured in inches:  

$$\frac{H201 \times L205 \times \frac{W4 + W201}{2}}{1728} = \text{ft}^3$$
 Measured in mm:  

$$\frac{H201 \times L205 \times \frac{W4 + W201}{2}}{10^9} = \text{m}^3 \text{ (cubic meter)}$$

Hatchback - Cargo Space Dimensions

All hatchback cargo dimensions are to be taken with the front seat in full down and rear position, and the rear seat folded down. The hatchback door is in the closed position. (For electrically adjusted seats, see the manufacturer's specifications for Design "H" Point).

- L208 CARGO LENGTH AT FRONT SEATBACK HEIGHT. The minimum horizontal dimension from the "X" plane tangent to the rearmost surface of the driver's seatback to the inside limiting interference of the hatchback door on the vehicle zero "Y" plane.
- L209 CARGO LENGTH AT FLOOR-FRONT-HATCHBACK. The minimum horizontal dimension measured at floor level from the rear of the front seatback to the normal limiting interference of the hatchback door on the vehicle zero "Y" plane.
- L210 CARGO LENGTH AT SECOND SEATBACK HEIGHT-HATCHBACK. The minimum dimension measured from the "X" plane tangent to the rearmost surface of second seatback or the load floor which is stowed at least one half of the H198 dimension height above the rear load floor, to the rearmost inside limiting interference on the zero "Y" plane.
- L211 CARGO LENGTH AT FLOOR-SECOND HATCHBACK. The minimum horizontal dimension measured at floor level from the rear of the second seatback or load floor panel to the normal limiting interference of the hatchback door on the vehicle zero "Y" plane.
- H197 FRONT SEATBACK TO LOAD HEIGHT. The dimension measured vertically from the horizontal tangent to the top of the seatback to the undepressed floor covering.
- H198 SECOND SEATBACK TO LOAD FLOOR HEIGHT. The dimension measured vertically from the second seat back to the undepressed floor covering.
- V3 HATCHBACK.  
Measured in inches:  

$$\frac{L208 + L209}{2} \times W4 \times H197 = \text{ft}^3$$
 Measured in mm:  

$$\frac{L208 + L209}{2} \times W4 \times H197 = \text{m}^3 \text{ (cubic meter)}$$
- V4 HIDDEN LUGGAGE CAPACITY-REAR OF FRONT SEAT. The total volumes of individual pieces of one set of standard luggage stowed in any hidden cargo area below the load floor rear of the front seat.
- V11 HATCHBACK CARGO VOLUME INDEX. Usable luggage (one (1) stand and luggage set) below floor:  
Measured in inches:  

$$\frac{L210 + L211}{2} \times W4 \times H198 = \text{ft}^3$$
 Measured in mm:  

$$\frac{L210 + L211}{2} \times W4 \times H198 = \text{m}^3 \text{ (cubic meter)}$$

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