

Features & Specifications

2020 QuadSport Z90



LT-Z90M0

YU1: Champion Yellow No. 2

Key Features

- Designed for adult-supervised riders ages 12 and older
- Adjustable throttle limiter controls speed
- Easy electric starting, plus back-up recoil starter
- Smooth-running CVT automatic transmission
- Competition-inspired styling with new yellow bodywork

Overview

The Suzuki Z90 is the ideal ATV for adult-supervised riders ages 12 and older to develop their skills. Convenient features like an automatic transmission and electric starter help make this ATV suitable for supervised riders ages 12 and up. An easy-to-set throttle limiter lets adults set the power level appropriately for young riders, and a keyed ignition switch makes sure there are no unauthorized journeys. Get your little ones started on the QuadSport Z90, so your whole family can experience the fun of the outdoors and the joy of riding a Suzuki!

Engine Features

- Compact, 90cc, four-stroke, single cylinder, air-cooled engine has been designed for durability and low maintenance.
- Suzuki Composite Electrochemical Material (SCEM) cylinder, derived from Suzuki's high-performance, GSX-R sportbikes, provides durability, weight reduction and superior heat dissipation.
- Smooth running, multi-plate cam chain lets the engine operate quietly. Easy-access oil filter and oil strainer cap reduces service time.
- Clean-burning four-stroke engine easily achieves Environmental Protection Agency (EPA) emissions regulations (eligible for red sticker registration in California).
- Spark-arrestor equipped muffler is environmentally friendly, yet has a pleasant exhaust note.

SUZUKI

Engine Features (continued)

- Large 1.6-gallon (6.0-liter) fuel tank provides long riding time. A vacuum-operated fuel petcock automatically stops fuel flow when the engine's not running.
- A keyed ignition switch lets grown-ups decide when the action begins and ends.
- Simple, screw-type throttle limiter allows adult supervisors to limit the maximum power delivery to suit the rider's ability.
- Speed-limiter collar in the automatic clutch limits top speed to 15 mph. The collar can be removed to increase top speed as the rider gains ability.
- Includes an easy electric starting system plus a standard back-up recoil starter.
- Smooth-running CVT automatic transmission provides easy operation and allows the rider to focus on riding instead of shifting.

Chassis Features

- Child-size (Y-12) controls allow for easy operation.
- Single A-arm front suspension with twin, independent shock absorbers and single-shock rear suspension provide long wheel travel for a smooth, comfortable ride.
- Rear axle shaft has double oil seals for performance and reliability.
- Headlamp style front piece is detachable to achieve the sporty look of the QuadSport Z400.
- Large-diameter, semi-sealed front drum brakes and single fully sealed rear drum brake provide strong braking performance.
- Modern styling with full floorboards creates a big Quad look that also features new yellow bodywork with coordinated graphics.
- One-piece, eight-inch wheels with tubeless tires provide a smooth comfortable ride.
- Strong, high-rigidity steel frame is sturdy and compact.
- The low seat height of just 25.6 inches makes it easy for the rider to get on and operate the ATV.
- Suzuki T-shaped seat design is similar to the QuadSport Z400's for smooth weight transition and a comfortable ride. The seat is easy to remove for service.
- Seat has a durable black cover that complements the ATV's graphics package.
- Competition-inspired bodywork features the new Suzuki Championship Yellow color scheme.
- Safety reflectors added to make the ATV more conspicuous and to comply with vehicle regulations.

Additional Features

- 12-month limited warranty is double the length of most other youth ATVs. Longer coverage and other benefits are available through Suzuki Extended Protection (SEP).
- A variety of Genuine Suzuki Accessories for QuadSport owners are available including a large selection of Suzuki logo apparel.
- Rider Minimum Age: 12 Years Old
- For more details, please visit www.suzukicycles.com.

