

# MANUFACTURERS MOTOR VEHICLE SPECIFICATIONS

METRIC (U.S. Customary)

## 1989

Manufacturer <b>CHRYSLER MOTORS CORPORATION</b>	Vehicle Line <b>DODGE SHADOW</b>	
Mailing Address <b>DETROIT, MICHIGAN 48288</b>	Issued <b>9-30-88</b>	Revised

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.

### MVMA

Motor Vehicle Manufacturers Association  
of the United States, Inc.

Blank Forms Provided by Technical Affairs Division

# 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 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

Vehicle Line **DODGE SHADOW**

Model Year **1989** Issued **9-30-88** Revised (●)

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

### Ø Vehicle Origin

Design & Development (company)	Chrysler Motors Corporation
Where built (country)	U.S.A.
Authorized U.S. sales marketing representative	Dodge Division of Chrysler Motors Corporation

## Vehicle Models

Model Description & Drive (FWD/RWD/AWD/4WD)*	Introduction Date	Make, Vehicle Models, Series, Body Type (Mfgr's Model Code)	No. of Designated Seating Positions (Front/Rear)	Max. Trunk Cargo Load - Kilograms (Pounds)
Shadow (Highline) 2 - Door Hatchback FWD	Sept. 1988	DH24	5 (2/3)	52 (115)
4 - Door Hatchback FWD		DH44	5 (2/3)	52 (115)
Shadow (Lowline) 2 - Door Hatchback FWD	NA	DL24	5 (2/3)	52 (115)
4 - Door Hatchback FWD		DL44	5 (2/3)	52 (115)

Ø \* FWD - Front Wheel Drive  
AWD - All Wheel Drive

RWD - Rear Wheel Drive  
4WD - Four Wheel Drive

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

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

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

[illegible]

\*Single/dual

(a) Overall top gear ratio

# MVMA Specifications Form

Vehicle Line **DODGE SHADOW**

Model Year **1989**

Issued **9-30-88**

Revised (●)

METRIC (U.S. Customary)

Engine Description/Carb.  
Engine Code

**2.2L (135.0 in<sup>3</sup>)  
EFI, EDF**

## ENGINE - GENERAL

Type & description (inline, V, angle, flat, location, front, mid, rear, transverse, longitudinal, sohc, dohc, ohv, hemi, wedge, pre-camber, etc.)	Four cylinder, in-line, SOHC, canted, front, transverse	
Manufacturer	Chrysler	
No. of cylinders	4	
Bore	87.5 (3.44)	
Stroke	92.0 (3.62)	
Bore Spacing (C/L to C/L)	96.0 (3.78)	
Cylinder block material & mass kg (lbs.) (machined)	Cast Iron 39.51 (87.1)	
Cylinder block deck height	237.8 (9.36)	
Cylinder block length	418 (16.46)	
Deck clearance (minimum) (above or below block)	0.00	
Cylinder head material & mass kg (lbs.)	Aluminum 9.71 (21.4)	
Cylinder head volume (cm <sup>3</sup> )	48.5 to 51.5	
Cylinder liner material	N.A.	
Head gasket thickness (compressed)	1.78 (.070)	
Minimum combustion chamber total volume (cm <sup>3</sup> )	65.31	
Cyl. no. system (front to rear)*	L. Bank	R to L as installed - 1, 2, 3, 4
	R. Bank	--
Firing order	1, 3, 4, 2	
Intake manifold material & mass [kg (lbs.)]**	Aluminum 2.58 (5.7)	
Exhaust manifold material & mass [kg (lbs.)]**	Cast Iron 6.23 (13.7)	
Fuel required, unleaded, diesel, etc.	Unleaded regular	
Fuel antiknock index (R + M) ÷ 2	87 or higher	
Engine mounts	Number	3
	Material and type (elastomeric, hydroelastic, hydraulic damper, etc.)	Natural Rubber
	Added isolation (sub-frame, crossmember, etc.)	None
Total dressed engine mass (wt) dry***	141.68 (312.4)	

## Engine - Pistons

Material & mass, g (weight, oz.) - piston only	Aluminum 445 (15.7)
--	------------------------

## Engine - Camshaft

Location	Overhead
Material & mass kg (weight, lbs.)	Post-hardened nodular iron 2.92 (6.4)
Drive type	Chain/belt
	Belt
Width/pitch	23.8/9.52 (0.937/0.375)

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

\*\* Finished state

\*\*\* Dressed engine mass (weight) includes the following: starter, alternator, manifolds, water pump, engine mounted emissions controls, power steering pump, drive belts, oil filter, right engine mount, and throttle controls as required.

# MVMA Specifications Form

Vehicle Line **DODGE SHADOW**

Model Year **1989**

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Revised (●)

## METRIC (U.S. Customary)

Engine Description/Carb.

Engine Code

**2.5L (153.0 in<sup>3</sup>)  
EFI, EDM**

**2.5L (153.0 in<sup>3</sup>)  
EFI Turbo I, EDT**

## ENGINE - GENERAL

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

**Four cylinder, in-line, SOHC,  
front, transverse**

Manufacturer

**Chrysler**

No. of cylinders

**4**

Bore

**87.5 (3.44)**

Stroke

**104.0 (4.09)**

Bore Spacing (C/L to C/L)

**96.0 (3.78)**

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

**Cast Iron 39.50 (87.1)**

Cylinder block deck height

**237.8 (9.36)**

Cylinder block length

**418 (16.46)**

Deck clearance (minimum)  
(above or below block)

**0.00**

**0.009 (above)**

Cylinder head material & mass kg (lbs.)

**Aluminum 9.71 (21.4)**

**Aluminum 9.75 (21.5)**

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

**48.94 to 51.94**

Cylinder liner material

**N.A.**

Head gasket thickness  
(compressed)

**1.78 (0.070)**

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

**73.815**

**92.24**

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

L. Bank

R. Bank

**R to L as installed - 1, 2, 3, 4**

**--**

Firing order

**1, 3, 4, 2**

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

**Aluminum 2.58 (5.7)**

**Aluminum 5.67 (12.5)**

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

**Cast Iron 6.23 (13.7)**

**Cast iron 3.99 (8.8)**

Fuel required, unleaded, diesel, etc.

**Regular unleaded**

**Premium unleaded**

Fuel antiknock index (R + M) ÷ 2

**87 octane or higher**

**recommend 91 or higher accept 87 or higher**

Ø

Number

**3**

Engine  
mounts

Material and type (elastomeric,  
hydroelastic, hydraulic damper, etc.)

**Natural Rubber**

Added isolation (sub-frame,  
crossmember, etc.)

**None**

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

**150.93 (332.8)**

**156.33 (344.7)**

## Engine - Pistons

Material & mass, g  
(weight, oz.) - piston only

**Aluminum  
318(11.2)**

**Aluminum  
364 (12.7)**

## Engine - Camshaft

Location

**Overhead**

Material & mass kg (weight, lbs.)

**Post-hardened nodular iron  
2.92 (6.4)**

Drive type

Chain/belt

**Belt**

Width/pitch

**23.8/9.52 (0.937/0.375)**

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

\*\* Finished state

\*\*\* Dressed engine mass (weight) includes the following: starter, alternator, manifolds, water pump, engine mounted emissions controls, power steering pump, drive belts, oil filter, right engine mount, and throttle controls as required.

