

# TECHNICAL DATA

## SI\* METRIC INFORMATION GUIDE

BASE UNITS			
DESCRIPTION	UNIT	SYMBOL	
length .....	meter .....	m	
mass .....	kilogram .....	kg	
force .....	newton .....	N	
liquid .....	liter .....	L	
temperature .....	Celsius .....	°C	
pressure .....	kilopascal .....	kPa	
torque .....	newton•meter .....	N•m	
speed .....	kilometer per hour .....	km/h	

PREFIXES			
PREFIX	SYMBOL	MEANING	VALUE
kilo .....	k .....	one thousand .....	1 000
centi .....	c .....	one hundredth .....	0.01
milli .....	m .....	one thousandth .....	0.001
micro .....	μ .....	one millionth .....	0.000001

CONVERSION FACTORS			
TO CONVERT	TO †	MULTIPLY BY	
in .....	mm .....	25.4	
in .....	cm .....	2.54	
in <sup>2</sup> .....	cm <sup>2</sup> .....	6.45	
in <sup>3</sup> .....	cm <sup>3</sup> .....	16.39	
ft .....	m .....	0.3	
oz .....	g .....	28.35	
lb .....	kg .....	0.45	
lbf .....	N .....	4.4	
lbf•in .....	N•m .....	0.11	
lbf•ft .....	N•m .....	1.36	
lbf•ft .....	lbf•in .....	12	
PSI .....	kPa .....	6.89	
imp. oz .....	U.S. oz .....	0.96	
imp. oz .....	mL .....	28.41	
imp. gal .....	U.S. gal .....	1.2	
imp. gal .....	L .....	4.55	
U.S. oz .....	mL .....	29.57	
U.S. gal .....	L .....	3.79	
MPH .....	km/h .....	1.61	
Fahrenheit .....	Celsius .....	(°F - 32) ÷ 1.8	
Celsius .....	Fahrenheit .....	(°C × 1.8) + 32	






\* The international system of units abbreviates SI in all languages.

† To obtain the inverse sequence, divide by the given factor. To convert mm to in, divide by 25.4.

NOTE: Conversion factors are rounded off to 2 decimals for easier use.

## Section 06 TECHNICAL DATA





### Subsection 02 (ENGINES)

VEHICLE MODEL		LEGEND 800 SE SDI (CAN./U.S.)	GRAND TOURING 800 SE SDI (CAN./U.S.)	
ENGINE TYPE		793	793	
	Number of Cylinders	2	2	
	Bore	mm (in)	82.00 (3.228)	
	Stroke	mm (in)	75.70 (2.980)	
	Displacement	cm <sup>3</sup> (in <sup>3</sup> )	799.20 (48.77)	
	Compression Ratio	± 0.5	12.0	
	Maximum Power Engine Speed ①	± 100 RPM	7850	
	Piston Ring Type	1 <sup>st</sup> /2 <sup>nd</sup>	ST/N.A.	
	Ring End Gap	New	mm (in)	0.4 (.016)
		Wear Limit	mm (in)	1.0 (.039)
	Ring/Piston Groove Clearance	New	mm (in)	0.05 (.0020)
		Wear Limit	mm (in)	0.2 (.0079)
	Piston/Cylinder Wall Clearance	New	mm ± (in)	0.125 ± 0.023 (.0049 ± .0009)
		Wear Limit	mm (in)	0.20 (.0079)
	Connecting Rod Big End Axial Play	New	mm (in)	0.39 (.0154)
Wear Limit		mm (in)	1.2 (.0472)	
Maximum Crankshaft End-play ②	mm (in)	0.3 (.012)		
Maximum Crankshaft Deflection at PTO	mm (in)	0.06 (.0024)		
	Magneto Generator Output	W	480	
	Ignition Type		CDI	
	Spark Plug Make and Type		NGK BR9ECS	
	Spark Plug Gap	± 0.05 mm (± .002 in)	0.8 (.032) ③	
	Trigger Coil ④	Ω	190 – 300	
	Generating Coil ④	Low Speed	Ω	N.A.
		High Speed	Ω	N.A.
	Lighting Coil ④	Ω	0.145 – .185	
High Tension Coil ④	Primary	Ω	N.A.	
	Secondary	kΩ	N.A.	
	Throttle Body Type		Dell'Orto without IACV	
	Idle Speed	± 200 RPM	1500	
	Gas Type/Pump Octane Number		Unleaded/87	
	Gas/Oil Ratio		Injection	
	Type		Liquid	
	Axial Fan Belt Adjustment	Deflection	mm (in)	N.A.
		Force	kg (lbf)	N.A.
	Thermostat Opening Temperature	°C (°F)	42 (108)	
	Radiator Cap Opening Pressure	kPa (PSI)	90 (13)	
	ENGINE COLD N•m (lb•ft)	Drive Pulley Retaining Screw	⑤	
		Exhaust Manifold Nuts or Bolts	22 (16)	
		Magneto Ring Nut	125 (92)	
		Crankcase Nuts or Screws	M6	9 (7)
			M8	29 (21)
		Crankcase/Engine Support Nuts or Screws		35 (26)
		Cylinder Head Screws		29 (21)
		Crankcase/Cylinder Nuts or Screws		40 (29)
Axial Fan Shaft Nut		N.A.		