Specifications LT-Z90M0

P-03: USA

DIMENSIONS AND CURB MASS

Overall length	1 505 mm (59.3 in)
Overall width	875 mm (34.4 in)
Overall height	915 mm (36.0 in)
Wheelbase	1 005 mm (39.6 in)
Ground clearance	150 mm (5.9 in)
Seat height	650 mm (25.6 in)
Front track	700 mm (27.6 in)
Rear track	700 mm (27.6 in)
Curb mass	127 kg (280 lbs)

ENGINE

Type	4-stroke, air-cooled
Number of cylinders	1
Bore	45.5 mm (1.791 in)
Stroke	55.2 mm (2.173 in)
Displacement	90 cm ³ (5.5 cu. in)
Corrected compression ratio	9.5 : 1
Carburetor	MIKUNI VM16, single
Air cleaner	Polyurethane foam element
Starter system	Electric and recoil
Idle speed	1 800 ± 100 r/min

DRIVE TRAIN

Clutch	Dry shoe, automatic, centrifugal type
Gearshift pattern	Automatic
Primary reduction ratio (Automatic drive)	2.645 – 1.621 (Variable change)
Secondary reduction ratio	8.294 (45/17 × 47/15)
Final reduction ratio	2.181 (24/11)
Drive chain	RK530, 60 links

CHASSIS

Front suspension	Independent, swing axle, coil spring, oil damped
Rear suspension	Swingarm type, coil spring, oil damped
Front wheel travel	62 mm (2.4 in)
Rear wheel travel	61 mm (2.4 in)
Caster	3 °
Trail	11 mm (0.43 in)
Toe-in	4.5 mm (0.18 in)
Camber	0.6 °
Steering angle	37.5 ° (right & left)
Turning radius	2.5 m (8.2 ft)
Front brake	Drum brake
Rear brake	Drum brake
Front tire	AT19 × 7-8☆, tubeless
Rear tire	AT19 × 7-8☆, tubeless

Specifications LT-Z90M0

P-03: USA

ELECTRICAL

Ignition type.....	Electronic ignition (CDI)
Ignition timing.....	10 ° B.T.D.C. at 1 800 r/min
Spark plug.....	NGK CR6HSA or DENSO U20FSR-U
Battery.....	12 V 21.6 kC (6 Ah) /10 HR
Fuse	10 A

CAPACITIES

Fuel tank	6.0 L (1.6/1.3 US/lmp gal)
Engine oil, oil change	950 ml (1.0/0.8 US/lmp qt)
with filter change.....	1 050 ml (1.1/0.9 US/lmp qt)
overhaul	1 100 ml (1.2/1.0 US/lmp qt)
Transmission oil, oil change.....	90 ml (3.0/3.2 US/lmp oz)
overhaul	100 ml (3.4/3.5 US/lmp oz)

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Service Data LT-Z90M0

P-03: USA

VALVE + VALVE GUIDE

Unit: mm (in)

ITEM	STANDARD		LIMIT
Valve diam.	IN.	22.5 (0.89)	—
	EX.	19 (0.75)	—
Valve clearance (when cold)	IN.	0.05 – 0.10 (0.002 – 0.004)	—
	EX.	0.10 – 0.15 (0.004 – 0.006)	—
Valve guide to valve stem clearance	IN.	0.010 – 0.037 (0.0004 – 0.0015)	—
	EX.	0.030 – 0.057 (0.0018 – 0.0022)	—
Valve guide I.D.	IN. & EX.	5.500 – 5.512 (0.2165 – 0.2170)	—
Valve stem O.D.	IN.	4.975 – 4.990 (0.1958 – 0.1964)	—
	EX.	4.955 – 4.970 (0.1950 – 0.1956)	—
Valve stem deflection	IN. & EX.	—	0.35 (0.014)
Valve stem runout	IN. & EX.	—	0.05 (0.002)
Valve stem end length	IN. & EX.	—	3.0 (0.12)
Valve head thickness	IN. & EX.	—	0.5 (0.02)
Valve seat width	IN. & EX.	—	—
Valve head radial runout	IN. & EX.	—	0.03 (0.001)
Valve spring free length	IN. & EX.	—	32.8 (1.29)
Valve spring tension	IN. & EX.	110 – 126 N (11.0 – 12.6 kgf, 79.5 – 91.1 lbs) at length 26.8 mm (1.05 in)	—

