

MANUFACTURERS MOTOR VEHICLE SPECIFICATIONS

METRIC (U.S. Customary)

1990

Manufacturer CHRYSLER MOTORS CORPORATION	Vehicle Line DODGE SHADOW	
Mailing Address DETROIT, MICHIGAN 48288	Issued 9-15-89	Revised

Direct questions concerning these specifications to the manufacturer listed above.

The information contained herein is prepared, distributed by, and is solely the responsibility of the vehicle manufacturing company to whose products it relates. This specification form was developed by the vehicle manufacturing companies under the auspices of the Motor Vehicle Manufacturers Association of the United States, Inc.

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 Specifications Form

METRIC (U.S. Customary)

Table of Contents

		Ø Indicates Format Change From Previous Year
	1	Vehicle Models / Origin
Ø	2	Power Teams
	3-6	Engine
	4	Lubrication System
	4	Diesel Information
	5	Cooling System
	6	Fuel System
	7	Vehicle Emission Control
	7	Exhaust System
Ø	8-10	Transmission, Axles and Shafts
	11	Suspension
	12-13	Brakes
	13	Tires and Wheels
	14-15	Steering
	15-16	Electrical
	17	Body - Miscellaneous Information
	18	Restraint System
	18	Glass
	18	Headlamps
	18	Frame
	19-20	Convenience Equipment
Ø	21-23	Vehicle Dimensions
	24	Vehicle Fiducial Marks
Ø	25	Vehicle Mass (Weight)
	26	Optional Equipment Differential Mass (Weight)
	27-33	Vehicle Dimensions Definitions - Key Sheets <i>[Supplied Separately]</i>
Ø	34	Index

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

Vehicle Line **DODGE SHADOW**

Model Year	1990	Issued	9-15-89	Revised (●)
------------	------	--------	---------	-------------

METRIC (U.S. Customary)

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

[illegible]

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

MVMA Specifications

Vehicle Line **DODGE SHADOW**

Model Year **1990** Issued **9-15-89** Revised (●)

METRIC (U.S. Customary)

Power Teams

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

			A		B		C		D	
E N G I N E	Engine Code		EDF		EDM		EDR		EDT	
	Displacement Liters (in ³)		2.2 (135.0)		2.5 (153.0)		2.2 (135.0)		2.5 (153.0)	
	Induction system (FI, Carb., etc.)		TBI-EFT		←		SMPI, VNT Turbo Intercooled		SMPI Turbo	
	Compression ratio		9.5:1		8.9:1		8.0:1		7.8:1	
	SAE Net at RPM	Power kW (bhp)	69 (93) @ 4800		75 (100) @ 4800		130 (174) @ 5200		112 (150) @ 4800	
		Torque Nm (lb.-ft.)	165 (122) @ 3200		183 (135) @ 2800		285 (210) @ 2400		244 (180) @ 2000	
Exhaust single, dual		single		←		←		←		
T R A N S	Transmission/ Transaxle		a 5-sp. man	b 3-sp. auto	a 5-sp. man	b 3-sp. auto	5-speed manual		a 5-sp. man	b 3-sp. auto
	Axle Ratio (std. first) (a)		2.51:1	3.02:1	2.51:1	3.02:1	2.74:1		2.51:1	3.02:1

[illegible]

(a) Overall top gear ratio

MVMA Specifications

Vehicle Line **DODGE SHADOW**

Model Year **1990**

Issued **9-15-89**

Revised (•)

METRIC (U.S. Customary)

Engine Description
Engine Code

2.5L (153.0 in³)
EFI, EDM

2.5L (153.0 in³)
SMPI 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 40.55 (89.4)

Cylinder block deck height

237.8 (9.36)

Cylinder block length

418 (16.46)

Deck clearance (minimum)
(above or below block)

0.00

0.1 (0.004), above

Cylinder head material & mass kg (lbs.)

Aluminum 9.71 (21.4)

Aluminum 10.66 (23.5)

Cylinder head volume (cm³)

48.94 to 51.94

Cylinder liner material

N.A.

Head gasket thickness
(compressed)

1.78 (0.070)

Minimum combustion chamber
total volume (cm³)

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 2.86 (6.3)

Aluminum 5.67 (12.5)

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

Cast Iron 6.08 (13.4)

Cast iron 5.17 (11.4)

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

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***

153.18 (337.0)

161.36 (355.0)

Engine - Pistons

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

Aluminum
322 (11.4)

Aluminum
367 (13.0)

Engine - Camshaft

Location

Overhead

Material & mass kg (weight, lbs.)

Post-hardened nodular iron
2.68 (5.9)

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

Vehicle Line **DODGE SHADOW**

Model Year **1990** Issued **9-15-89** Revised (e)

METRIC (U.S. Customary)

Engine Description
Engine Code

**2.2L (135.0 in³)
SMPI VNT Turbo, EDR**

**2.2 L (135.0 in³)
EFI, EDF**

ENGINE - GENERAL

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

I-4, 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 44.23 (97.5)

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 10.66 (23.5)

Aluminum alloy 9.71 (21.4)

Cylinder head volume (cm³)

48.94 to 51.94

48.5 to 51.5

Cylinder liner material

N.A.

N.A.

Head gasket thickness (compressed)

1.78 (.070)

Minimum combustion chamber total volume (cm³)

73.815

65.31

Cyl. no. system (front to rear)*

L. Bank

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

R. Bank

1, 3, 4, 2

Firing order

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

Aluminum 5.45 (12.0)

Aluminum 2.86 (6.3)

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

Cast Iron 5.23 (11.5)

Cast iron 6.08 (13.4)

Fuel required, unleaded, diesel, etc.

Premium unleaded

Regular unleaded

Fuel antiknock index (R + M) + 2

91 or higher (recommended)(a)

87 octane 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***

167.22 (367.9)

142.26 (313.0)

Engine - Pistons

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

**Aluminum
544 (19.2)**

**Aluminum
445 (15.7)**

Engine - Camshaft

Location

Overhead

Material & mass kg (weight, lbs.)

Post-hardened nodular iron

2.68 (5.9)

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.

