



ATV
SERVICE
Bulletin



Date: **February 06, 2008** Subject: **Youth ATV DS 90 4-Stroke CVT spec.** No. **2007-13**

YEAR	MODEL	MODEL NUMBER	SERIAL NUMBER
2006	DS 90 4-Stroke CVT	3C6A	All
2007	DS 90 4-Stroke CVT	3C7A	All

MODEL		DS 90 4 Stroke CVT	
		2006	2007
ENGINE			
Type		CT90, 4 stroke, air cooled	
Number of Cylinders		Single horizontal cylinder	
Number of valves		2 valves	
Displacement		81.3 cc (4.96 cu. in)	
Bore	Standard	50 mm (1.97 in)	
Stroke		41.4 mm (1.61 in)	
Starting		Electric/Kick start	
Max. HP RPM		7000±100 RPM	
Engine speed limiter (forward)		8500 RPM	
Compression ratio		9,6:1 ± 1	
VALVE			
Valve clearance	Intake	0.01 to 0.035 mm (.0004 to .0014 in)	
	Exhaust	0.03 to 0.055 mm (.0012 to .0022 in)	
Valve spring free length	Minimum	34.1 mm (1.3425 in)	
Valve stem outer diameter	Minimum	4.9 mm (.1929 in)	
CAMSHAFT			
Cam lobe wear limit	Intake	25.76 mm (1.0141 in)	
	Exhaust	25.60 mm (1.0078 in)	
Camshaft holder wear limit	Rocker arm pin bore (inside diameter)	10.10 mm (.3976 in)	
Rocker arm bore diameter wear limit		10.10 mm (.3976 in)	
Rocker arm shaft wear limit		9.91 mm (.3901 in)	
Rocker arm bore to rocker arm shaft clearance (maximum differential)		0.10 mm (.0039 in)	
PISTON			
Piston ring type	Top	Rectangular	
	Second	Taper face	
	Third	Oil scraper	

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ENGINE (cont'd).		
Piston ring end gap	New minimum	0.15 mm (.0059 in)
	New maximum	0.35 mm (.0138 in)
	Wear limit	0.5 mm (.0197 in)
Piston/Cylinder wall clearance	Wear limit	0.09 mm (.0035)
Piston diameter wear limit (9 mm from bottom)		49.97 mm (1.9673 in)
Piston pin bore wear limit		13.05 mm (.5137 in)
Piston pin wear limit		13.0 mm (.5118 in)
Piston ring/groove clearance wear limit	Top and second rings	0.09 mm (.0035 in)
Connecting rod big end axial play	Wear limit	0.6 mm (.024 in)
Connecting rod small end I.D.	Wear limit	15.05 mm (.593 in)
LUBRICATION		
Engine oil system	Type	Wet sump with replaceable oil filter
Engine oil	Type	SAE 10W40, 4-stroke mineral-based engine oil API classification SM, SJ or SL, or XP-S 5W-40 synthetic oil is recommended
	Qty	Oil change with filter: 1 L (1.06 U.S. quarts)
Oil pump	Clearance between pump body and outer rotor	0.2 mm (.0079 in)
	Clearance between inner and outer rotor	
TRANSMISSION		
Transmission		Continuously Variable Transmission (CVT) – V-Belt
CVT belt width wear limit	Top of V-belt	17 mm (.6692 in)
Drive pulley wear limits	Sliding sheave spacer diameter	20 mm (.7873 in)
	Inner diameter of sliding sheave bushing	20.2 mm (.7952 in)
	Outer diameter of roller	12.5 mm (.4921 in)
Driven pulley wear limits	Clutch drum inner diameter	107.5 mm (4.2322 in)
	Clutch lining thickness	2 mm (.0787 in)
Driven pulley compression spring	Spring free-length wear limit	93 mm (3.6614 in)
CARBURETION		
Fuel	Type	Premium unleaded gasoline
	Octane	In North America: 91 (R + M)/2 or higher Elsewhere: 95 RON or higher
Carburetor	Make and type	Walbro PZ17
	Preliminary pilot screw adjustment	1.25 ± 0.5 turns
	Idle speed RPM	1700 ± 100
	Throttle free play	2 – 6 mm (0.0787 – .2362 in)
	Float adjustment	26 ± 1 mm (1.0236 ±.0393 in)
	Main jet	75
	Pilot jet	32
Clip position number	2	
Fuel tank	Main	6.0 L (1.6 U.S. gal)
	Reserve	1.5 L (1.59 U.S. quarts)

