Features & Specifications
2019 DR-Z50

DR-Z50L9

YU1: Champion Yellow No.2

Key Features

- Reliable and easy-to-control 49cc 4-stroke engine
- Smooth-shifting 3-speed transmission with automatic clutch
- Push-button electric starting with back-up kick starter
- Keyed ignition and power limiter for parental control
- Champion-approved RM-Z styling and graphics

Overview

The new 2019 Suzuki DR-Z50 is the ideal way to introduce young, beginning riders to the sport of motorcycling. This compact, Suzuki-built mini-bike brings ease and convenience to riders just getting started on two wheels. With an automatic clutch, 3-speed transmission, electric starting and a low 22-inch seat height, this race styled bike will help build confidence and riding ability for young supervised riders. The 49cc engine delivers a smooth, controllable powerband and adult supervisors can adjust its power level so young riders can learn at a proper pace.

This motorcycle can be in the family for years thanks to its rugged construction and sturdy 10-inch wheels; the Suzuki DR-Z50 combines a reliable engine with quality running gear that's built to last. The 2019 DR-Z50 is the ideal way to get your whole family involved in motorcycling!

Engine Features

- Powered by a reliable 49cc, 4-stroke engine has plenty of torque to deliver the right level of controllable performance for a younger rider.
- The DR-Z50's engine has a smooth powerband with peak power that can be set via the adjustable throttle limiter that allows supervising adults to control engine output to suit the rider's ability
- Starting the DR-Z50 requires a simple push of the electric start button. Riders can also kick start the bike so a fun day of riding is always available.

Engine Features (continued)

- **Adult supervision is essential so young riders get off to a safe and fun start to motorcycling, the DR-Z50 provides the security of a keyed ignition so the engine can't run unless an adult has switched the switch "ON".**
- **Clean-burning four-stroke engine is EPA Emissions and California Red-sticker compliant.**
- **Spark-arrester equipped muffler is environmentally friendly, yet has a pleasant exhaust note.**

Transmission Features

- **The easy-to-use automatic clutch smoothly transmits power through the three speed transmission so beginner riders learn key shifting techniques while building the joy of riding.**

Chassis Features

- **Inverted front forks feature RM-Z inspired design to produce enjoyable riding on a variety of terrain surfaces with 3.8 inches of front wheel travel to absorb bumps.**
- **Aggressive RM-Z inspired styling with bright yellow body work and matching graphics. Let's the rider enjoy a big bike look and appeal.**
- **Don't be fooled by the DR-Z50's light weight, as it has a durable, steel frame and swingarm designed to carry a wide range of riders and can easily tackle a variety of riding conditions.**
- **Low 22-inch seat height for entry level riders with a slightly forward-leaning riding position for maximum rider mobility.**
- **Strong braking performance provided by front and rear drum brakes. Adjustable front brake lever to fit various sized hands producing optimum control for young riders.**

Safety Features

- **The DR-Z50 is designed for use by children and off-road use only — do not use on public roads. Single rider only — weight limit 40 kg (88 lbs.).**
- **The DR-Z50 is not recommended for children under age 7. Parental supervision required during operation. Rider must always wear a helmet, eye protection and protective clothing. Ride safety and be thoughtful of others.**

Additional Features

- **Six-month limited-warranty. Longer coverage periods with other benefits are available through Suzuki Extended Protection (SEP).**
- **A variety of Genuine Suzuki Accessories for DR-Z50 families are available including a large selection of Suzuki logo apparel.**
- **For more details, please visit www.suzukicycles.com.**

Specifications DR-Z50L9
E-03: USA, E-33: California

Item		Specification
Model		JA42A
Overall length		1.320 m
Overall width		0.580 m
Overall height		0.790 m
Curb mass		54 kg
Wheelbase		0.935 m
Ground clearance		0.135 m
Seat height		0.560 m
Tire size	Front	2.50-10 33J iX07S, tube type
	Rear	2.50-10 33J iX07S, tube type
Turning radius		1.4 m
Engine type		Four-stroke, single-cylinder OHC
Cooling system		Air-cooled
Fuel supply system		Carburetor/MIKUNI VM13
Air cleaner		Polyurethane foam element
Starter system		Electric and kick
Lubrication system		Wet sump
Displacement		0.049 L
Bore × Stroke		39.0 × 41.8 mm
Compression ratio		9.7
Idle speed		1700 r/min
Clutch type		Wet-shoe and wet, multi-plate clutch
Transmission		3-speed, constant mesh return
Reduction ratios	Primary	3.823
	Secondary	2.833
Gear ratios	Low	3.400
	2nd	1.812
	3rd	1.200
Drive chain		D.I.D 428, 78 links
Front suspension		Telescopic, coil spring
Rear suspension		Swingarm type, coil spring
Front suspension travel		96 mm
Rear wheel travel		76 mm
Caster		24°20’
Trail		35 mm
Brake type	Front	Leading/trailing
	Rear	Leading/trailing
Fuel tank capacity		3 L
Ignition type		CDI, battery ignition
Ignition timing		BTDC15°/1700 r/min