(a) 87 Octane or higher (acceptable)

MVMA Specifications

Vehicle Line **DODGE SHADOW**

Model Year **1990** Issued **9-15-89** Revised (•)

METRIC (U.S. Customary)

Engine Description

Engine Code

**2.5L (153.0 in³)
SMPI, Turbo, EDT**

**2.5L (153.0 in³)
EFI, EDM**

Engine - Valve System

Hydraulic lifters (std., opt., n.a.)	Std.
Valves	4/4
Number intake/exhaust	
Head O.D. intake/exhaust	40.6 / 35.4 (1.60 / 1.39)

Engine - Connecting Rods

Material & Mass (kg., (weight lbs.))*	Forged steel 0.68 (1.5)
Ø Length (axes e to e) mm	151 (5.94)

Engine - Crankshaft

Material & Mass (kg., (weight lbs.))*	High-hardness ductile iron 16.10 (35.4)	Nodular iron 16.04 (35.3)
End thrust taken by bearing (no.)	Three	
Length & number of main bearings	487.1 (19.2) / Five	
Seal (material, one, two piece design, etc.)	Front	Polyacrylic / One piece
	Rear	Fluorocarbon / One piece

Engine - Lubrication System

Normal oil pressure (kPa (psi) at eng. rpm)	172-552(25-80) @ 3000 rpm ^(a)
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	
Super charger - manufacturer	
Intercooler	

* Finished State

(a) Fully warmed

MVMA Specifications

Vehicle Line **DODGE SHADOW**

Model Year **1990** Issued **9-15-89** Revised (•)

METRIC (U.S. Customary)

Engine Description
Engine Code

**2.2L (135.0in³)
EFI, EDF**

**2.2L (135.0 in³)
SMPI Turbo IV, EDR**

Engine - Valve System

Hydraulic lifters (std., opt., n.a.)	Std.
Valves	4/4
Number intake/exhaust	
Head O.D. intake/exhaust	40.6 / 35.4 (1.60/1.39)

Engine - Connecting Rods

Material & Mass [kg., (weight lbs.)]*	Forged steel 0.65 (1.43)	Forged Steel 0.70 (1.55)
Ø Length (axes e to e) mm	151 (5.94)	

Engine - Crankshaft

Material & Mass [kg., (weight lbs.)]*	Nodular iron 15.10 (33.2)	Forged Steel 19.140 (42.7)
End thrust taken by bearing (no.)	Three	
Length & number of main bearings	487.1 (19.2) / Five	
Seal (material, one, two piece design, etc.)	Front	Polyacrylic / One piece
	Rear	Fluorocarbon / 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

MVMA Specifications

Vehicle Line **DODGE SHADOW**

Model Year **1990** Issued **9-15-89** Revised (●) _____

METRIC (U.S. Customary)

Engine Description
Engine Code

2.5 L (153.0 IN. ³) EFI, EDM	2.5L(153.0 in ³) SMPI Turbo EDT
2.2 L (135.0 IN. ³) EFI, EDF	

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) Man. / 4.55(10.0) Auto.	
	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	5-blade plastic
	Diameter & projected width	360(14.2) / 46(1.8)	367(14.4) / 35(1.4)	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	1800	2150
	Motor rating (wattage) (elec.)	50	130	150
	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	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

MVMA Specifications

Vehicle Line **DODGE SHADOW**
 Model Year **1990** Issued **9-15-89** Revised (●) _____

METRIC (U.S. Customary)

Engine Description
 Engine Code

**2.2L (135.0 in³)
 SMPI, Turbocharged, Intercooled
 EDR**

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 (centrifugal, 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
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
	Type (cross-flow, etc.)	Cross Flow
	Construction (fin & tube mechanical, braze, etc.)	Tube & Fin Spacer, Soldered, Double Row
	Material, mass [kg (wgt.lbs.)]	Copper/Brass 9.73(17.0)
	Width	366.6 (14.4)
	Height	366.6(14.33)
	Thickness	31.75(1.25)
	Fins per inch	21
Radiator end tank material		Nylon 66
Fan	Std., elec., opt.	Electric
	Number of blades & type (flex, solid, material)	5-Blade Plastic
	Diameter & projected width	356(14.0) / 42(1.65)
	Ratio (fan to crankshaft rev.)	--
	Fan cutout type	Electric Motor
	Drive type (direct, remote)	--
	RPM at idle (elec.)	2100
	Motor rating (wattage) (elec.)	185
	Motor switch (type & location) (elec.)	Thermistor, water box and A/C Clutch
	Switch point (temp., pressure) (elec.)	99°C (210°F) < 40 mph; 104°C (220°F) > 40 mph
	Fan shroud (material)	Plastic

MVMA Specifications

Vehicle Line **DODGE SHADOW**

Model Year **1990**

Issued **9-15-89**

Revised (●)

METRIC (U.S. Customary)

Engine Description

Engine Code

**2.5L (153.0 in³) TBI-EFI
EDM**

**2.2L (135.0 in³)
SMPI VNT Turbo, EDR**

**2.5L (153.0 in³)
SMPI 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.		Fuel injection	
Manufacturer		Holley/Bosch	Holley/Bosch/McGuane (b)
Carburetor no. of barrels		N.A.	
Idle A/F mix.		N.A.	
Fuel Injection	Point of injection (no.)	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	990 950
	Automatic	850 / Neutral	N.A. 900 / Neutral
Intake manifold heat control (exhaust or water thermostatic or fixed)		Water, fixed	None
Air cleaner type		Oil wetted paper element	
Fuel filter (type/location)		Paper element; Stainless steel canister; Inline underbody	
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))	81-161 (21-42) @ 12V & 15psi	92-180 (24-48) @ 12V & 55psi

Fuel Tank

Capacity refill L (gallons)		53 (14)
Location (describe)		Forward of axle
Attachment		Galvanized or terne plated steel strap to floor pan
Material & Mass [kg (weight lbs.)]		Terne plated steel 10.20 (22.5) (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) Includes tank-mounted fuel pump

(b) Holly/Bosch/Seimens Bendix/McGuane

MVMA Specifications

Vehicle Line **DODGE SHADOW**

Model Year **1990**

Issued **9-15-89**

Revised (•)

METRIC (U.S. Customary)

Engine Description
Engine Code

**2.2L (135.0 in³) TBI-EFI
EDF**

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
Manufacturer	Holley/Bosch
Carburetor no. of barrels	N.A.
Idle A/F mix.	N.A.
Fuel Injection	Point of injection (no.)
	Throttle body (1)
	Constant, pulse, flow
	Pulse
Fuel Injection	Control (electronic, mech.)
	Electronic
	System pressure [kPa (psi)]
	100 (14.5)
Idle spd.-rpm (spec. neutral or drive and propane if used)	Manual
	850
	Automatic
	850 / Neutral
Intake manifold heat control (exhaust or water thermostatic or fixed)	Water, unregulated
Air cleaner type	Oil wetted paper element
Fuel filter (type/location)	Paper element; Stainless steel canister; Inline underbody
Fuel pump	Type (elec. or mech.)
	Electric
	Location (eng., tank)
	In fuel tank
Fuel pump	Pressure range [kPa (psi)]
	N.A.
Fuel pump	Flow rate at regulated pressure (L (gal) / hr @ kPa (psi))
	81-161 (21-42) @ 12V & 15psi

Fuel Tank

Capacity refill L (gallons)	53 (14)
Location (describe)	Forward of axle
Attachment	Galvanized or terne plated steel strap to floor pan
Material & Mass [kg (weight lbs.)]	Terne plated steel 10.20 (22.5) (a)
Filler pipe	Location & material
	Right rear quarter panel, lead dipped steel tube
Filler pipe	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
Auxiliary tank	Separate fill

(a) Includes tank-mounted fuel pump

MVMA Specifications

Vehicle Line **DODGE SHADOW**

Model Year **1990**

Issued **9-15-89**

Revised (a)

METRIC (U.S. Customary)

Engine Description

Engine Code

2.2L (135.0in³) TBI-EFI, EDF

49 states, man.