N.A.: Not applicable

## Section 06 TECHNICAL DATA

### Subsection 03 (VEHICLES)

VEHICLE MODEL		LEGEND 800 SE SDI (CAN./U.S.)	GRAND TOURING 800 SE SDI (CAN./U.S.)	
ENGINE TYPE		793	793	
	Chain Drive Ratio	26/43	24/43	
	Chain	Pitch in	3/8	3/8
		Type/Links Qty/Plates Qty	Silent 76/13	Silent 74/13
	Drive Pulley	Type of Drive Pulley	TRA III	TRA III
		Ramp Identification and Roller Pin Type	414 ①	414 ①
		Calibration Screw Position or Calibration Part	3	3
		Spring Color	Blue /Yellow	Blue /Yellow
		Spring Length mm (in)	115 (4.5)	115 (4.5)
	Driven Pulley	Clutch Engagement ± 100 RPM	3600	3600
		Type	HPVSA	HPVSA
		Spring Preload ± 0.7 kg (± 1.5 lb)	N.A.	N.A.
	Pulley Distance	Cam Angle Degree	47/44	47/44
		Z ± 0.5 mm (± .020 in)	20 (.787)	20 (.787)
	Offset	X ± 0.5 mm (± .020 in)	37 (1.457)	37 (1.457)
		Y – X MIN. – MAX. mm (in)	0.75 – 2.25 (.029 – .089)	0.75 – 2.25 (.029 – .089)
	Drive Belt Part Number (P/N)		417 300 166	417 300 166
	Drive Belt Width (new) ② mm (in)		37.7 (1.484)	37.7 (1.484)
	Drive Belt Adjustment	Deflection ± 5 mm (± .197 in)	32 (1.260)	32 (1.260)
		Force ③ kg (lbf)	11.3 (25)	11.3 (25)
	Track	Width mm (in)	381 (15.0)	381 (15.0)
		Length mm (in)	3074 (121)	3455 (136.024)
		Profile Height mm (in)	22.34 (.880)	22.34 (.880)
		Adjustment	Deflection mm (in)	30 – 35 (1-3/16 – 1-3/8)
Force ④ kg (lbf)			7.3 (16)	7.3 (16)
Suspension Type	Track	SC-10 III	SC-10 III	
	Ski	ADSA	ADSA	
	Length mm (in)	2801 (110.276)	3039 (119.646)	
	Width mm (in)	1213 (47.756)	1213 (47.756)	
	Height mm (in)	1232 (48.5)	1409 (55.5)	
	Ski Stance (carbide to carbide) mm (in)	1195 (47)	1195 (47)	
	Toe-out and Camber mm (in) degree	0 (0) 0	0 (0) 0	
	Mass (dry) kg (lb)	239 (525)	258 (568)	
	Ground Contact Area cm <sup>2</sup> (in <sup>2</sup> )	6910.2 (1071.083)	7556.7 (1177.382)	
	Ground Contact Pressure kPa (PSI)	3.39 (.492)	3.33 (.483)	
	Frame Material	Aluminum	Aluminum	
	Bottom Pan Material	Impact Copolymer	Impact Copolymer	
	Hood Material	RRIM Polyurethane	RRIM Polyurethane	
		Battery V/A•h	12/18	12/18
Headlight W		H4 60/55	H4 60/55	
Taillight and Stoplight W		8/27	8/27	
Tachometer and Speedometer Bulbs W		3	3	
Fuel and Temperature Gauge Bulbs W		3	3	
Fuse		Starter Solenoid A	30	30
		Fuel Level Sensor A	0.25	0.25
	Fuel Tank L (U.S. gal)	39 (10.3)	39 (10.3)	
	Chaincase mL (U.S. oz)	250 (8.5)	250 (8.5)	
	Cooling System ⑤ L (U.S. oz)	3.8 (128.5)	4.0 (135.3)	
	Injection Oil Reservoir L (U.S. oz)	3.5 (118.4)	3.5 (118.4)	

N.A.: Not applicable

## ENGINE LEGEND

CDI: Capacitor Discharge Ignition

IACV: Idle Air Control Valve

K: Kilo (x 1000)

N.A.: Not Applicable

PTO: Power Take Off Side

SDI: Semi-Direct Injection

ST: Semi-Trapezoidal

W: Watt

- ① The maximum horsepower RPM applicable on the vehicle. It may be different under certain circumstances and BOMBARDIER INC. reserves the right to modify it without obligation.
- ② Crankshaft end-play is not adjustable on these models. Specification is given for verification purposes only.
- ③ **CAUTION: Do not attempt to adjust gap on spark plug BR 9 ECS.**
- ④ All resistance measurements must be performed with parts at room temperature (approx. 20°C (68°F)). Temperature greatly affects resistance measurements.
- ⑤ Drive pulley retaining screw: torque to 80 to 100 N•m (59 to 74 lbf•ft), install drive belt, accelerate the vehicle at low speed (maximum 30 km/h (20 MPH)) and apply the brake; repeat 5 times. Retorque screw to 90 to 100 N•m (66 to 74 lbf•ft).

## VEHICLE LEGEND

ADSA: Advanced Direct Shock Action

N.A.: Not Applicable

RRIM: Reinforced Reaction Injection Molding

TRA: Total Range Adjustable

- ① Lever with roller pin (P/N 417 004 308) (solid).
- ② Minimum allowable width may not be less than 3.0 mm (1/8 in) of new drive belt.
- ③ Force applied midway between pulleys to obtain specified tension deflection.
- ④ Force or downward pull applied to track to obtain specified tension deflection.
- ⑤ Ethylene-glycol antifreeze for aluminum engines mixed with distilled water (1 part of antifreeze for 1 part of distilled water). Bombardier premixed coolant - 37°C (- 35°F) (16 x 1 L) (P/N 293 600 038).