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Model Year **1989**

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Revised (●)

## METRIC (U.S. Customary)

Engine Description/Carb.  
Engine Code

**2.2L (135.0in<sup>3</sup>)  
EFI, EDF**

**2.5L(153.0in<sup>3</sup>)  
EFI, EDM**

**2.5L(153.0in<sup>3</sup>)  
MPI Turbo, EDT**

### Engine - Valve System

Hydraulic lifters (std., opt., n.a.)	Std.
Valves	Number intake/exhaust
	Head O.D. intake/exhaust

4/4

40.6 / 35.4 (1.60 / 1.39)

### Engine - Connecting Rods

Material & Mass [kg., (weight lbs.)]*	Forged steel 0.65 (1.43)	Forged steel 0.69 (1.52)
Ø Length (axes $\phi$ to $\phi$ ) mm	151 (5.94)	

### Engine - Crankshaft

Material & Mass [kg., (weight lbs.)]*	Nodular iron 15.19 (33.5)	Forged steel 16.52 (36.4)
End thrust taken by bearing (no.)	Three	
Length & number of main bearings	479 (18.9) / 5	487.5 (19.2) / 5
Seal (material, one, two piece design, etc.)	Front	One piece
	Rear	One piece

### Engine - Lubrication System

Normal oil pressure [kPa (psi) at eng. rpm]	172 - 552 (25-80) @ 3000/Fully warmed
Type of intake (floating, stationary)	Stationary
Oil filter system (full flow, part, other)	Full flow
Capacity of c/case, less filter-refill-L (qt.)	3.8 (4)

### Engine - Diesel Information

Diesel engine manufacturer	
Glow plug, current drain at 0° F	
Injector nozzle	Type
	Opening pres. [kPa (psi)]
Pre-chamber design	
Fuel inj. pump	Manufacturer
	Type
Fuel inj. 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		M.H.I.
Super charger - manufacturer		--
Intercooler		--

\* Finished State

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Vehicle Line **DODGE SHADOW**

Model Year **1989** Issued **9-30-88** Revised (●) \_\_\_\_\_

## METRIC (U.S. Customary)

Engine Description/Carb.  
Engine Code

2.2L (135.0 in <sup>3</sup> ) EFI, EDF 2.5 L (153.0 IN. <sup>3</sup> ) EFI, EDM		2.5L(153.0 in <sup>3</sup> ) MPI Turbo EDT
W/O A/C	W A/C	

## Engine - Cooling System

Coolant recovery system (std., opt., n.a.)		Standard		
Coolant fill location (rad, bottle)		Bottle		
Radiator cap relief valve pressure [kPa (psi)]		96-124(14-18)		
Circulation thermostat	Type (choke, bypass)	Choke, Pellet Operated		
	Starts to open at °C (°F)	90.6(195)		
Water pump	Type (centifugal, other)	Centrifugal		
	GPM 1000 pump rpm	--		
	Number of pumps	One		
	Drive (V-belt, other)	Multi-Groove Belt		
	Bearing type	Integral Ball Bearing		
	Impeller material	Steel		
	Housing material	Cast Aluminum		
By-pass recirculation [type (inter., ext.)]		External in series with heater		
Cooling system capacity	With heater - L(qt.)	8.5(9.0)		
	With air cond. - L(qt.)	8.5 (9.0)		
	Opt. equipment [specify - L(qt.)]	--		
Water jackets full length of cyl. (yes, no)		Yes		
Water all around cylinder (yes, no)		No		
Water jackets open at head face (yes, no)		No		
Radiator core	Std. A/C, HD	standard	A/C	All
	Type (cross-flow, etc.)	Cross Flow		
	Construction (fin & tube mechanical, braze, etc.)	Tube & fin mech. 2-row (b)	Tube & Fin Spacer, Soldered, 1 Row	
	Material, mass [kg (wgt.lbs.)] (a)	aluminum (c)	Copper/Brass 4.12(9.1) Auto. / 3.55(7.8) Man.	
	Width	533(21)		
	Height	377.5(14.86) (d)	387.6(15.26)	
	Thickness	34(1.34) (e)	17.8(0.7)	
	Fins per inch	14.5 (f)	18 Man. / 19Auto.	
	Radiator end tank material		Nylon 66	
Fan	Std., elec., opt.	Electric		
	Number of blades & type (flex, solid, material)	2-Blade metal		5-blade plastic
		360(14.2) / 46(1.8)		367 (14.5) / 42(1.65)
	Ratio (fan to crankshaft rev.)	--		
	Fan cutout type	Electric Motor		
	Drive type (direct, remote)	--		
	RPM at idle (elec.)	1150	1720	2150
	Motor rating (wattage) (elec.)	44	130	180
	Motor switch (type & location) (elec.)	Thermistor, Water Box & AC clutch		
	Switch point (temp., pressure) (elec.)	99°C(210°F) < 40 mph; 110°C(230°F) > 40 mph; 99°C(210°F) < 40 mph; 104°C(220°F) > 40 mph		
	Fan shroud (material)	Metal		Plastic

(a) Mass (weight) shown is for assembly as purchased.

(b) Optional radiator: Tube & Fin Spacer, Soldered, 1 Row

(c) 3.13(6.9) Man.: 3.55(7.8) Auto.; Optional radiator: copper-brass, 4.2 (9.3)

(d) Optional radiator: 387.6 (15.26)

(e) Optional radiator: 17.8 (0.7)

(f) Optional radiator: 13



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Vehicle Line **DODGE SHADOW**

Model Year **1989**

Issued **9-30-88**

Revised (•)

## METRIC (U.S. Customary)

Engine Description/Carb.  
Engine Code

**2.2L (135.0 in<sup>3</sup>)  
EFI, EDF**

**2.5L (153.0 in<sup>3</sup>)  
EFI, EDM**

**2.5L (153.0 in<sup>3</sup>)  
EFI Turbo, EDT**

### Engine - Fuel System (see supplemental page for details of Fuel Injection, Supercharger, Turbocharger, etc. if used)

Induction type: carburetor, fuel injection system, etc.		Electronic fuel injection		
Manufacturer		Bosch/Holley	Holley	Holley
<input checked="" type="checkbox"/> Carburetor no. of barrels		--		
Idle A/F mix.		--		
Fuel Injection	Point of injection	Throttle body (1)		Intake ports (4)
	Constant, pulse, flow	Pulse		
	Control (electronic, mech.)	Electronic		
	System pressure [kPa (psi)]	100 (14.5)		379.6 (55.1)
Idle spd.-rpm (spec. neutral or drive and propane if used)	Manual	850		950
	Automatic	850 / Neutral		900 / Neutral
Intake manifold heat control (exhaust or water thermostatic or fixed)		Water		None
Air cleaner type		Oil wetted paper element		
Fuel filter (type/location)		Paper element; Stainless steel canister; Inline underbody		
<input checked="" type="checkbox"/> Fuel pump	Type (elec. or mech.)	Electric		
	Location (eng., tank)	In fuel tank		
	Pressure range [kPa (psi)]	N.A.		
	Flow rate at regulated pressure (L (gal) / hr @ kPa (psi))	77-154 (20-41) @ 12V & 15psi		96-188(25-50)@12V & 55psi

### Fuel Tank

Capacity refill L (gallons)		53 (14)		
Location (describe)		Forward of axle		
Attachment		Galvanized or terne plated strap to floor pan		
Material & Mass [kg (weight lbs.)]		10.21 (22.5) (a)		10.8 (23.8) (a)
Filler pipe	Location & material	Right rear quarter panel, lead dipped steel tube		
	Connection to tank	Rubber grommet		
Fuel line (material)		Duplex coated steel		
Fuel hose (material)		Fuel resistant rubber		
Return line (material)		Duplex coated steel		
Vapor line (material)		Duplex coated steel		
Extended range tank	Opt., n.a.			
	Capacity [L (gallons)]			
	Location & material			
	Attachment			
Auxiliary tank	Opt., n.a.			
	Capacity [L (gallons)]			
	Location & material			
	Attachment			
	Selector switch or valve			
	Separate fill			

(a) Terne plated steel

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## METRIC (U.S. Customary)

Engine Description/Carb.