49 states, auto.

Cal., manual

Cal, automatic

Vehicle Emission Control

Exhaust Emission Control	Type (air injection, engine modifications, other)		exhaust gas recirculation, engine modifications, catalytic converter			
	Air injection		aspirator			
		Pump or pulse	pulse		N.A.	
		Driven by	exhaust pressure		N.A.	
		Air distribution (head, manifold, etc.)	fixed		N.A.	
		Point of entry	catalytic converter		N.A.	
	Exhaust Gas Recirculation	Type (controlled flow, open orifice, other)	exhaust back pressure-controlled flow			
		Exhaust source	exhaust manifold			
		Point of exhaust injection (spacer, carburetor, manifold, other)	intake manifold			
	Catalytic Converter	Type	3-way + oxidation	3-way		
		Number of	one			
		Location(s)	below exhaust manifold			
		Volume [L(in. ³)]	1.23 + 0.74 (75 + 45)	1.23 + 0.9 (75 + 55)		
		Substrate type	monolithic			
		Noble metal type	Pt: Rh + Pd (a)	Platinum: Rhodium		
		Noble metal concentration (g/cm ³)	0.00061:0.00009 + 0.00085	0.00061:0.00009 + 0.00061:0.00007	0.00061:0.00018	
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)		intake manifold			
	Air inlet (breather cap, other)		air cleaner			
Evaporative emission control	Vapor vented to (crankcase, canister, other)	Fuel tank	canister			
		Carburetor	—			
	Vapor storage provision		canister			
Electronic system	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.)]		tri-flow stainless steel 5.51 (12.1) - includes tail-pipe below				
Resonator no. & type		none				
Exhaust pipe	Branch o. d., wall thickness		N.A.			
	Main o. d., wall thickness		50.8 x 1.4 (2.00 x 0.055)			
	Material & mass [kg. (weight lbs.)]		5.70 (12.6) (b)	6.11 (13.5) (b)	5.70 (12.6) (b)	5.83 (12.8) (b)
Intermediate pipe	o. d., & wall thickness		47.8 x 1.2 (1.88 x 0.047)			
	Material & mass [kg. (weight lbs.)]		stainless steel 2.62 (5.8)			
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) Pt = platinum; Rh = rhodium; Pd = palladium

(b) stainless steel (includes catalytic converter)

MVMA Specifications

Vehicle Line **DODGE SHADOW**

Model Year **1990** Issued **9-15-89** Revised (•)

METRIC (U.S. Customary)

Engine Description
Engine Code

2.5L (153.0in ³) TBI-EFI, EDM			
49 states, man.	49 states, auto.	Cal., manual	Cal., automatic

Vehicle Emission Control

Exhaust Emission Control	Type (air injection, engine modifications, other)		exhaust gas recirculation, engine modifications, catalytic converter			
	Air Injection	Pump or pulse	aspirator			
		Driven by	pulse			N.A.
		Air distribution (head, manifold, etc.)	exhaust pressure			N.A.
		Point of entry	fixed			N.A.
	Exhaust Gas Recirculation	Point of entry	catalytic converter			N.A.
		Type (controlled flow, open orifice, other)	exhaust back pressure-controlled flow			
		Exhaust source	exhaust manifold branch			
		Point of exhaust injection (spacer, carburetor, manifold, other)	intake manifold plenum			
	Catalytic Converter	Type	3-way + oxidation		3-way	
		Number of	one			
		Location(s)	below exhaust manifold			
		Volume [L(in. ³)]	1.23 + 0.74 (75 + 45)		1.23 + 0.9 (75 + 55)	
		Substrate type	monolithic			
		Noble metal type	Pt:Rh + Pd (a)		Platinum:Rhodium	
		Noble metal concentration (g/cm ³)	0.00061:0.00009 + 0.00085		0.00061:0.00009 + 0.00061:0.00007	0.00061:0.00018
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)		intake manifold			
	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 4.94 (10.9) - includes tail-pipe below			
Resonator no. & type		none			
Exhaust pipe	Branch o. d., wall thickness	N.A.			
	Main o. d., wall thickness	50.8 x 1.4 (2.00 x 0.055)			
	Material & mass [kg. (weight lbs.)]	5.70 (12.6) (b)	6.11 (13.5) (b)	5.70 (12.6) (b)	5.83 (12.8) (b)
Intermediate pipe	o. d., & wall thickness	47.8 x 1.2 (1.88 x 0.047)			
	Material & mass [kg. (weight lbs.)]	stainless steel 2.62 (5.8)			
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) Pt = Platinum; Rh = Rhodium; Pd = Palladium

(b) stainless steel (Includes catalytic converter)

MVMA Specifications

Vehicle Line **DODGE SHADOW**

Model Year **1990**

Issued **9-15-89**

Revised (•)

METRIC (U.S. Customary)

Engine Description

Engine Code

**2.2 L (135.0 in³) VNT Turbo
EDR**

Vehicle Emission Control

Exhaust Emission Control	Type (air injection, engine modifications, other)		engine modifications, catalytic converter
	Air injection	Pump or pulse	none
		Driven by	N.A.
		Air distribution (head, manifold, etc.)	N.A.
		Point of entry	N.A.
	Exhaust Gas Recirculation	Type (controlled flow, open orifice, other)	none
		Exhaust source	N.A.
		Point of exhaust injection (spacer, carburetor, manifold, other)	N.A.
	Catalytic Converter	Type	3-way
		Number of	one
		Location(s)	
			under floor
		Volume [L(in. ³)]	1.80 (110)
		Substrate type	monolithic
		Noble metal type	Platinum:Rhodium
		Noble metal concentration (g/cm ³)	0.00061:0.00011
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)		intake manifold
	Air inlet (breather cap, other)		air cleaner
Evaporative emission control	Vapor vented to (crankcase, canister, other)	Fuel tank	canister
		Carburetor	N.A.
	Vapor storage provision		canister
Electronic system	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 409 stainless steel 6.58 (14.5)
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 0.055)
	Material & mass [kg. (weight lbs.)]	409 stainless steel 1.96 (4.3)
Intermediate pipe	o. d., & wall thickness	57.2 x 1.4 (2.25 x 0.055)
	Material & mass [kg. (weight lbs.)]	409 stainless steel 6.03 (13.3) (includes catalytic converter)
Tail pipe	o. d., & wall thickness	50.8 x 1.1 (2.0 x 0.043)
	Material & mass [kg. (weight lbs.)]	stainless steel (see muffler assembly)

MVMA Specifications

Vehicle Line **DODGE SHADOW**

Model Year **1990** Issued **9-15-89** Revised (e)

METRIC (U.S. Customary)