CAMSHAFT + CYLINDER HEAD

Unit: mm (in)

ITEM	STANDARD		LIMIT
Cam height	IN.	27.92 – 27.97 (1.099 – 1.101)	27.62 (1.087)
	EX.	27.80 – 27.85 (1.094 – 1.096)	27.50 (1.082)
Rocker arm I.D.	IN. & EX.	10.003 – 10.018 (0.393 – 0.394)	—
Rocker arm shaft O.D.	IN. & EX.	9.981 – 9.990 (0.3929 – 0.3933)	—
Cylinder head distortion	—		0.05 (0.002)

CYLINDER + PISTON + PISTON RING

Unit: mm (in)

ITEM	STANDARD		LIMIT
Compression pressure	1 500 kPa (15 kgf/cm ² , 213 psi)		1 300 kPa (13 kgf/cm ² , 185 psi)
Piston-to-cylinder clearance	0.020 – 0.030 (0.0008 – 0.0012)		0.120 (0.0047)
Cylinder bore	45.500 – 45.515 (1.7913 – 1.7919)		Nicks or Scratches
Piston diam.	45.490 – 45.475 (1.7909 – 1.7903) Measure at 10 mm (0.4 in) from the skirt end.		45.380 (1.7860)
Cylinder distortion	—		0.05 (0.002)
Piston ring free end gap	1st	Approx. 5.5 (0.22)	—
	2nd	Approx. 5.3 (0.21)	—
Piston ring end gap	1st	0.10 – 0.25 (0.003 – 0.009)	0.80 (0.031)
	2nd	0.10 – 0.25 (0.003 – 0.009)	0.80 (0.031)
Piston ring to groove clearance	1st	—	0.180 (0.0071)
	2nd	—	0.150 (0.0059)

ITEM	STANDARD		LIMIT
Piston ring groove width	1st	1.01 – 1.03 (0.0397 – 0.0405)	—
	2nd	1.04 – 1.03 (0.0397 – 0.0405)	—
	Oil	2.01 – 2.03 (0.0791 – 0.0799)	—
Piston ring thickness	1st	0.97 – 0.99 (0.0382 – 0.0390)	—
	2nd	0.97 – 0.99 (0.0382 – 0.0390)	—
Piston pin bore I.D.	14.002 – 14.008 (0.5512 – 0.5514)		14.030 (0.5523)
Piston pin O.D.	13.986 – 14.000 (0.5506 – 0.5511)		13.980 (0.5503)

CONROD + CRANKSHAFT

Unit: mm (in)

ITEM	STANDARD	LIMIT
Conrod small end I.D.	14.006 – 14.024 (0.5514 – 0.5521)	14.040 (0.5527)
Conrod deflection	—	3.0 (0.12)
Conrod big end side clearance	0.10 – 0.45 (0.006 – 0.019)	1.0 (0.04)
Conrod big end width	16.95 – 17.00 (0.67 – 0.669)	—
Crank web to web width	49.0 ± 1 (1.9291 ± 0.004)	—
Crankshaft runout	—	0.08 (0.003)

CLUTCH

Unit: mm (in)

ITEM	STANDARD	LIMIT
Clutch housing I.D.	110.00 – 110.15 (4.331 – 4.337)	110.50 (4.350)
Clutch shoe thickness	4.0 (0.16)	2.5
Clutch engagement	2 800 – 3 400 r/min.	—
Clutch lock-up	5 400 – 6 000 r/min.	—

REDUCTION GEAR + DRIVE BELT + DRIVE CHAIN

Unit: mm (in) Except ratio

ITEM	STANDARD		LIMIT
Reduction ratio	Variable change (2.645 – 1.621)		—
Reduction gear ratio	8.294 (47/17 × 47/15)		—
Final reduction ratio	2.181 (24/11)		—
Drive belt width	19.9 (0.78)		18.9 (0.74)
Movable driven face spring free length	105.0 (4.13)		99.8 (3.92)
Drive chain	Type	RK 530	—
	Links	60	—
	20-pitch length	—	319.4 (12.57)
Drive chain slack	15 – 25 (0.6 – 1.0)		—