Engine Code

**2.2L (135.0in<sup>3</sup>)**

**EFI, EDF**

**2.5L (153.0 in<sup>3</sup>)**

**EFI, EDM**

## Vehicle Emission Control

	Type (air injection, engine modifications, other)		(a) (b)	
Air injection	Pump or pulse		pulse (b)	none
	Driven by		exhaust pressure (b)	--
	Air distribution (head, manifold, etc.)		source - air cleaner single point (b)	--
	Point of entry		catalytic converter (b)	--
Exhaust Emission Control	Exhaust Gas	Type (controlled flow, open orifice, other)	exhaust back pressure-controlled flow	
	Recirculation	Exhaust source	exhaust manifold	manifold branch
		Point of exhaust injection (spacer, carburetor, manifold, other)	intake manifold	
	Catalytic Converter	Type	3 - Way (g)	3 - way
Ø		Number of	one	
		Location(s)	below exhaust manifold	
		Volume [L(in. <sup>3</sup> )]	1.23 + 0.9 (75 + 55) (d)	1.23 + 0.9 (75 + 55)
		Substrate type	monolithic	
		Noble metal type	1.23L & 0.9L: Platinum / Rhodium; 0.74L: Platinum / Palladium	
		Noble metal concentration (g/cm <sup>3</sup> )	1.23L: 0.0006/0.00009 0.9L: 0.0006/0.00007 (e)	1.23L: 0.0006/0.00009 except Cal. ATX 0.0006/0.00018 - ATX-Cal. (e)(f)
Crankcase Emission Control	Type (ventilates to atmosphere, induction system, other)		closed induction system	
	Energy source (manifold vacuum, carburetor, other)		manifold vacuum	
	Discharges (to intake manifold, other)		throttle body	
	Air inlet (breather cap, other)		air cleaner	
Evaporative emission control	Vapor vented to (crankcase, canister, other)	Fuel tank	canister	
		Carburetor	--	
Electronic system	Vapor storage provision		canister	
	Closed loop (yes/no)		yes - hot engine	
	Open loop (yes/no)		yes - cold engine	

## 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 reverse flow stainless steel 5.05 (11.1)
Resonator no. & type		none
Exhaust pipe	Branch o. d., wall thickness	50.8 x 1.4 (2.00 x 0.055)
	Main o. d., wall thickness	50.8 x 1.4 (2.00 x 0.055)
	Material & mass [kg. (weight lbs.)]	Stainless Steel 6.08(13.4), 49 states with manual trans. (g) (h)
Intermediate pipe	o. d., & wall thickness	47.8 x 1.2 (1.88 x 0.047)
	Material & mass [kg. (weight lbs.)]	stainless steel 2.79 (6.2)
Tail pipe	o. d., & wall thickness	47.8 x 1.1 (1.88 x 0.043)
	Material & mass [kg. (weight lbs.)]	stainless steel (see muffler assembly)

(a) exhaust gas recirculation, engine modifications, catalytic converter

(b) aspirator added, 49 states with manual transmission only

(c) 3 Way + oxidation, 49 states with manual transmission only

(d) 1.23 (75) 3WC + 0.74 ox., 49 states with manual transmission only

(e) 0.74L: 0.00085

(f) 0.9L: 0.0006/0.00007 except ATX-Calif. / 0.0006/0.00018 - ATX-Calif.

(g) 5.95 (13.1) all others

(h) Includes 1.56kg (3.44 lbs), 49 states with manual trans only; 1.69kg(3.72lbs), all others - substrate and mat mount

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Model Year **1989**

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## METRIC (U.S. Customary)

Engine Description/Carb.

Engine Code

**2.5L (153.0 in<sup>3</sup>)**

**Turbo I, EDT**

## Vehicle Emission Control

Exhaust Emission Control	Type (air injection, engine modifications, other)		Engine modifications, catalytic converter Exhaust gas recirculation - California only
	Air injection	Pump or pulse	none
		Driven by	--
		Air distribution (head, manifold, etc.)	--
		Point of entry	--
	Exhaust Gas Recirculation	Type (controlled flow, open orifice, other)	exhaust back pressure-controlled flow - Calif. only
		Exhaust source	turbine housing outlet
		Point of exhaust injection (spacer, carburetor, manifold, other)	intake manifold
	Catalytic Converter	Type	3 - way
		Number of	one
		Location(s)	under floor
		Volume [L(in. <sup>3</sup> )]	1.80 (110)
		Substrate type	monolithic
		Noble metal type	Platinum / Rhodium
		Noble metal concentration (g/cm <sup>3</sup> )	0.0006/0.00011 - Federal 0.00085/0.00085 - Calif.
Crankcase Emission Control	Type (ventilates to atmosphere, induction system, other)		closed induction system
	Energy source (manifold vacuum, carburetor, other)		Intake manifold vacuum
	Discharges (to intake manifold, other)		throttle body
	Air inlet (breather cap, other)		air cleaner
Evaporative emission control	Vapor vented to (crankcase, canister, other)	Fuel tank	canister
		Carburetor	--
Electronic system	Vapor storage provision		canister
	Closed loop (yes/no)		yes - hot engine
	Open loop (yes/no)		yes - cold engine

## 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 reverse flow stainless steel 6.16 (13.6)
Resonator no. & type		none
Exhaust pipe	Branch o. d., wall thickness	N.A.
	Main o. d., wall thickness	63.5 x 1.4 (2.5 x 0.55)
	Material & mass [kg. (weight lbs.)]	Stainless Steel 1.97 (4.3)
Intermediate pipe	o. d., & wall thickness	57.2 / 63.5 x 1.4 (2.2/2.5 x 0.55)
	Material & mass [kg. (weight lbs.)]	stainless steel 6.00 (13.2)
Tail pipe	o. d., & wall thickness	50.8 x 1.1 (2.00 x .043)
	Material & mass [kg. (weight lbs.)]	stainless steel (see muffler assembly)

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Vehicle Line **DODGE SHADOW**

Model Year **1989** Issued **9-30-88** Revised(•) \_\_\_\_\_

METRIC (U.S. Customary)

Engine Description/Carb.  
Engine Code

**2.2L (135.0 in<sup>3</sup>) / EFI  
EDF**

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

Manual 3-speed (manufacturer/country)	N.A.
Manual 4-speed (manufacturer/country)	N.A.
Manual 5-speed manufacturer/country	Std./Chrysler-New Process Gear/U.S.
Automatic (manufacturer/country)	Opt./Chrysler/U.S.
Automatic overdrive (manufacturer/country)	N.A.

## Manual Transmission/Transaxle

Number of forward speeds*		5
Gear ratios	1st	3.29
	2nd	2.08
	3rd	1.45
	4th	1.04
	5th	0.72
	Reverse	3.14
Synchronous meshing (specify gears)		All Forward Gears
Shift lever location		Floor
Trans. case mat'l. & mass kg.(lbs.)*		319 Aluminum Die Cast 43.99 (97.0)
Lubricant	Capacity [L (pt.)]	2.3L (4.81pt.)
	Type recommended	API SF/CC SAE 5W-30
Ø		

## Clutch (Manual Transmission)

Clutch manufacturer	Luk	
Clutch type (dry, wet; single, multiple disc)	Dry Disc, single	
Linkage (hydraulic, cable, rod, lever, other)	Cable	
Max. pedal effort (nom. spring load, new) N (lbs.)	Depressed	80 (18)
	Released	120 (27)
Assist (spring, power/percent, nominal)	None	
Type pressure plate springs	Belleville	
Total spring load (nominal, new) N (lbs.)	4400 (989)	
Clutch facing	Facing mfr. & material coding	Textar 314
	Facing material & construction	Woven Asbestos
	Rivets per facing	16
	Outside x inside dia. (nominal)	215 x 154 (8.46 x 6.06)
	Total eff. area [cm <sup>2</sup> (in <sup>2</sup> )]	353.6 (54.8)
	Thickness (pressure plate side/ fly wheel side)	3.15/3.15 (0.124/0.124)
	Rivet depth (pressure plate side/ fly wheel side)	1.2/1.2 (0.047/0.047) min.
	Engagement cushion method	Wave spring segments
Release bearing type & method lub.	Angular contact ball bearing permanently lubed with grease	
Torsional damping method, springs, hysteresis	Coil springs and friction fiber washers	

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

# MVMA Specifications Form

Vehicle Line **DODGE SHADOW**

Model Year **1989**

Issued **9-30-88**

Revised(•)

## METRIC (U.S. Customary)

Engine Description/Carb.  
Engine Code

**2.5L (153.0 in<sup>3</sup>) / EFI  
EDM**

**2.5L (153.0 in<sup>3</sup>) / TURBO I, MPI  
EDT**

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

Manual 3-speed (manufacturer/country)	N.A.
Manual 4-speed (manufacturer/country)	N.A.
Manual 5-speed manufacturer/country	Std./Chrysler New Process Gear/U.S.
Automatic (manufacturer/country)	Opt./Chrysler/U.S.
Automatic overdrive (manufacturer/country)	N.A.