Engine Description

Engine Code

2.5 L (153.0 in³) Turbo, EDT

49 States

California

Vehicle Emission Control

	Type (air injection, engine modifications, other)		engine modifications, catalytic converter	engine mod's, catalytic converter, exhaust gas recirculation
Exhaust Emission Control	Air injection	Pump or pulse		none
		Driven by		N.A.
		Air distribution (head, manifold, etc.)		N.A.
		Point of entry		N.A.
	Exhaust Gas Recirculation	Type (controlled flow, open orifice, other)	none	exhaust back pressure controlled flow
		Exhaust source	N.A.	turbine housing outlet, above flange
		Point of exhaust injection (spacer, carburetor, manifold, other)	N.A.	intake manifold
	Catalytic Converter	Type		3-way
		Number of		one
		Location(s)		under floor
		Volume [L(in. ³)]		1.80 (110)
		Substrate type		monolithic
		Noble metal type		Platinum:Rhodium
		Noble metal concentration (g/cm ³)	0.00061:0.00011	0.00061:0.00018
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)			intake manifold
	Air inlet (breather cap, other)			air cleaner
Evaporative emission control	Vapor vented to (crankcase, canister, other)	Fuel tank		canister
		Carburetor		N.A.
	Vapor storage provision			canister
Electronic system	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 409 stainless steel 6.58 (14.5)
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 0.055)
	Material & mass [kg. (weight lbs.)]	409 stainless steel 1.96 (4.3)
Intermediate pipe	o. d., & wall thickness	57.2 x 1.4 (2.25 x 0.055)
	Material & mass [kg. (weight lbs.)]	409 stainless steel 6.03 (13.3) (includes catalytic converter)
Tail pipe	o. d., & wall thickness	50.8 x 1.1 (2.0 x 0.043)
	Material & mass [kg. (weight lbs.)]	stainless steel (see muffler assembly)

MVMA Specifications

METRIC (U.S. Customary)

Vehicle Line **DODGE SHADOW**

Model Year **1990**

Issued **9-15-89**

Revised(•)

Engine Description
Engine Code

2.5 L (153.0 in³) / EFI, EDM
2.2 L (135.0 in³) / EFI, EDF

2.5L (153.0 in³) / TURBO I, SMPI
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.)*		46.36 (102.0) 380 Aluminum Die Cast
Lubricant	Capacity [L (pt.)]	2.1 (4.3)
	Type recommended	API SF/CC SAE 5W-30

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)
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 mfr. & material coding	Valeo F-202
	Facing material & construction	Fiberglass, Woven
	Rivets per facing	8
	Outside x inside dia. (nominal)	228 x 150 (8.98 x 5.91)
	Total eff. area (cm ² (in ²))****	463.13 (71.8)
	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

* Dry weight, includes shift linkage

** Hold down effort

*** Maximum effort at clutch release point of travel.

**** Includes both clutch facings.

MVMA Specifications

Vehicle Line **DODGE SHADOW**

Model Year **1990** Issued **9-15-89** Revised(•)

METRIC (U.S. Customary)

Engine Description
Engine Code

**2.2L (135.0 in³) / VNT Turbo, SMPI
EDR**

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)	N.A.
Automatic overdrive (manufacturer/country)	N.A.

Manual Transmission/Transaxle

Number of forward speeds		5
Gear ratios	1st	3.00
	2nd	1.89
	3rd	1.28
	4th	0.94
	5th	0.71
	Reverse	3.14
Synchronous meshing (specify gears)		All Forward Gears
Shift lever location		Floor
Trans. case mat'l. & mass kg.(lbs.)*		380 Aluminum Die Cast 48.16 (106.0)
Lubricant	Capacity [L (pt.)]	2.1L (4.3pt.)
	Type recommended	API SF/CC SAE 5W-30

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.	Depressed**	125 (28)
spring load, new) N (lbs.)	Released***	142 (32)
Assist (spring, power/percent, nominal)		None
Type pressure plate springs		Belleville
Total spring load (nominal, new) N (lbs.)		6700 (1506)
Clutch facing	Facing mfrg. & material coding	Valeo F-202
	Facing material & construction	Fiberglass, woven
	Rivets per facing	8
	Outside x inside dia. (nominal)	228 x 150 (8.98 x 5.91)
	Total eff. area [cm ² (in ²)]****	463.13 (71.8)
	Thickness (pressure plate side/ fly wheel side)	3.5/3.5 (0.14/0.14)
	Rivet depth (pressure plate side/ fly wheel side)	1.0/1.0 (0.039/0.039) 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

* Dry weight, includes shift linkage

** Hold down effort

*** Maximum effort at clutch release point of pedal travel.

**** Includes both clutch facings.

MVMA Specifications

Vehicle Line **DODGE SHADOW**

Model Year **1990** Issued **9-15-89** Revised (•)

METRIC (U.S. Customary)

Engine Description

Engine Code

**2.5L (153.0 in.³) SMPI Turbo
EDT**

**2.5L (153.0 in.³) EFI, EDM
2.2 L (153.0 in.³), EFI, EDF**

Ø Automatic Transmission/Transaxle

Trade name		Torqueflite	
Type and special features (describe)		Automatically-operated planetary gear transmission and parallel axis final drive	
		Non-lock up torque converter	electronic lock up torque converter
Gear selector	Location (column, floor, other)	Floor	
	Ltr./No. designation (e.g. PRND21)	PRND21	
	Shift interlock (yes, no, describe)	No	
Gear ratios	1st	2.69	
	2nd	1.55	
	3rd	1.00	
	4th	--	
	Reverse	2.10	
Max. upshift speed - drive range [km/h (mph)]		129 (80)	113 (70)
Max. kickdown speed - drive range [km/h (mph)]		119 (74)	105 (65)
Min. overdrive speed [km/h (mph)]		--	
Torque converter	Number of elements	Three	
	Max. ratio at stall	2.00	2.15
	Type of cooling (air, liquid)	Liquid	
	Nominal diameter	241 (9.5)	
	Capacity factor "K"	260	210
Lubricant	Capacity [refill L (pt.)]	8.40 (17.75) - torque converter, transmission and differential	
	Type recommended	Mopar ATF Plus (Auto trans. fluid - Type 7176) (a)	
Oil cooler (std, opt, n.a., internal, external, air, liquid)		Std. - liquid, in radiator	
Transmission case material & mass [kg. (lbs.)]**		Die cast aluminum - 57.50 (126.5) (b)	

Ø All Wheel / 4 Wheel Drive

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

* Input speed ÷ √ torque

** Dry weight including torque converter. If other specify.

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

(b) Dry weight, includes shift linkage

MVMA Specifications

Vehicle Line **DODGE SHADOW**

Model Year **1990** Issued **9-15-89** Revised (e)

METRIC (U.S. Customary)

Engine Description
Engine Code

**2.2L (135.0 in³)
EFI, EDF**

**2.5L (153.0 in³)
EFI, EDM**

Ø Axle Ratio and Tooth Combinations (see 'Power Teams' for axle ratio usage)