Valve + Guide

Unit: mm

Item	Standard		Service limit
Valve diameter	IN.	20.0	—
	EX.	17.0	—
Valve clearance (When engine cold)	IN.	0.04 – 0.07	—
	EX.	0.05 – 0.10	—
Valve guide to valve stem clearance	IN.	0.010 – 0.037	—
	EX.	0.030 – 0.057	—
Valve guide I.D.	IN. & EX.	5.000 – 5.012	—
Valve stem O.D.	IN.	4.975 – 4.990	—
	EX.	4.955 – 4.970	—
Valve stem deflection	IN. & EX.	—	0.35
Valve stem runout	IN. & EX.	—	0.05
Valve head thickness	IN. & EX.	—	0.5
Valve stem end length	IN. & EX.	—	2.2
Valve seat width	IN. & EX.	0.9 – 1.1	—
Valve head radial runout	IN. & EX.	—	0.03
Valve spring free length	IN. & EX.	—	34.5
Valve spring tension	IN. & EX.	157 – 181 N (16.0 – 18.5 kgf) at length 25.5 mm	—

Camshaft + Cylinder Head

Unit: mm

Item	Standard		Service limit
Cam height	IN.	27.39 – 27.43	27.09
	EX.	27.25 – 27.29	26.95
Rocker arm I.D.	IN. & EX.	10.003 – 10.018	—
Rocker arm shaft O.D.	IN. & EX.	9.981 – 9.990	—
Cylinder head distortion	—		0.05

Cylinder + Piston + Piston Ring
Unit: mm

Item	Standard			Service limit
Compression pressure	1300 – 1700 kPa (13 – 17 kgf/cm^2)			1100 kPa (11 kgf/cm^2)
Piston to cylinder clearance	0.015 – 0.025			0.120
Cylinder bore	39.000 – 39.015			No nicks or scratches
Piston diameter	38.980 – 38.995 (at least 12 mm from the bottom edge of pistons)			38.880
Cylinder distortion	—			0.05
Piston ring free end gap	1st	O	Approx. 5.1	4.1
	2nd	RN	Approx. 4.9	3.9
Piston ring end gap	1st		0.05 – 0.15	0.50
	2nd		0.05 – 0.15	0.50
Piston ring to groove clearance	1st		—	0.18
	2nd		—	0.15
Piston ring groove width	1st		0.81 – 0.83	—
	2nd		0.81 – 0.83	—
	Oil		1.51 – 1.53	—
Piston ring thickness	1st		0.77 – 0.79	—
	2nd		0.77 – 0.79	—
Piston pin bore I.D.	12.002 – 12.008			12.030
Piston pin O.D.	11.996 – 12.000			11.980

Conrod + Crankshaft
Unit: mm

Item	Standard	Service limit
Conrod small end I.D.	12.006 – 12.014	12.040
Small end of conrod runout	—	3.0
Conrod big end side clearance	0.10 – 0.45	1.0
Conrod big end width	13.95 – 14.00	—
Crank web-to-web width	38 ± 0.1	—
Crankshaft thrust clearance	0.02 – 0.07	—
Crankshaft runout	—	0.080

Oil Pump

Item	Standard	Service limit
Oil pressure (at 60°C)	15 – 40 kPa (0.15 – 0.40 kgf/cm^2) at 3000 r/min	—

Clutch
Unit: mm

Item	Standard		Service limit
Amount by which to turn back the clutch release adjustment bolt	Gently turn the bolt counter-clockwise fully (1 N·m) to loosen the bolt and then turn it back in the other direction for 1/8 of a rotation		—
Clutch drive plate thickness	2.5 – 2.7		2.2
Width between clutch drive plate teeth	15.65 – 15.95		15.15
Clutch driven plate thickness	No. 1	2.02 – 2.18	1.72
	No. 2	2.5 – 2.7	2.3
Clutch housing inner diameter	105.00 – 105.15		105.50
Clutch shoe groove depth	1.0		0.5
Clutch-in speed	2000 – 2400 r/min		—
Tight-clutch speed	3100 – 3700 r/min		—

Drive Train + Drive Chain

Unit: mm (Except gear ratio)

Item		Specifications		Service limit
Primary reduction ratio		3.823		—
Secondary reduction ratio		2.833		—
Gear ratios	Low	3.400		—
	2nd	1.812		—
	Top	1.200		—
Gearshift fork to groove clearance		No. 1 & No. 2	0.1 – 0.3	0.5
Gearshift fork groove width		No. 1 & No. 2	4.5 – 4.6	—
Thickness of gearshift fork teeth		No. 1 & No. 2	4.3 – 4.4	—
Drive chain		Type	D.I.D428	—
		Links	78	—
		20-pitch length	—	259
Drive chain slack (No load, side stand engaged)		25 – 35		—