CARBURETOR

ITEM	SPECIFICATION	
Carburetor type	MIKUNI VM16H	
Bore size	16 mm	
I.D.No.	08H0	
Idle r/min	1 800 ± 100 r/min.	
Float height	16 ± 1.0 mm (0.6 ± 0.04 in)	
Main jet (M.J.)	#80	
Jet needle (J.N.)	4LA43-1	
Needle jet (N.J.)	E-1M	
Pilot jet (P.J.)	#17.5	
Air screw (A.S.)	PRE-SET (1, ¾)	
Throttle cable play	3 – 5 mm (0.12 – 0.20 in)	

ELECTRICAL

Unit: mm (in)

ITEM		STANDARD/SPECIFICATION	LIMIT	NOTE
Spark plug	Type	NGK: CR6HSA DENSO: U20FSR-U	—	
	Gap	0.7 – 0.8 (0.028 – 0.031)	—	
Spark performance	Over 8 (0.3) at 1 atm.		—	
Ignition coil resistance	Primary	0.1 – 0.7 Ω	—	Terminal – Terminal
	Secondary	14 – 20 k Ω	—	Plug cap – Terminal
Ignition coil primary peak voltage	150 V and more		—	⊕: Ground ⊖: B
CKP sensor peak voltage	1.5 V and more		—	⊕: Br ⊖: Ground
Generator coil resistance	Charging	0.5 – 2.0 Ω	—	W/R – Ground
	CKP sensor	150 – 230 Ω	—	Br – Ground
Generator no-load voltage (when engine is cold)	20 V (AC) and more at 2 800 r/min.		—	
Generator output	70 W at 5 000 r/min.		—	
Regulated voltage	13.5 – 15.2 V		—	
Starter relay resistance	3 – 6 Ω		—	
Battery	Type designation	YTX7A-BS	—	
	Capacity	12 V 21.6 kC (6 Ah)/10 HR	—	
Fuse size	Main	10 A	—	
Starter motor brush length	7.0 (0.27)		5.0 (0.19)	

BRAKE + WHEEL

Unit: mm (in)

ITEM	STANDARD		LIMIT
Front brake lever play	4 – 6 (0.16 – 0.24)		—
Rear brake lever play	3 – 5 (0.12 – 0.26)		—
Brake drum I.D.	Front	—	110.7 (4.35)
	Rear	—	130.7 (5.14)
Rear axle runout	Rear	—	6.0 (0.23)
Wheel rim size	Front & Rear	AT19 × 7 – 8 ☆	—
Toe-in (with 63 kg)	4.5 ± 3 (0.17 ± 0.1)		—
Turning radius	2.5 m (8.2 ft)		—
Camber	+0.6		—
Caster	3°		—
Trail	11 (0.4)		—
Steering angle	37.5° (Right & Left)		—

TIRE

Unit: mm (in)

ITEM	STANDARD		LIMIT
Cold inflation tire pressure (Solo riding)	Front	22.5 kPa (0.225 kgf/cm ² , 3.3 psi)	—
	Rear	20 kPa (0.20 kgf/cm ² , 2.9 psi)	—
Tire size	Front	AT 19 × 7-8 ☆, tubeless	—
	Rear	AT 19 × 7-8 ☆, tubeless	—
Tire tread depth	Front	—	4.0 (0.16)
	Rear	—	4.0 (0.16)

SUSPENSION

Unit: mm (in)

ITEM	STANDARD	LIMIT
Front wheel travel	62 (2.4)	—
Rear wheel travel	61 (2.4)	—
Swingarm pivot shaft runout	—	0.6 (0.02)