### Manual Transmission/Transaxle

Number of forward speeds*		5
Gear ratios	1st	3.29
	2nd	2.08
	3rd	1.45
	4th	1.04
	5th	0.72
	Reverse	3.14
Synchronous meshing (specify gears)		All Forward Gears
Shift lever location		Floor
Trans. case mat'l. & mass kg.(lbs.)*		43.99 (97.0) 319 Aluminum Die Cast
Lubricant	Capacity [L (pt.)]	2.3 (4.81)
	Type recommended	API SF/CC SAE 5W-30
Ø		

### Clutch (Manual Transmission)

Clutch manufacturer	Fichtel & Sachs	
Clutch type (dry, wet; single, multiple disc)	Dry Disc, single	
Linkage (hydraulic, cable, rod, lever, other)	Cable	
Max. pedal effort (nom. spring load, new) N (lbs.)	Depressed	100 (23)
	Released	116 (26)
	Depressed	112 (25)
	Released	125 (28)
Assist (spring, power/percent, nominal)	None	
Type pressure plate springs	Belleville	
Total spring load (nominal, new) N (lbs.)	4700 (1057)	5750 (1292)
Clutch facing	Facing mfg. & material coding	Textar 314
	Facing material & construction	Woven Asbestos
	Rivets per facing	16
	Outside x inside dia. (nominal)	228 x 150 (8.98 x 5.91)
	Total eff. area [cm <sup>2</sup> (in <sup>2</sup> )]	438.0 (67.9)
	Thickness (pressure plate side/fly wheel side)	3.4/3.4 (0.13/0.13)
	Rivet depth (pressure plate side/fly wheel side)	1.1/1.1 (0.043/0.043) min.
	Engagement cushion method	Wave spring segments
	Release bearing type & method lub.	Angular contact ball bearing permanently lubed with grease
Torsional damping method, springs, hysteresis	Coil springs and friction fiber washers	

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

# MVMA Specifications Form

Vehicle Line **DODGE SHADOW**

Model Year **1989** Issued **9-30-88** Revised (●)

## METRIC (U.S. Customary)

Engine Description/Carb.  
Engine Code

2.2L (135.0in<sup>3</sup>)/EDF  
EDF

2.5L (153.0 in<sup>3</sup>)/EFI  
EDM

2.5L (153.0 in<sup>3</sup>)/MPI Turbo  
EDT

## Automatic Transmission/Transaxle

Trade name		Torqueflite	
Type and special features (describe)		Electronic lock-up torque converter with automatically-operated planetary gear transmission and parallel axis final drive	
Selector	Location	Floor mounted	
	Ltr./No. designation	PRND21	
Gear ratios	1st	2.69	
	2nd	1.55	
	3rd	1.00	
	4th	--	
	Reverse	2.10	
Max. upshift speed-drive range [km/h (mph)]		113 (70)	129 (80)
Max. kickdown speed-drive range [km/h (mph)]		105 (65)	119 (74)
Min. overdrive speed [km/h (mph)]		--	
Torque converter	Number of elements	Three	
	Max. ratio at stall	2.10:1	2.00 : 1
	Type of cooling (air, liquid)	Liquid	
	Nominal diameter	241 (9.5)	
Ø	Capacity factor "K"	210	260
Lubricant	Capacity [refill L (pt.)]	8.40 (17.75) (a)	
	Type recommended	Mopar ATF Plus (Auto. trans. fluid - Type 7176) (b)	
Oil cooler (std,opt,n.a.,internal,external,air,liquid)		Std. / in radiator, liquid	
Ø Transmission case material & mass kg. (lbs.)**		57.09 (125.9)	57.16 (126.0)

## Axle or Front Wheel Drive Unit

Type (front, rear)		Front	
Description		Transaxle	
Limited slip differential (type)		N.A.	
Drive pinion offset		--	
Drive pinion (type)		Helical	
No. of differential pinions		Two	
Pinion / differential adjustment (shim, other)		--	
Pinion /differential bearing adjustment(shim, other)		Shim	
Driving wheel bearing		Double row ball	
Lubricant	Capacity [L (pt.)]	see transaxle	
	Type recommended	see transaxle	

## Axle or Transaxle Ratio and Tooth Combinations

Axle ratio (or overall top gear ratio)		2.51 (manual trans.)	3.02 (auto. trans.)
No. of teeth	Pinion	14	21
	Ring gear or gear	49	60
Ring gear o.d.		197.46 (7.77)	184.5 (7.26)
Transaxle	Transfer gear ratio	--	1.06
	Final drive ratio	3.50	2.86

\* Input speed ÷ √ torque

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

(a) Torque converter, Transmission and Differential

(b) Dexron II ATF may be used, only if Mopar ATF is not available

# MVMA Specifications Form

Vehicle Line **DODGE SHADOW**

Model Year **1989**

Issued **9-30-88**

Revised (●)

## METRIC (U.S. Customary)

Engine Description/Carb.  
Engine Code

**2.2L (135.0 in<sup>3</sup>)  
EFI, EDF**

**2.5L (153.0 in<sup>3</sup>)  
EFI, EDM**

### Axle Shafts - Front Wheel Drive

Manufacturer and number used			Two	
Type (straight, solid bar, tubular, etc.)			Solid bar	
Ø Outer diam.x length*x wall thickness	Manual transaxle	Left	(a)	(b)
		Right	(c)	(d)
	Automatic transaxle	Left	(a)	(b)
		Right	(c)	(d)
	Optional transaxle	Left	--	--
		Right	--	--
Slip yoke	Type		--	
	Number of teeth		--	
	Spline o.d.		--	
Universal joints	Make and mfg. no.	Inner	(e)	GKN-EUR: G182 or SSG: #19
		Outer	(f)	GKN-EUR: 98LAC or SSG: #23
	Number used		Two	
	Type, size, plunge	Inner	Tripod plunge	
		Outer	Rzeppa - fixed	
	Attach (u-bolt, clamp, etc.)		--	
	Bearing	Type (plain, anti-friction)	--	
Lubrication (fitting, prepack)		Prepack		
Drive taken through (torque tube, arms or springs)			--	
Torque taken through (torque tube, arms or springs)			--	

### Ø 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.

(a) GKN-US: 24.2 x 333.2 (0.95 x 13.12) or SSG: 23.9 x 327.5 (0.94 x 12.89) or GKN - EUR: 22.9 x 334.5 (0.90 x 13.17)

(b) GKN - EUR: 22.9 x 331.4 (0.90 x 13.05) or SSG: 23.9 x 327.5 (0.94 x 12.98) or GKN-EUR: 22.9 x 325.9 (0.94 x 12.83)

(c) GKN-US: 40.5 x 603.3 x 3.72 (1.59 x 23.75 x 0.146) or SSG: 38.0 x 591.1 x 5.0 (1.50 x 23.27 x 0.197) or GKN-EUR: 40.5 x 600.8 x 2.7 (1.59 x 23.65 x 0.10)

(d) GKN-EUR: 40.5 x 597.6 (1.59 x 23.5) or SSG: 38.0 x 591.1 x 5.0 (1.50 x 23.27 x 0.197) or GKN-EUR: 40.5 x 591.6 (1.59 x 23.3)

(e) GKN-EUR: G169 or GKN-US C-2000 or SSG: #19

(f) GKN-EUR: 92AC or GKN-US: C-2000 or SSG: #23

# MVMA Specifications Form

Vehicle Line **DODGE SHADOW**

Model Year **1989**

Issued **9-30-88**

Revised (●)

## METRIC (U.S. Customary)

Engine Description/Carb.