Effective final drive ratio (or overall top gear ratio)			2.51 (manual)	3.02 (auto.)	2.51 (manual)	3.02 (auto.)
Transfer ratio and method (chain, gear, etc.)			1.06, gear	--	1.06, gear	--
Front drive unit	Ring gear o.d.		197.46 (7.77)	184.5 (7.26)	197.46 (7.77)	184.5 (7.26)
	No. of teeth	Pinion	14	21	14	21
		Ring gear	49	60	49	60

Ø Front Drive Unit

Description (integral to trans., etc.)		Integral with transmission	
Limited slip differential (type)		N.A.	
Drive pinion	Type	Helical	
	Offset	--	
No. of differential pinions		Two	
Pinion / differential	Adjustment (shim, etc.)	--	
	Bearing adjustment	Shim	
Driving wheel bearing (type)		See Wheel Spindle Hub, p. 14	
Lubricant	Capacity[L (pt.)]	See transaxle	
	Type recommended	See transaxle	

Ø Axle Shafts - Front Wheel Drive

Front Vehicle Drive			Two		
Manufacturer and number used					
Type (straight, solid bar, tubular, etc.)		Left	Solid bar		
		Right	Tube		
Outer diam. x length* x wall thickness	Manual transaxle	Left	(a) Page 10B	(b) Page 10B	
		Right	(c) Page 10B	(d) Page 10B	
	Automatic transaxle	Left	(a) Page 10B	(b) Page 10B	
		Right	(c) Page 10B	(d) Page 10B	
	Optional transaxle	Left	--	--	
		Right	--	--	
Slip yoke	Type		--		
	Number of teeth		--		
	Spline o.d.		--		
Universal joints	Make and mfg. no.		Inner	(e) Page 10B	GKN-EUR: G182 or SSG: #19
			Outer	(f) Page 10B	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)			--		

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

MVMA Specifications

Vehicle Line **DODGE SHADOW**

Model Year **1990**

Issued **9-15-89**

Revised (e)

METRIC (U.S. Customary)

Engine Description

Engine Code

**2.2L (135.0 in³)
SMPI, VNT Turbo, EDR**

**2.5L (153.0 in³)
Turbo I, EDT**

Ø Axle Ratio and Tooth Combinations (see 'Power Teams' for axle ratio usage)

Effective final drive ratio (or overall top gear ratio)		2.51	2.51 (manual)	3.02 (auto.)
Transfer ratio and method (chain, gear, etc.)		--	--	1.06, gear
Front drive unit	Ring gear o.d.	197.46 (7.77)	197.46 (7.77)	184.5 (7.26)
	No. of Pinion	14	14	21
	teeth Ring gear	49	49	60

Ø Front Drive Unit

Description (integral to trans., etc.)		Integral with transmission	
Limited slip differential (type)		N.A.	
Drive pinion	Type	Helical	
	Offset	--	
No. of differential pinions		Four	Two
Pinion / differential	Adjustment (shim, etc.)	--	
	Bearing adjustment	Shim	
Driving wheel bearing (type)		See Wheel Spindle Hub, p. 14	
Lubricant	Capacity[L (pt.)]	See transaxle	
	Type recommended	See transaxle	

Ø Axle Shafts - Front Wheel Drive

Manufacturer and number used			Two		
Type (straight, solid bar, tubular, etc.)		Left	Solid bar		
		Right	Solid bar	Solid bar	Tube
Outer diam. x length* x wall thickness	Manual transaxle	Left	GKN: 26.9 x 325.9 (1.06 x 12.83)	(g) page 10B	
		Right	GKN: 26.9 x 325.9 (1.06 x 12.83)	(g) page 10B	
	Automatic transaxle	Left	--		(g) page 10B
		Right	--		(h) page 10B
	Optional transaxle	Left	--		
		Right	--		
Slip yoke	Type		--		
	Number of teeth		--		
	Spline o.d.		--		
Universal joints	Make and mfg. no.	Inner	GKN: G182	GKN-EUR: G182 or SSG: #19	
		Outer	GKN: 98 AC	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)			--		

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

MVMA Specifications

Vehicle Line **DODGE SHADOW**

Model Year **1990**

Issued

9-15-89

Revised (•)

METRIC (U.S. Customary)

- (a) GKN-US: 24.2×333.2 (0.95×13.12) or SSG: 23.9×327.5 (0.94×12.89) or GKN-EUR: 22.9×334.5 (0.90×13.17)
- (b) GKN-EUR: 22.9×331.4 (0.90×13.05) or SSG: 23.9×327.5 (0.94×12.98) or GKN-EUR: 22.9×325.9 (0.94×12.83)
- (c) GKN-US: $40.5 \times 603.3 \times 3.72$ ($1.59 \times 23.75 \times 0.146$) or SSG: $38.0 \times 591.1 \times 5.0$ ($1.50 \times 23.27 \times 0.197$) or GKN-EUR: $40.5 \times 600.8 \times 2.7$ ($1.59 \times 23.65 \times 0.10$)
- (d) GKN-EUR: 40.5×597.6 (1.59×23.5) or SSG: $38.0 \times 591.1 \times 5.0$ ($1.50 \times 23.27 \times 0.197$) or GKN-EUR: 40.5×591.6 (1.59×23.3)
- (e) GKN-EUR: G169 or GKN-US C-2000 or SSG: #19
- (f) GKN-EUR: 92 AC or GKN-US: C-2000 or SSG: #23
- (g) GKN-EUR: 25.0×325.9 (0.98×12.83) or SSG: 23.9×327.5 (0.94×12.98)
- (h) GKN-EUR: 40.5×591.6 (1.59×23.3) or SSG: 38.0×591.1 (1.50×23.27)

MVMA Specifications

Vehicle Line **DODGE SHADOW**

Model Year **1990**

Issued **9-15-89**

Revised (e)

METRIC (U.S. Customary)

Body Type

All

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	
Shock absorber damping controls	Provision for jacking	
	Standard / optional / not avail.	
	Manual / automatic control	
	Number of damping rates	
	Type of actuation (manual / electric motor / air, etc.)	
	sensors	
	Lateral acceleration	
Shock absorber (front & rear)	Deceleration	
	Acceleration	
	Road surface	
	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)

Suspension - Front

Type & description		
Travel*	Full jounce	Iso-strut 72.9 (2.87)
	Full rebound	100.3 (3.95)
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.)]	16.7 (95)
	Rate at wheel [N/mm (lb./in.)]	20.2 (115)
Stabilizer	Type (link, linkless, frameless)	Linkless
	Material & bar diameter	AISI 1090 Spring steel 27.0 (1.06)

Suspension - Rear

Type & description		Trailing flex-arm with track bar
Travel*	Full jounce	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.)]	31.5 (180)
	Rate at wheel [N/mm (lb./in.)]	20.2 (115) 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

Vehicle Line **DODGE SHADOW**

Model Year **1990**

Issued **9-15-89**

Revised (•)

METRIC (U.S. Customary)