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ELECTRICAL		
Ignition type		CDI (Capacitor Discharge Ignition)
Spark plug	Make and type	NGK CR7HSA
	Qty	1
	Gap	0.6 – 0.7 mm (.024 – .028 in)
Trigger coil	min. - max. resistance	90–130 Ω
Charging coil	min. - max. resistance	450–500 Ω
Ignition coil	Primary min. — max. resistance	0.5–1.0 Ω
	Secondary min. — max. resistance	4.5–7.0 Ω
Battery	Type	Maintenance free
	Voltage	12 V
	Nominal rating	5 Ah
Charging voltage taken at battery terminals	Required voltage	over 12.8 V
	Insufficient voltage	11.5–12.8 V
Charging current at fuse holder terminals (engine running, fuse removed)		1–3 Amp / 5000 rpm
Starting system		Electric start
Main fuse		7 A
Ignition coil	Primary coil resistance at 20°C (68°F)	0.3–0.5 Ω
	Secondary coil resistance (spark plug cap installed)	9.5–11 kΩ
	Secondary coil resistance (spark plug cap removed)	5–7 kΩ
SUSPENSION		
FRONT		
Suspension type		Independent suspension — Single A-arm
Suspension travel		35 mm (1.378 in)
Spring free length		125 mm (4.921 in)
Front preload adjustment		15 mm (.591 in)
Shock absorber	Qty	2
	Type	Oil dampened
REAR		
Suspension type		Swing arm, single shock
Suspension travel		50 mm (1.958 in)
Spring free length		130 mm (5.118 in)
Rear preload adjustment		10 mm (.394 in)
Shock absorber	Qty	1
	Type	Oil dampened
Maximum vehicle load		70 Kg (154 lb)
Ground clearance	Front	200 mm (8 in)
	Rear	210 mm (8.3 in)
STEERING/CONTROL		
Turning radius		2.5 m (98 in)
Total toe-in (vehicle on ground)		5–10 mm (.196–.393 in)
Camber angle		15°
Tie-rod maximum length unengaged		35±5 mm (1.378± .197 in)
Tie-rod total length		228±5 mm (8.976± .197 in)

MODEL		DS 90 4 Stroke CVT
DRIVE TRAIN		
Rear axle	Type	Chain driven/solid axle
Drive chain	Free play	20 — 30 mm (.7873 — 1.18 in)
Engine sprocket		19
Rear sprocket		40
Rear axle ratio		20.1:1
Drive chain type		428 x 90
TIRES		
Pressure	Front	55 kPa (8 PSI) recommended 41 kPa (6 PSI) minimum
	Rear	
Size	Front	20 x 7 x 8
	Rear	19 x 8 x 8
WHEELS		
Wheel nut torque	Front/Rear	44 N•m (32 lbf•ft)
Size	Front	8 x 5.5
	Rear	8 x 7
BRAKES		
Front	Type	cable type 2 drums
	Brake free play	10 – 20 mm (.39 – .79 in)
Rear	Type	cable type 1 drum
	Brake free play	10 – 20 mm (.39 – .79 in)
Rear brake drum	Maximum diameter	131 mm (5.1574 in)
Brake lining	Minimum thickness	2 mm (.0787 in)
Parking		LH brake lever includes a lock
DIMENSIONS		
Dry mass		113 kg (249 lb)
Overall length		1525 mm (60 in)
Overall width		890 mm (35 in)
Overall height		900 mm (35.4 in)
Wheel base		955 mm (37.6 in)
Seat height		700 mm (27.5 in)