Engine Code

**2.5L (153.0 in<sup>3</sup>)**

**Turbo I, EDT**

### Axle Shafts - Front Wheel Drive

Manufacturer and number used			Two	
Type (straight, solid bar, tubular, etc.)		Left	Solid bar	
		Right	Solid bar	Tube
Outer diam.x length*x wall thickness	Manual transaxle	Left	(a)	
		Right	(a)	
	Automatic transaxle	Left		(a)
		Right		(b)
	Optional transaxle	Left	--	
		Right	--	
Slip yoke	Type		--	
	Number of teeth		--	
	Spline o.d.		--	
Universal joints	Make and mfg. no.	Inner	GKN-EUR: G182 or SSG: #19	
		Outer	GKN-EUR: 98 LAC or SSG: #23	
	Number used		Two	
	Type, size, plunge	Inner	Tripod plunge	
		Outer	Rzeppa - fixed	
	Attach (u-bolt, clamp, etc.)		--	
Bearing	Type (plain, anti-friction)	--		
	Lubrication (fitting, prepack)	Prepack		
Drive taken through (torque tube, arms or springs)			--	
Torque taken through (torque tube, arms or springs)			--	

### Ø 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.

(a) GKN-EUR: 25.0 x 325.9 (0.98 x 12.83) or SSG: 23.9 x 327.5 (0.94 x 12.98)

(b) GKN-EUR: 40.5 x 591.6 (1.59 x 23.3) or SSG: 38.0 x 591.1 (1.50 x 23.27)



# MVMA Specifications Form

Vehicle Line **DODGE SHADOW**

Model Year **1989**

Issued **9-30-88**

Revised (●)

METRIC (U.S. Customary)

Engine Description/Carb.  
Engine Code

All  
SDC

## Ø Suspension - General

Car leveling	Standard / optional / not avail.	
	Manual / automatic control	
	Type (air / hydraulic)	
	Primary / assist spring	
	Rear only / 4 wheel leveling	
	Single / dual rate spring	
	Single / dual ride heights	
	Provision for jacking	
Shock absorber damping controls	Standard / optional / not avail.	
	Manual / automatic control	
	Number of damping rates	
	Type of actuation (manual / electric motor / air, etc.)	
	sensors	
	Lateral acceleration	
	Deceleration	
	Acceleration	
Shock absorber (front & rear)	Type	Direct - Hydraulic
	Make	Monroe
	Piston diameter	Front: 32 (1.26) Rear: 30.2 (1.19)
	Rod diameter	Front: 20 (0.79) Rear: 12.7 (0.50)

## Ø Suspension - Front

Type & description		
Travel*	Full jounce	Iso-strut 67.8 (2.67)
	Full rebound	107.2 (4.22)
Spring	Type (coil, leaf, other) & material	Coil, AISI 5160 H Chromium steel
	Insulators (type & material)	Compression: Rubber
	Size (coil design height & i.d., bar length x dia.)	216 x 152 I.D. (8.5 x 6.0 I.D.)
	Spring rate [N/mm (lb./in.)]	14.9 (85)
	Rate at wheel [N/mm (lb./in.)]	18.4 (105)
Stabilizer	Type (link, linkless, frameless)	Linkless
	Material & bar diameter	AISI 1090 Spring steel 27.0 (1.06)

## Ø Suspension - Rear

Type & description		
Travel*	Full jounce	Trailing flex-arm with track bar 40 (1.57)
	Full rebound	151 (5.94)
Spring	Type (coil, leaf, other) & material	Coil: AISI 5160 H Chromium steel
	Size (length x width, coil design height & i.d., bar length & dia.)	229 x 102 I.D. (9.0 x 4.01)
	Spring rate [N/mm (lb./in.)]	28 (160)
	Rate at wheel [N/mm (lb./in.)]	17.8 (102) Curb position
	Insulators (type & material)	Compression: Rubber
	If leaf	No. of leaves
		Shackle (comp. or tens.)
Stabilizer	Type (link, linkless, frameless)	Frameless ERW Tube
	Material & bar diameter	80 KSI HSLA steel 28.6 (1.13) O.D.
Track bar (type)		Channel

\* Define load condition:; Passenger Seating - 2 Front - 3 - Rear - Full tank of gas

# MVMA Specifications Form

Vehicle Line **DODGE SHADOW**

Model Year **1989**

Issued **9-30-88**

Revised (●)

## METRIC (U.S. Customary)

Body Type And Or  
Engine Displacement

All

### Ø Brakes - Service

Description			Four-wheel hydraulic-actuated system	
Manufacturer and brake type (std., opt., n.a.)	Front (disc or drum)		Disc	
	Rear (disc or drum)		Drum	
Valving type (proportion, delay, metering, other)			Dual proportioning valve	
Power brake (std., opt., n.a.)			Standard	
Booster type (remote, integral, vac., hyd., etc.)			Vacuum, single or tandem	
Vacuum	Source (inline, pump, etc.)		Intake manifold or throttle body base	
	Reservoir (volume in. <sup>3</sup> ) and source		--	
	Pump-type (elec., gear driven, belt driven)		--	
Traction control	Operational speed range			
	Type engine intervention (electronic, mech.)			
Anti-lock device	Front/rear (std., opt., n.a.)			
	Manufacturer			
	Type (electronic, mech.)			
	Number sensors or circuits			
	Number anti-lock hydraulic circuits			
	Integral or add-on system			
	Yaw control (yes, no)			
Hydraulic power source (elec., vac., mtr., pwr., strg.)				
Effective area [cm <sup>2</sup> (in. <sup>2</sup> )]* (F/R)			410.64 (63.65)	
Gross lining area [cm <sup>2</sup> (in. <sup>2</sup> )]**(F/R)			438.98 (68.04)	
Swept area [cm <sup>2</sup> (in. <sup>2</sup> )]*** (F/R)			1659.9 (257.3)	
Rotor	Outerworking diameter	F/R	Front: 256.0 (10.08)	
	Inner working diameter	F/R	Front: 160.0 (6.30)	
	Thickness	F/R	Front: 24.0 (0.945)	
	Material Type (vented/solid)	F/R	Front: damped cast iron, vented	
Drum	Diameter & Width	F/R	Rear: 200 (7.87) x 37.62 (1.48)	
	Type & Material	F/R	Rear: Cast composite	
Wheel cylinder bore			Front: 54 (2.13); Rear: 15.87 (0.625)	
Master cylinder	Bore/stroke	F/R	21.0 (0.827) / 32.79 (1.291)	
Pedal arc ratio			3.28 : 1	
Line pressure at 445 N(100lb.) pedal load [kPa (psi)]			Single: 9584 (1390) Tandem: 12750 (1850)	
Lining clearance			No major adjustment	
Brake lining	Front Wheel	Bonded or riveted (rivets/seg.)		Riveted, 6 / shoe
		Rivet size		3.57 (0.14) dia. x 7.57 (0.3)
		Manufacturer		Bendix
		Lining code *****		BX-JD-EE
		Material		Molded metallic
		****	Primary or outboard	4764 x 11.34 (7.38 x 0.446)
		Size	Secondary or inboard	4280 x 12.34 (6.36 x 0.486)
		Shoe thickness (no lining)		Outer: 4.83 (0.190); Inner: 5.68 (0.224)
	Rear Wheel	Bonded or riveted (rivets/seg.)		Riveted, 10 / shoe
		Manufacturer		Bendix
		Lining code *****		BX-MO-FF
		Material		Rolled asbestos
		****	Primary or outboard	198.56 x 32.5 x 6.65 (7.82 x 1.28 x 0.262)
		Size	Secondary or inboard	198.56 x 32.5 x 6.65 (7.82 x 1.28 x 0.262)
		Shoe thickness (no lining)		2.17 (0.0854)

\* 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 & coefficient of friction classification.