Body Type And / Or
Engine Displacement

Standard - All

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	
	Reservoir (volume in. ³) and source		--	
	Pump-type (elec., gear driven, belt driven)		--	
Traction control	Operational speed range			
Anti-lock device	Type engine intervention (electronic, mech.)			
	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 ² (in. ²)]* (F/R)			F: 155.6 (24.12) / R: 242.7 (37.6)	
Gross lining area [cm ² (in. ²)]** (F/R)			F: 180.8 (28.02) / R: 258.1 (40.0)	
Swept area [cm ² (in. ²)]*** (F/R)			F: 1385 (214.7) / R: 4119 (63.8)	
Rotor	Outer working diameter	F/R	F: 256.0 (10.08)	
	Inner working diameter	F/R	F: 160.0 (6.30)	
	Thickness	F/R	F: 24.0 (0.945)	
	Material Type (vented/solid)	F/R	F: damped cast iron, vented	
Drum	Diameter & Width	F/R	R: 200 (7.87) x 37.62 (1.48)	
	Type & Material	F/R	R: Cast composite	
Wheel cylinder bore			F: 54 (2.13) / R: 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		F/R	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	136.6 x 47 x 12.1 (5.38 x 1.85 x 0.48)
		Size	Secondary or inboard	126.0 x 47 x 13.1 (4.96 x 1.85 x 0.52)
		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

Vehicle Line **DODGE SHADOW**

Model Year **1990**

Issued **9-15-89**

Revised (e)

METRIC (U.S. Customary)

Body Type And / Or
Engine Displacement

Optional - All

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)		Disc	
Valving type (proportion, delay, metering, other)			Dual proportioning valve	
Power brake (std., opt., n.a.)			Standard	
Booster type (remote, integral, vac., hyd., etc.)			Vacuum, tandem	
Vacuum	Source (inline, pump, etc.)		Intake manifold	
	Reservoir (volume in. ³) 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 ² (in. ²)]* (F/R)			F: 155.6 (24.1) / R: 115.8 (17.95)	
Gross lining area [cm ² (in. ²)]** (F/R)			F: 180.8 (28.0) / R: 115.8 (17.95)	
Swept area [cm ² (in. ²)]*** (F/R)			F: 1385 (214.7) / R: 1147.2 (177.82)	
Rotor	Outer working diameter	F/R	F: 256.0 (10.08) / R: 267.3 (10.52)	
	Inner working diameter	F/R	F: 160.0 (6.30) / R: 193.5 (7.62)	
	Thickness	F/R	F: 24.0 (0.945) / R: 22.0 (.866)	
	Material Type (vented/solid)	F/R	Damped cast iron, F: vented / R: solid	
Drum	Diameter & Width	F/R	N.A.	
	Type & Material	F/R	N.A.	
Wheel cylinder bore			R: 54.0 (2.13) / R: 34.0 (1.34)	
Master cylinder	Bore/stroke	F/R	22.22 (0.875) / 32.79 (1.291)	
Pedal arc ratio			3.28 : 1	
Line pressure at 445 N (100lb.) pedal load [kPa (psi)]			9650 (1400)	
Lining clearance			No major adjustment	
Brake lining	Front Wheel	Bonded or riveted (rivets/seg.)		Bonded
		Rivet size		--
		Manufacturer		Friction Products Division
		Lining code *****		FDP-1471-2-EE
		Material		Semi-metallic, non-asbestos
		****	Primary or outboard	5770 mm ² × 11.34 (8.94 in ² × 0.446)
		Size	Secondary or inboard	4860 mm ² × 12.34 (7.53 in ² × 0.486)
		Shoe thickness (no lining)		5.3 (0.209)
	Rear Wheel	Bonded or riveted (rivets/seg.)		Bonded
		Manufacturer		Friction Products Division
		Lining code *****		FDP-1471-2-EE
		Material		Semi-metallic, non-asbestos
		****	Primary or outboard	2892 mm ² × 11.0 (4.48 in ² × 0.43)
		Size	Secondary or inboard	2892 mm ² × 11.0 (4.48 in ² × 0.43)
		Shoe thickness (no lining)		4.83 (0.190)

* 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

Vehicle Line **DODGE SHADOW**

Model Year **1990**

Issued **9-15-89**

Revised (•) _____

METRIC (U.S. Customary)

Body Type And/Or
Engine Displacement

All

Tires And Wheels (Standard)

Tires	Size (load range, ply)		P185/70 R 14, SL
	Type (bias, radial, steel, nylon, etc.)		All season Steel radial
	Inflation pressure (cold) for recommended max. vehicle load	Front [kPa (psi)]	220 (32)
		Rear [kPa (psi)]	220 (32)
	Rev./mile - at 70 km/h (45 mph)		862
Wheels	Type & material		Steel disc
	Rim (size & flange type)		14 x 5.5JJ
	Wheel offset		40 (1.6)
	Attachment	Type (bolt or stud)	Stud
		Circle diameter	100 (3.94)
		Number & size	5 - M12 x 1.5
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.)		All season performance steel radial
Wheel (type & material)		Cast aluminum
Rim (size, flange, type and offset)		14 x 6.0, JJ, 40 (1.6)
Tire size (load range, ply)		P195/60 R 15, SL
Type (bias, radial, steel, nylon, etc.)		All-season performance steel radial
Wheel (type & material)		cast aluminum
Rim (size, flange type and offset)		15 x 6.0, JJ, 40 (1.6)
Tire size (load range, ply)		P185/70 R 14, SL
Type (bias, radial, steel, nylon, etc.)		All-season performance steel radial
Wheel (type & material)		standard
Rim (size, flange type and offset)		--
Tire size (load range, ply)		Standard
Type (bias, radial, steel, nylon, etc.)		--
Wheel (type & material)		Cast aluminum
Rim (size, flange type and offset)		14 x 6.0, JJ, 40 (1.6)
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 and wheel Storage same as standard

Brakes - Parking

Type of control		Foot operated pedal/hand release lever
Location of control		Lower left end of instrument panel
Operates on		Rear service brake - Std.; "Hat" section of rear disc brake - opt.
If separate from service brakes	Type (internal or external)	Internal - optional
	Drum diameter	170.7 (6.7)
	Lining size (length x width x thickness)	426 x 20 x 5.0 (16.8 x 0.8 x 0.2)

MVMA Specifications

Vehicle Line **DODGE SHADOW**

Model Year **1990** Issued **9-15-89** Revised(*)

METRIC (U.S. Customary)

Body Type And/ Or
Engine Displacement

14" Wheels

15" Wheels

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	Acustar				
	(Std., opt., n.a.)	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)		2.42	2.37		
Linkage	Type		Rack & Pinion (Rod & ball directly attached to gear)			
	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	--			
	Thread (size)		M22 x 1.5			
Bearing (type)		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

Vehicle Line **DODGE SHADOW**

Model Year **1990** Issued **9-15-89** Revised (e) _____

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° ± 0.3°
		Toe-in	+0.1° toe-in ± 0.1° (a)
	Periodic M.V. inspection	Caster	Same as Service Checking
		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	Same as Service Checking
		Toe-in	--