FUEL + OIL

ITEM	SPECIFICATION		NOTE
Fuel type	Use only unleaded gasoline of at least 87 pump octane (R/2 + M/2) or 91 octane or higher rated by the Research Method. Gasoline containing MTBE (Methyl Tertiary Butyl Ether), less than 10 % ethanol, or less than 5 % methanol with appropriate cosolvents and corrosion inhibitor is permissible.		_____
Fuel tank capacity	6.0 L (0.7/0.6 US/lmp gal)		
Engine oil type	SAE 10W-40, API SF/SG or SH/SJ with JASO MA		
Engine oil capacity	Change	950 ml (1.6/1.3 US/lmp qt)	
	Filter charge	1 050 ml (2.21/1.84 US/lmp qt)	
	Overhaul	1 100 ml (1.2/1.0 US/lmp qt)	
Final reduction gear box oil type	SAE 10W-40, API SF/SG or SH/SJ with JASO MA		
Final reduction gear box oil capacity	Change	90 ml (3.0/3.2 US/lmp oz)	
	Overhaul	100 ml (3.4/3.5 US/lmp oz)	

TIGHTENING TORQUE

ENGINE

ITEM		N-m	kgf-m	lb-ft
Cylinder head cover bolt	Initial	10	1.0	7.0
	Final	14	1.4	10.0
Cylinder head nut	M12	25	2.5	18.0
	M10	10	1.0	7.0
Valve clearance adjuster locknut		10	1.0	7.0
Cam sprocket bolt		11	1.1	8
Cam chain guide mounting bolt		10	1.0	7.0
Cam shaft retainer screw		5.5	0.55	4.0
Cam chain tension adjuster mounting bolt		10	1.0	7.0
Generator rotor nut		80	8.0	58.0
Limit clutch nut		75	7.5	54
Clutch shoe nut		60	6.0	43.5
Fixed drive face nut		50	5.0	36.0
Starter clutch bolt		10	1.0	7.0
Generator coil mounting bolt		10	1.0	7.0
CKP sensor mounting bolt		6	0.6	4.5
Crankcase bolt		10	1.0	7.0
Generator rotor cover bolt		10	1.0	7.0
Generator cover cap		15	1.5	11.0
Valve timing inspection plug		17.5	1.75	12.5
Crank case cover bolt		10	1.0	7.0
Engine oil drain plug		17.5	1.75	12.5
Final reduction gear box cover bolt		10	1.0	7.0
Final reduction gear box drain		10	1.0	7.0
Engine mounting nut	(Front)	100	10	72.5
	(under and rear)	60	6.0	43.5
Engine mounting upper bracket		35	3.5	25.5
Muffler mounting bolt		23	2.3	16.5
Muffler clamp bolt		12	1.2	8.5
Exhaust pipe nut		23	2.3	16.5
Recoil starter friction plate bolt		5	0.5	3.5
Spark plug		11	1.1	8.0
Carburetor mounting bolt		6	0.6	4.5
Intake pipe bolt		6	0.6	4.5
Main oil gallery plug		12	1.2	8.5
Starter motor lead wire mounting bolt		4	0.4	3.0
Starter relay lead wire mounting bolts		4.5	0.45	3.0
Rear axle housing bolt		60	6.0	43.5

FUEL

ITEM	N·m	kgf-m	lb-ft
Fuel valve bolt	4.5	0.45	3.0

CHASSIS

ITEM	N·m	kgf-m	lb-ft
Front suspension arm pivot nut	65	6.5	47.0
Steering knuckle arm nut	60	6.0	43.5
Tie-rod end nut	50	5.0	36.0
Tie-rod locknut	29	2.9	21.0
Steering shaft lower nut	35	3.5	25.5
Steering shaft holder bolt	23	2.3	17.0
Handlebar clamp bolt	25	2.5	18.0
Front shock absorber bolt (upper and lower)	50	5.0	36.0
Front hub nut	65	6.5	47.0
Wheel set nut (front and rear)	55	5.5	40.0
Front brake cable equalizer bolt	8	0.8	6.0
Front brake cam lever nut	8	0.8	5.8
Swingarm pivot nut	102	10.2	74.0
Rear shock absorber bolt (upper)	29	2.9	21.0
(lower)	94	9.4	68.0
Rear hub nut	75	7.5	54.0
Rear brake cam lever nut	8	0.8	6.0
Rear axle housing set bolt	110	11.0	79.0
Rear sprocket nut	28	2.8	20.0
Footrest mounting bolt	55	5.5	40.0
Rear axle nut	180	18.0	130.0