# MVMA Specifications Form

METRIC (U.S. Customary)

Vehicle Line **DODGE SHADOW**

Model Year **1989** Issued **9-30-88** Revised (●) \_\_\_\_\_

Body Type And/Or  
Engine Displacement

L - Series	H - Series
------------	------------

## Tires And Wheels (Standard)

Tires	Size (load range, ply)	P175/80 R 13, SL	P185/70 R 14, SL
	Type (bias, radial, steel, nylon, etc.)	Steel radial	
	Inflation pressure (cold) for recommended max. vehicle load	Front [kPa (psi)]	240 (35)
		Rear [kPa (psi)]	240 (35)
	Rev./mile - at 70 km/h (45 mph)	870	862
Wheels	Type & material	Steel disc	
	Rim (size & flange type)	13 x 5.0JB	14 x 5.5JJ
	Wheel offset	40 (1.6)	
	Attachment	Type (bolt & stud)	Stud
		Circle diameter	100 (3.94)
		Number & size	5 - M12 x 1.5mm
Spare	Tire and wheel	T115/70 D14 compact spare 14 x 4.0 T steel disc wheel	
	Storage position & location (describe)	Horizontal - Rear floor pan under cargo floor	

## Tires And Wheels (Optional)

Tire size (load, range, ply)		P185/70 R 14, SL
Type (bias, radial, steel, nylon, etc.)		steel radial
Wheel (type & material)		Cast aluminum
Rim (size, flange, type and offset)		14 x 5.5 JJ - 40 mm (1.6in)
Tire size (load, range, ply)		P195/60R 15, SL
Type (bias, radial, steel, nylon, etc.)		steel radial
Wheel (type & material)		cast aluminum
Rim (size, flange type and offset)		15 x 6.0JJ - 40 mm (1.6in)
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)		Same as road tire Same location as standard spare

## Brakes - Parking

Type of control		Foot operated pedal/hand release lever	
Location of control		Lower left end of instrument panel	
Operates on		Rear wheels	
If separate from service brakes	Type (internal or external)	--	
	Drum diameter	--	
	Lining size (length x width x thickness)	-- --	

# MVMA Specifications Form

Vehicle Line **DODGE SHADOW**

Model Year **1989**

Issued **9-30-88**

Revised(\*)

## METRIC (U.S. Customary)

Engine Description/Carb.  
Engine Code

14" Tires

15" Tires

### Steering

Manual (std., opt., n.a.)			N.A.		
Power Steering (std., opt., n.a.)			Std.		
Adjustable steering wheel column (tilt, telescope, other)		Type	Tilt		
		Manufacturer (Std., opt., n.a.)	Saginaw Opt.		
Wheel diameter** (W9) SAE J1100		Manual	N.A.		
		Power	381 (15)		
Turning diameter m (ft.)	Outside front	Wall to wall (l. & r.)	--		
		Curb to curb (l. & r.)	10.4 (34.0)	10.9 (35.7)	
	Inside rear	Wall to wall (l. & r.)	--		
		Curb to curb (l. & r.)	--		
Scrub Radius*		-7 (-0.28)			
Manual	Gear	Type			
		Manufacturer			
		Ratios			Gear
		Overall			
No. wheel turns (stop to stop)					
Power	Type (coaxial, elec., hyd., etc.)		Integral power gear		
	Manufacturer		T.R.W.		
	Gear	Type	Rack & pinion with integral power unit		
		Ratios	Gear	52.3 mm / Rev.	
			Overall	14.2:1	
			Pump (drive)		Pulley and belt, off crankshaft
	no. wheel turns (stop to stop)		2.5	2.4	
	Type		Rack & Pinion (Rod & ball directly attached to gear)		
Linkage	Location (front or rear of wheels, other)		Rear of wheels		
	Tie rods (one or two)		Two (tie rod inners integral with rack & pinion gear)		
Steering axis	Inclination at camber (deg.)		13.36		
	Bearings (type)	Upper	Ball bearing		
		Lower	Ball joint		
		Thrust	Ball bearing		
Steering spindle & joint type			ISO strut with lower ball joint		
Wheel spindle/hub	Diameter	inner bearing	76 / 42 (3.0 / 1.05) dia. : 37 / 40 (1.46 / 1.57) wide		
		Outer bearing	--		
	Tread (size)		M22 x 1.5		
	Bearing (typt)		Double row angular contact-ball		

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

\*\*See page 21

# MVMA Specifications Form

Vehicle Line **DODGE SHADOW**

Model Year **1989** Issued **9-30-88** Revised (●) \_\_\_\_\_

METRIC (U.S. Customary)

Body Type And/Or  
Engine Displacement

All

## Wheel Alignment

Front wheel at curb mass (wt.)	Service checking	Caster (deg.)	--
		Camber (deg.)	-0.2° to +0.8°
		Toe-in [outside track - mm(in)]	0.4° Toe-in to 0.2° Toe-out (a)
	Service reset*	Caster	Not adjustable; Ref.: 1.4° Max. side to side Differential 1.5°
		Camber	+0.3° ± 0.5°
		Toe-in	+0.1° toe-in ± 0.3° (a)
	Periodic M.V. inspection	Caster	--
		Camber	--
		Toe-in	--
Rear wheel at curb mass (wt.)	Service checking	Camber (deg.)	-1.3° to +0.3°
		Toe-in [outside track - mm(in)]	0.6° Toe-out to 0.6° Toe-in (a)
	Service reset*	Camber	-0.5° ± 0.8° (shim)
		Toe-in	0° ± 0.6° (shim) (a)
	Periodic M.V. inspection	Camber	--
		Toe-in	--

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

## Electrical - Instruments and Equipment

Speed-ometer	Type (Analog, digital, std., opt.)	Magnetic torque drive
	Trip odometer (std., opt., n.a.)	Std.
EGR maintenance indicator		--
Charge indicator	Type	Voltmeter
	Warning device (light, audible)	--
Temp. indicator	Type	Magnetic gage
	Warning device (light, audible)	--
Oil pressure indicator	Type	Light
	Warning device (light, audible)	--
Fuel indicator	Type	Magnetic gage
	Warning device (light, audible)	Light - Opt. with message center - Std. with turbo
Wind-shield wiper	Type (standard)	Electric 2 speed, non-depressed park
	Type (optional)	Electric 2 speed, intermittent wipe
	Blade length	457 (18)
	Swept area [cm <sup>2</sup> (in <sup>2</sup> )]	5658 (877)
Wind-shield washer	Type (standard)	Electric (arm mounted)
	Type (optional)	Opt.
	Fluid level indicator (light, audible)	--
Rear window wiper, wiper/washer (std., opt., n.a.)		N.A.
Horn	Type	Seashell
	Number used	1
Other		

(a) Measurements in degrees, not inches

# MVMA Specifications Form

Vehicle Line **DODGE SHADOW**

Model Year **1989** Issued **9-30-88** Revised(\*)

## METRIC (U.S. Customary)

Engine Description/Carb.  
Engine Code

**2.2L(135.0 in<sup>3</sup>)  
EFI, EDF**

**2.5L (153.0in<sup>3</sup>)  
EFI Turbo, EDT**

**2.5L (153.0in<sup>3</sup>)  
EFI, EDM**

## Electrical - Supply System

Battery	Manufacturer	Delco, Exide, Johnson Controls	
	Model, std., (opt.)	GRP 34	
	Voltage	12V	
	Amps at 0°F cold crank	400	500
	Minutes-reserve capacity	100	110
	Amp/hrs. - 20 hr. rate	60	66
	Location	Left front fender side shield	
Alternator	Manufacturer	Nippondenso	Bosch
	Rating (idle/max. rpm)	90 HS	90 RS
	Ratio (alt. crank/rev.)	2.7 : 1	2.55 : 1
	Output at idle (rpm, park)	40 A	40 A
	Optional (type & rating)	--	--
Regulator	Type	Engine control computer	

## Electrical - Starting System

Start, motor	Current drain at 0°F	200 - 250 A	230 - 280 A
Motor drive	Engagement type	Solenoid shift	
	Pinion engages from (front, rear)	Front	

## Electrical - Ignition System

Type	Electronic (std., opt., n.a.)	N.A.		
	Other (specify)	Engine control computer w/ electronic spark advance & voltage regulator		
Coil	Make	UTC	Prestolite	Diamond
	Model	5226865	5227372	5227252
	Current	3.0 A (for 3 seconds)		
	Engine stopped - A	1.9 A		
Spark plug	Engine idling - A			
	Make	Champion		
	Model	RN12YC		
	Thread (mm)	14 mm		
	Tightening torque [N-m (lb.ft)]	28 (20)		
	Gap	0.9mm (0.035in)		
Distributor	Number per cylinder	One		
	Make	Chrysler		
	Model	5226575	5226525	5226575