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

Electrical - Instruments and Equipment

Speed-ometer	Type (Analog, digital, std., opt.)	Electric/Analog
	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 ² (in ²)]	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

Vehicle Line **DODGE SHADOW**

Model Year **1990** Issued **9-15-89** Revised(s)

METRIC (U.S. Customary)

Engine Description
Engine Code

**2.2L(135.0 in³) TBI-EFI
EDF**

**2.5L (153.0in³) TBI-EFI
EDM**

Electrical - Supply System

Battery	Manufacturer	GNB, Delco, Exide, Johnson Controls	
	Model, std., (opt.)	GRP 34	
	Voltage	12V	
	Amps at 0°F cold crank	500	
	Minutes-reserve capacity	110	
	Amp/hrs. - 20 hr. rate	66	
Alternator	Location	Left front fender side shield	
	Manufacturer	Nippondenso	Bosch
	Rating (idle/max. rpm)	90 HS	90 RS
	Ratio (alt. crank/rev.)	2.60 : 1	2.53 : 1
	Output at idle (rpm, park)	40 A	40 A
	Optional (type & rating)	none	
Regulator	Type	Engine control computer	

Electrical - Starting System

Motor	Manufacturer	Bosch
	Current drain at 0°F	175 - 225 A
	Power rating (kW (hp))	1.1 (1.475)
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		
Coil	Manufacturer	UTC	Prestolite	Diamond
	Model	5226865	5227372	5227252
	Current	Engine stopped - A	0.0 A	
		Engine idling - A	1.9 A	
Spark plug	Manufacturer	Champion		
	Model	RN12YC		
	Thread (mm)	14 mm		
	Tightening torque [N•m (lb-ft)]	28 (20)		
	Gap	0.9 (0.035)		
Distributor	Number per cylinder	One		
	Manufacturer	Chrysler		
	Model	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
------------------	---

MVMA Specifications

METRIC (U.S. Customary)

Vehicle Line **DODGE SHADOW**

Model Year **1990** Issued **9-15-89** Revised(s)

Engine Description
Engine Code

**2.5 L (153.0in³) SMPI Turbo
EDT**

**2.2 L (135.0 in³) SMPI VNT Turbo
EDR**

Electrical - Supply System

Battery	Manufacturer	Delco, Exide, GNB, Johnson Controls		
	Model, std., (opt.)	GRP 34		
	Voltage	12V		
	Amps at 0°F cold crank	500		
	Minutes-reserve capacity	110		
	Amp/hrs. - 20 hr. rate	66		
	Location	Left front corner of engine compartment		
Alternator	Manufacturer	Nippondenso	Bosch	Nippondenso
	Rating (idle/max. rpm)	90 HS	90RS	120 HS
	Ratio (alt. crank/rev.)	2.60:1	2.53:1	2.60:1
	Output at idle (rpm, park)	40 A	40 A	50 A
	Optional (type & rating)	none		
Regulator	Type	Engine control computer		

Electrical - Starting System

Motor	Manufacturer	Bosch	Bosch
	Current drain at 0 °F	175 - 225 A	125 - 175 A
	Power rating [kW (hp)]	1.1 (1.475)	1.1 (1.475)
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		
Coil	Manufacturer	UTC	Prestolite	Diamond
	Model	5226865	5227372	5227252
	Current	0.0 A		
		1.9 A		
Spark plug	Manufacturer	Champion		
	Model	RN12YC		
	Thread (mm)	14 mm		
	Tightening torque [Nm (lb-ft)]	28 (20)		
	Gap	0.9 (0.035)		
	Number per cylinder	One		
Distributor	Manufacturer	Chrysler		
	Model	5226525		

Electrical Suppression

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

MVMA Specifications

METRIC (U.S. Customary)

Vehicle Line **DODGE SHADOW**

Model Year **1990**

Issued **9-15-89**

Revised(*)

Body Type

All

Body

Structure	Unibody unitized construction with bolt on front suspension crossmember
Bumper system front - rear	Front: TPO fascia Ultra high strength steel reinforcement w/elastomeric energy absorbers Rear: TPO fascia Ultra high strength steel reinforcement w/elastomeric energy absorbers
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

Body - Miscellaneous Information		
Type of finish (lacquer, enamel, other)		Enamel - Universal base coat / Clear coat
Hood	Material & mass	20.5 (45.3)
	Hinge location (front, rear)	Rear
	Type (counterbalance, prop)	Counterbalance, clockspring
Trunk lid	Release control (internal, external)	Internal
	Material & mass	--
	Type (counterbalance, other)	--
Hatch-back lid	Internal release control (elec., mech., n.a.)	--
	Material & mass	15.7 (34.7)
	Type (counterbalance, other)	Gas pressurized struts
Tailgate	Internal release control (elec., mech., n.a.)	Mechanical
	Material & mass	--
	Type (drop, lift, door)	--
Vent window control (crank, friction, pivot, power)	Internal release control (elec., mech., n.a.)	--
	Front	None
Window Regulator type (cable, tape, flex, drive, etc.)	Rear	None
	Front	Manual & Electric arm & sector (P-24)
Seat cushion type (e.g., 60/40, bucket, bench, wire, foam, etc.)	Rear	Manual arm & sector / Electric - Flex Drive
	Front	Bucket - Flex-O-Lator Mat
Seat back type (e.g., 60/40, bucket, bench, wire, foam, etc.)	Rear	Bench - Full volume Foam
	3rd seat	--
	Front	Bucket - Flex-O-Lator Mat
	Rear	Bench - Full volume Foam - Std. 60/40 Full Foam - Opt.
	3rd seat	--

MVMA Specifications

Vehicle Line **DODGE SHADOW**

Model Year **1990**

Issued **9-15-89**

Revised (•)

METRIC (U.S. Customary)

Body Type

All

Restraint System

Seating Position			Left	Center	Right
Active	Type & description (lap & shoulder belt,	First seat	Lap & shoulder belt Std.	N.A.	Lap & shoulder belt Std.
		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	Air bag & Knee bolster Std.	N.A.	N.A.
		Second seat	N.A.	N.A.	N.A.
	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 ² (in ²)]		S1	9064 (1405)	
Side glass exposed surface area [cm ² (in ²)] - total 2 sides		S2	9352 (1450)	9952 (1543)
Backlight glass exposed surface area [cm ² (in ²)]		S3	6794 (1053)	
Total glass exposed surface area [cm ² (in ²)]		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	

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	2
	Hi-beam type (1A1, 2A1, 1C1, 2C1, etc.)	9004
	Quantity	2

Frame

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

MVMA Specifications

Vehicle Line **DODGE SHADOW**

Model Year **1990**

Issued **9-15-89**

Revised (●)

METRIC (U.S. Customary)

Body Type

All

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

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.
Electronic	Diagnostic monitor (integrated, individual)	Integrated - Std.
	Instrument cluster (list instruments)	N.A.
	Keyless entry	N.A.
	Tripfinder (avg. spd., fuel)	N.A.
	Voice alert (list items)	N.A.
	Other	N.A.
		N.A.
Fuel door lock (remote, key, electric)		N.A.
Lamps	Auto head on / off delay, dimming	N.A.
	Cornering	N.A.
	Courtesy (map, reading)	N.A.
	Door lock, ignition	Door lock - N.A.; Ignition - Std.
	Engine compartment	Opt.
	Fog	Opt.
	Glove compartment	Opt.
	Trunk	Opt.
	Illuminated entry system (list lamps, activation)	N.A.
	Other	Ash receiver - Opt.
Mirrors	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.
Navigation system (describe)		N.A.
Parking brake-auto release (warning light)		N.A.

MVMA Specifications

Vehicle Line **DODGE SHADOW**

Model Year **1990**

Issued **9-15-89**

Revised (e)

METRIC (U.S. Customary)

Model Code

All

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

Power Equipment	Deck lid (release, pull down)		N.A.
	Door locks (manual, automatic, describe system)		Manual - Opt.
	Seats	2 - 4 - 6 way, etc.	6 way - Opt.
		Reclining (R.H., L.H.)	N.A.
		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		N.A.
	Rear windows		Opt. on 4-door only
Radio systems	Antenna (location, whip, w/shield, power)		Whip - Right front fender - Std. AM/FM/MX/ETR
	Std.		
	Opt.	AM, FM, stereo, tape, compact disc, graphic equalizer, theft deterrent, radio prep pkg., headphone jacks, etc.	AM stereo/FM/MX/ETR w/Cassette Infinity I - Premium AM stereo/FM/MX w/Cassette
	Speaker (number, location)		2, front doors - Std. 2, front doors / 2, rear shelf - Opt. 2 ea., coaxial, equalized, front doors and rear shelf - Opt. w/ Infinity I
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

Vehicle Line **DODGE SHADOW**

Model Year **1990** Issued **9-15-89** 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
ØWidth			
Tread (front)	W101	1462 (57.6)	
Tread (rear)	W102	1453 (57.2)	
Vehicle width	W103	1710 (67.3)	
Body width at SgRP (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)
Tumble-home (deg.)	W122	24°	
Outside mirror width	W410		

ØLength

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	2552 (100.5)

ØHeight*

Passenger distribution (front/rear)	PD 1,2,3	2 - Front 3 - Rear
Trunk/cargo load		--
Vehicle height	H101	1336 (52.6)
Cowl point to ground	H114	927 (36.5)
Deck point to ground	H138	922 (36.3)
Rocker panel front to ground	H112	203 (8.0)
Rocker panel rear to ground	H111	173 (6.8)
Windshield slope angle	H122	56°
Backlight slope angle	H121	54°

Ground Clearance

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		Frt. Susp. C'mbr. Brkt. (left hand side)

* All vehicle height and ground clearance are made at the Manufacturer's Design Load Weight.

Manufacturer's 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.

MVMA Specifications

Vehicle Line **DODGE SHADOW**

Model Year **1990** Issued **9-15-89** Revised(*)

METRIC (U.S. Customary)

Vehicle Dimensions See Key Sheets for definitions

Body Type

24

44

Front Compartment

SAE
Ref.
No.

SgRP front, "X" coordinate	L31	1398 (55.0)	↔
Effective head room	H61	973 (38.3)	↔
Max. eff. leg room (accelerator)	L34	1055 (41.5)	↔
SgRP to heel point	H30	271 (10.7)	↔
SgRP 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	1229 (48.4)	↔
Steering wheel maximum diameter*	W9	381 (15.0)	↔
Steering wheel angle	H18	25.8°	↔
Accelerator heel pt. to steer. whl. cntr.	L11	497 (19.6)	↔
Accelerator heel pt. to steer. whl. cntr.	H17	637 (25.1)	↔
Undepressed floor covering thickness	H67	22 (0.9)	↔

Rear Compartment

SgRP couple distance	L50	740 (29.1)	↔
Effective head room	H63	949 (37.4)	↔
Min. effective leg room	L51	864 (34.0)	↔
SgRP (second to heel)	H31	281 (11.1)	↔
Knee clearance	L48	-25 (-1.0)	↔
Shoulder room	W4	1334 (52.5)	1384 (54.5)
Hip room	W6	1206 (47.5)	1136 (44.7)
Upper body opening to ground	H51	NA	1226 (48.3)
Back angle	L41	25°	↔
Hip angle	L43	83°	↔
Knee angle	L45	84°	↔
Foot angle	L47	119°	↔
Depressed floor covering thickness	H73	13 (0.5)	↔

Luggage Compartment

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

Interior Volumes (EPA Classification)

Vehicle Class		Compact	↔
Interior volume index (cu. ft.)**		101.9	101.8
Trunk / cargo index (cu. ft.)		13.2	13.1

* See p. 14

** Includes passenger and trunk / cargo index - see definition page 32.

MVMA Specifications

Vehicle Line **DODGE SHADOW**

Model Year **1990**

Issued **9-15-89**

Revised(*)

METRIC (U.S. Customary)

Vehicle Dimensions See Key Sheets for Definitions

Body Type

SAE Ref. No.	24	44
--------------	----	----

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 ³ (ft. ³)]	V2	
Hidden cargo volume [m ³ (ft. ³)]	V4	
Cargo volume index-rear of 2 nd -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 ³ (ft. ³))	V3	0.943 (33.29)	0.935 (33.03)
Hidden cargo volume [m ³ (ft. ³)]	V4		
Cargo volume index-rear of 2 nd -seat	V10	0.375 (13.25)	0.372 (13.15)

MVMA Specifications

Vehicle Line **DODGE SHADOW**

Model Year **1990**

Issued

9-15-89

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.

Fiducial
Mark
Number

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	1990
------------	------

Issued **9-15-89**

Revised(●)

Estimated

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

****ETWC - Equivalent Test Weight Class - basis for U.S. Environmental Protection Agency emission certification.**

Refer to ETWC code legend below for test weight class.

ETWC LEGEND									
A	= 1000	I	= 2000	Q	= 3000	Y	= 4000		
B	= 1125	J	= 2125	R	= 3125	Z	= 4250		
C	= 1250	K	= 2250	S	= 3250	AA	= 4500		
D	= 1375	L	= 2375	T	= 3375	BB	= 4750		
E	= 1500	M	= 2500	U	= 3500	CC	= 5000		
F	= 1625	N	= 2625	V	= 3625	DD	= 5250		
G	= 1750	O	= 2750	W	= 3750	EE	= 5500		
H	= 1875	P	= 2875	X	= 3875	FF	= 5750		

SHIPPING MASS (weight) Calculation Kg. (lbs.)

Shipping Mass (weight) = Curb Weight less:

30 kg. (66 lbs.)

MVMA Specifications

Vehicle Line **PLYMOUTH SUNDANCE**

Model Year	1990
------------	------

issued

9-15-89

Revised(●)

METRIC (U.S. Customary)**Estimated**[illegible]

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