## Electrical Suppression

Locations & type	Resistor spark plugs; Resistance ignition wire, Capacitor - Alternator, Blower motor ; Diode - A/C clutch, Horn relay, Starter relay, wiper motor Suppression filter; Ground cable - Engine to dash, Engine mount, A/C evaporator valve to dash, Internal fuel pump filter, Blocking Diode-Clutch relay
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# MVMA Specifications Form

METRIC (U.S. Customary)

Vehicle Line **DODGE SHADOW**

Model Year **1989** Issued **9-30-88** Revised(\*)

Body Type

All

## Body

Structure

Ø

Bumper system  
front - rear

Front: TPO fascia Ultra high strength steel reinforcement

Rear: TPO fascia Ultra high strength steel reinforcement

Anti-corrosion treatment

Full immersion zinc phosphate conversion coating  
Full immersion, high build, epoxy cathodic-  
electrocoat primer  
Extensive use of galvanized steel  
Urethane chip resistant primer on lower exterior surfaces

## Ø Body - Miscellaneous Information

Type of finish (lacquer, enamel, other)		Enamel - Universal base coat / Clear coat
		18.55 (40.9)
Hood	Material & mass	Rear
	Hinge location (front, rear)	Counterbalance, clockspring
	Type (counterbalance, prop)	Internal
	Release control (internal, external)	
Trunk lid	Material & mass	--
	Type (counterbalance, other)	--
	Internal release control (elec., mech., n.a.)	--
Hatch-back lid	Material & mass	15.06 (33.2)
	Type (counterbalance, other)	Gas pressurized struts
	Internal release control (elec., mech., n.a.)	Mechanical
Tailgate	Material & mass	--
	Type (drop, lift, door)	--
	Internal release control (elec., mech., n.a.)	--
Vent window control (crank, friction, pivot, power)	Front	None
	Rear	None
Window Regulator type (cable, tape, flex, drive, etc.)	Front	Manual & Electric arm & sector (P-24)
	Rear	Manual arm & sector / Electric - Flex Drive
Seat cushion type (e.g., 60/40, bucket, bench, wire, foam, etc.)	Front	Bucket - Flex-O-Lator Mat
	Rear	Bench - Full volume Foam
	3 <sup>rd</sup> seat	--
Seat back type (e.g., 60/40, bucket, bench, wire, foam, etc.)	Front	Bucket - Flex-O-Lator Mat
	Rear	Bench - Full volume Foam - Std. 50/50 Full Foam - Opt.
	3 <sup>rd</sup> seat	--

# MVMA Specifications Form

Vehicle Line **DODGE SHADOW**

Model Year **1989** Issued **9-30-88** Revised (●)

## METRIC (U.S. Customary)

Body Type

All

### Ø Restraint System

Seating Position			Left	Center	Right
Active	Type & description (lap & shoulder belt,	First seat	N.A.	N.A.	N.A.
		Second seat	Lap & Shoulder belt Std.	Lap belt Std.	Lap & Shoulder belt Std.
	Standard/Optional	Third seat	N.A.	N.A.	N.A.
Passive	Type & description (air bag, motorized - 2-point belt, fixed belt, knee bolster, manual - lap belt)	First seat	Motorized - 2 Point, Knee bolster, Lap belt Std.	N.A.	Motorized - 2 Point, Knee bolster, Lap belt Std.
		Second seat	See Active	See Active	See Active
	Standard/Optional	Third seat	N.A.	N.A.	N.A.

Glass		SAE Ref. No.	24 - 2 Door	44 - 4 Door
Windshield glass exposed surface area [cm <sup>2</sup> (in <sup>2</sup> )]		S1	9064 (1405)	
Side glass exposed surface area [cm <sup>2</sup> (in <sup>2</sup> )] - total 2 sides		S2	9352 (1450)	9952 (1543)
Backlight glass exposed surface area [cm <sup>2</sup> (in <sup>2</sup> )]		S3	6794 (1053)	
Total glass exposed surface area [cm <sup>2</sup> (in <sup>2</sup> )]		S4	25210 (2908)	25810 (3011)
Windshield glass (type)			Laminated safety glass	
Side glass (type)			Heat treated safety glass	
Backlight glass (type)			Heat treated safety glass	

### Ø Lamps and Headlamps Locations

Headlamps	Description - sealed beam, halogen, replaceable bulb, etc.	Replaceable bulb
	Shape	Aero
	Lo-beam type (2A1, 2B1, 2C1, etc.)	9004
	Quantity	1
	Hi-beam type (1A1, 2A1, 1C1, 2C1, etc.)	9004
	Quantity	1

### Frame

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



# MVMA Specifications Form

Vehicle Line **DODGE SHADOW**

Model Year **1989**

Issued **9-30-88**

Revised (•)

## METRIC (U.S. Customary)

Body Type

All

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

Ø Air conditioning (manual, auto. temp control)	Manual - Opt.
Clock (digital, analog)	Digital (In radio) - Std.
Compass/thermometer	N.A.
Console (floor, overhead)	Floor - Mini - Std. / Full - Opt.
Defroster, elec. backlight	Opt.
Diagnostic monitor (integrated, individual)	Std.
Instrument cluster (list instruments)	N.A.
Keyless entry	N.A.
Tripminder (avg. spd., fuel)	N.A.
Voice alert (list items)	N.A.
Other	N.A.
Fuel door lock (remote, key, electric)	N.A.
Auto head on / off delay, dimming	N.A.
Cornering	N.A.
Courtesy (map, reading)	N.A.
Door lock, ignition	Opt.
Engine compartment	Opt.
Fog	Opt.
Glove compartment	Opt.
Trunk	Opt.
Illuminated entry system (list lamps, activation)	N.A.
Other	Ash receiver - Opt.
Day / night (auto. man.)	Manual - Std.
L.H. (remote, power, heated)	Remote manual - Std. / Power - Opt.
R.H. (convex, remote, power, heated)	Remote manual - Std. / Power - Opt.
Visor vanity (RH/LH, illuminated)	RH/LH Non-illuminated - Std. / RH/LH illuminated - Opt.
Ø Navigation system (describe)	N.A.
Parking brake-auto release (warning light)	N.A.

# MVMA Specifications Form

Vehicle Line **DODGE SHADOW**

Model Year **1989**

Issued **9-30-88**

Revised (●)

METRIC (U.S. Customary)

Body Type

All

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

Power Equipment	Deck lid (release, pull down)		Cable release - Std.
	Door locks (manual, automatic, describe system)		Power manual - Std.
	Seats	2 - 4 - 6 way, etc.	6 way power - Opt.
		Reclining (R.H., L.H.)	RH/LH - Std.
		Memory (R.H., L.H., preset, recline	N.A.
		Lumbar, hip, thigh, support	N.A.
		Heated (R.H., L.H., other)	N.A.
	Side windows		Opt.
	Vent windows		
	Rear windows		Opt. on 4 Door only
Radio systems	Antenna (location, whip, w/shield, power)		Whip - Right front fender AM Stereo/FM Stereo
	Std.	AM, FM, stereo, tape, compact disc, graphic equalizer, theft deterrent, radio prep pkg., headphone jacks, etc.	AM Stereo/FM Stereo /Cassette - Opt. AM Stereo/FM Stereo/Cassette/Seek & Scan - Opt.
	Opt.		
	Speaker (number, location)		2 - Door - Std. 2 - Doors / 2 Rear shelf - Opt. with Stereos with Cassette
Roof open air fixed (flip-up, sliding, "T")			Flip-up - removable - Opt.
Speed control device			Opt.
Speed warning device (light buzzer, etc.)			N.A.
Tachometer (rpm)			Std.
Telephone system (describe)			N.A.
Theft deterrent system			Inside hood release, Glove box lock
			Anti-theft labels- Std.

# MVMA Specifications Form

Vehicle Line **DODGE SHADOW**

Model Year **1989** Issued **9-30-88** 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 car 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.	24	44
<b>Width</b>			
Tread (front)	W101	1464 (57.6)	
Tread (rear)	W102	1453 (57.2)	
Vehicle width	W103	1710 (67.3)	
Body width at SqRP (front)	W117	1708 (67.2)	
Vehicle width (front doors open)	W120	4074 (160.4)	3431 (135.1)
Vehicle width (rear doors open)	W121		3297 (129.8)
Front fender overall width	W106	1670 (65.7)	
Rear fender overall width	W107	1710 (67.3)	
Tumble-home (deg.)	W122	24°	

<b>Length</b>			
Wheelbase	L101	2463 (97)	
Vehicle length	L103	4361 (171.7)	
Overhang (front)	L104	974 (38.3)	
Overhang (rear)	L105	924 (36.4)	
Upper structure length	L123	2413 (95)	
Rear wheel C/L "X" coordinate	L127	2551 (100.5)	
Cowl point "X" coordinate	L125	486 (19.1)	
Front end length at centerline	L126	1350 (53.1)	
Rear end length at centerline	L129	598 (23.5)	

<b>Height*</b>			
Passenger distribution (front/rear)	PD 1,2,3	2 - Front	3 - Rear
Trunk/cargo load		--	
Vehicle height	H101	1339 (52.7)	
Cowl point to ground	H114	911 (35.9)	
Deck point to ground	H138	922 (36.3)	
Rocker panel front to ground	H112	203 (8.0)	
Bottom of door closed front to ground	H133	235 (9.3)	241 (9.5)
Rocker panel rear to ground	H111	173 (6.8)	
Bottom of door closed rear to ground	H135	--	231 (9.1)
Windshield slope angle	H122	56°	
Backlight slope angle	H121	54°	

<b>Ground Clearance</b>			
Front bumper to ground	H102	246 (9.7)	
Rear bumper to ground	H104	261 (10.3)	
Bumper to ground (front at curb mass (wt.))	H103	263 (10.4)	
Bumper to ground (rear at curb mass (wt.))	H105	344 (13.5)	
Angle of approach (degrees)	H106	16°	
Angle of departure (degrees)	H107	16°	
Ramp breakover angle (degrees)	H147	12°	
Axle differential to ground (front/rear)	H153	Front 141 (5.6)	
Min. running ground clearance	H156	117 (4.6)	
Location of min. run. ground clearance		Frnt. Susp. C'mbr. Brkt. (left hand side)	

\* All vehicle height and ground clearance are made at the Manufacturer's Design Load Weight unless otherwise noted  
Manufacturer's Design Load Weight is defined with indicated passenger distribution and trunk/cargo load.

# MVMA Specifications Form

Vehicle Line **DODGE SHADOW**

Model Year **1989** Issued **9-30-88** Revised(\*)

## METRIC (U.S. Customary)

Vehicle Dimensions See Key Sheets for Definitions

Body Type

SAE  
Ref.  
No.

24

44

### Front Compartment

SqRP front, "X" coordinate	L31	1398 (55.0)	
Effective head room	H61	973 (38.3)	
Max. eff. leg room (accelerator)	L34	1055 (41.5)	
SqRP to heel point	H30	271 (10.7)	
SqRP to heel point	L53	841 (33.1)	
Back angle	L40	24°	
Hip angle	L42	96°	
Knee angle	L44	123°	
Foot angle	L46	87°	
Design H - point front travel	L17	197 (7.8)	
Normal driving & riding seat track trvl.	L23	178 (7.0)	
Shoulder room	W3	1382 (54.4)	1390 (54.7)
Hip room	W5	1404 (55.3)	1408 (55.4)
Upper body opening to ground	H50	1231 (48.5)	
Steering wheel maximum diameter*	W9	381 (15.0)	
Steering wheel angle	H18	26°	
Accel. heel pt. to steering wheel center	L11	497 (19.6)	
Accel. heel pt. to steering wheel center	H17	637 (25.1)	
Steering wheel to C/L of thigh	H13	90 (3.5)	
Steering wheel torso clearance	L7	318 (12.5)	
Headlining to roof panel	H37	17 (0.7)	
Undepressed floor covering thickness	H67	22 (0.9)	

### Rear Compartment

SqRP Point couple distance	L50	740 (29.1)	
Effective head room	H63	949 (37.4)	
Min. effective leg room	L51	864 (34.0)	
SqRP (second to heel)	H31	281 (11.1)	
Knee clearance	L48	-25 (-1.0)	
Compartment room	L3	614 (24.2)	
Shoulder room	W4	1334 (52.5)	1384 (54.5)
Hip room	W6	1206 (47.5)	1136 (44.7)
Upper body opening to ground	H51	N.A.	1228 (48.4)
Back angle	L41	25°	
Hip angle	L43	83°	
Knee angle	L45	84°	
Foot angle	L47	119°	
Headlining to roof panel (second)	H38	21 (0.8)	
Depressed floor covering thickness	H73	13 (0.5)	

### Luggage Compartment

Usable luggage capacity [L (cu. ft.)]	V1	N.A.	
Liftover height	H195	751 (29.6)	

### Interior Volumes (EPA Classification)

Vehicle class (subcompact, compact, etc.)		Compact	
Interior volume index (cu. ft.)		101.9	101.8
Trunk/cargo index (cu. ft.)		13.2	13.1

\* See Page 14

# MVMA Specifications Form

Vehicle Line **DODGE SHADOW**

Model Year **1989**

Issued

**9-30-88**

Revised(•)

## METRIC (U.S. Customary)

Vehicle Dimensions See Key Sheets for Definitions

Body Type

SAE Ref. No.	24	44
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### Station Wagon - Third Seat

SgRP couple distance	L85	
Shoulder room	W85	
Hip room	W86	
Effective leg room	L86	
Effective head room	H86	
SgRP to heel point	H87	
Knee clearance	L87	
Seat facing direction	SD1	
Back angle	L88	
Hip angle	L89	
Knee angle	L90	
Foot angle	L91	

### Station Wagon - Cargo Space

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 <sup>3</sup> (ft. <sup>3</sup> )]	V2	
Hidden cargo volume [m <sup>3</sup> (ft. <sup>3</sup> )]	V4	
Cargo volume index-rear of 2 <sup>nd</sup> -seat	V10	

### Hatchback - Cargo Space

Cargo length at front seatback height	L208	928 (36.5)	
Cargo length at floor (front)	L209	1602 (63.1)	
Cargo length at second seatback height	L210	270 (10.6)	
Cargo length at floor (second)	L211	880 (34.6)	
Front seatback to load floor height	H197	560 (22.0)	
Second seatback to load floor height	H198	489 (19.3)	
Cargo volume index[m <sup>3</sup> (ft. <sup>3</sup> )]	V3	0.943 (33.29)	0.935 (33.03)
Hidden cargo volume [m <sup>3</sup> (ft. <sup>3</sup> )]	V4		
Cargo volume index-rear of 2 <sup>nd</sup> -seat	V10	0.375 (13.25)	0.372 (13.15)

### Aerodynamics\*

Wheel lip to ground, front	
Wheel lip to ground, rear	
Frontal area [m <sup>2</sup> (ft. <sup>2</sup> )]	
Drag coefficient (Cd)	

\*EPA Loaded Vehicle Weight, Loading Conditions

# MVMA Specifications Form

Vehicle Line **DODGE SHADOW**

Model Year **1989**

Issued

**9-30-88**

Revised(\*)

METRIC (U.S. Customary)

Body Type

All

## Vehicle Fiducial Marks

Fiducial Mark Number*		Define Coordinate Location
Front		The center of gauge holes located in front longitudinal approximately 836 mm (32.9 in.) from centerline of front wheels.
Rear		The center of gauge holes located in rear longitudinal approximately 3057 mm (120.4 in) from the centerline of front wheels.
Front	W21	433.5 (17.1)
	L54	925 (36.4)
	H81	-9 (-0.35) Bottom surface of Longitudinal
	H161	
	H163	
Rear	W22	527.6 (20.8)
	L55	3146 (123.9)
	H82	235 (9.3) Bottom Surface of Longitudinal
	H162	
	H164	

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

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

Model Year **1989** Issued **9-30-88** Revised(●)

### Vehicle Mass (Weight)

[illegible]

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

## MVMA Specifications Form

Vehicle Line **DODGE SHADOW**

issued

Revised(●)

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

[illegible]

\* Also see Engine - General section for dressed engine mass (weight).