Carburetor

Item	Specification
Carburetor type	MIKUNI VM13SH
Main bore diameter	ø13
Carburetor identification mark	14HB
Idle speed	1700 ± 100 r/min
Oil level height	No more than 4.5 ± 1.0 mm from the reference point (reference)
Float height	23.4 mm (Reference)
Main jet (M.J.)	#55
Main air jet (M.A.J.)	1.2
Piston valves (C.A.)	3.5
Jet needle (J.N.)	3L43–1
Needle jet (N.J.)	E–5M
Pilot jet (P.J.)	#17.5
Pilot outlet (P.O.)	ø0.8
Starter jet (G.S.)	15
Air screw (A.S.)	One rotation of looseness (reference)
Valve seat (V.S.)	1.2
Throttle cable play	2.0 – 4.0 mm

Electrical

Item		Standard		Note
Spark plug		Type	NGK CR7HS DENSO U22FSR–U	
		Gap	0.6 – 0.7 mm	
Spark performance		8 mm or more		
Ignition coil resistance		Primary coil	0.1 – 0.8 Ω	Terminal – Terminal
		Secondary coil	13 – 20 kΩ	Plug cap – (–) Terminal
Ignition coil primary peak voltage		150 V and more (When cranking)		(+): B/W – (–): B/Y
Pick-up coil resistance		150 – 240 Ω		B/Bl – Ground
Pick-up coil peak voltage		1.2 V and more (When cranking)		(+): B/Bl – (–): Ground
Maximum magnet output		Approx. 60 W at 5000 r/min		
Stator coil resistance		0.6 – 2.0 Ω		B/R – Ground
No-load stator coil voltage (cold starts)		30 V and more at 5000 r/min		
Regulated voltage		13.5 – 15.2 V at 5000 r/min		
Starter motor brush length		Standard	6.0 mm	
		Service limit	3.5 mm	
Starter relay resistance		70 – 90 Ω		
Battery	Type	YT4B–BS		
	Capacity	12 V 8.28 kC (10 Ah)/10 HR		
Fuse		Main	10 A	

Brake + Wheel

Unit: mm

Item	Standard		Service limit
Brake lever play	15 – 25		—
Rear brake pedal play	15 – 20		—
Brake drum I.D.	Front	—	80.7
	Rear	—	80.7
Wheel rim runout	Horizontal	—	2.0
	Lateral	—	2.0
Wheel rim size	Front	10 × 1.40	—
	Rear	10 × 1.40	—
Accelerator shaft runout	Front	—	0.25
	Rear	—	0.25

Tire
Unit: mm

Item	Specifications		Service limit
Tire pressure	Front	100 kPa (1.00 kgf/cm^2)	—
	Rear	125 kPa (1.25 kgf/cm^2)	—
Tire size	Front	2.50–10 33J	—
	Rear	2.50–10 33J	—
Tire type	Front	IRC iX07S	—
	Rear	IRC iX07S	—
Recommended tire wear limits	Front	—	4.0
	Rear	—	4.0

Suspension
Unit: mm

Item	Standard	Service limit
Front fork stroke	96	—
Front fork spring free length	157.8	154
Front fork inner tube O.D.	21.7	—
Rear wheel travel	76	—
Swingarm pivot shaft runout	—	0.6

Fuel + Oil

Item	Specification		Note
Fuel tank capacity	Including reserve	3.0 L	
	Reserve	Approx. 0.8 L	
Engine oil capacity	Oil change	550 ml	
	Overhaul	700 ml	

Tightening Torque List

Maintenance and Lubrication

Fastening part	Tightening torque		
	N·m	kgf-m	lbf-ft
Exhaust pipe bolt	10	1.0	7.5
Muffler mounting nut	23	2.3	17.0
Valve adjuster lock-nut	10	1.0	7.5
Spark plug	11	1.1	8.5
Spark arrester bolt	10	1.0	7.5
Engine oil drain plug	18	1.8	13.5
Clutch release adjustment bolt lock nut	10	1.0	7.5
Rear axle nut	54	5.5	40.0
Spoke nipple	2.0	0.20	1.50

Engine Mechanical

Fastening part	Tightening torque		
	N·m	kgf-m	lbf-ft
Engine mounting nut	31	3.2	23.0
Footrest mounting bolt	23	2.3	17.0
Cylinder head nut	11	1.1	8.5
Cylinder nut	10	1.0	7.5
Cylinder head bolt	10	1.0	7.5
Camshaft sprocket bolt	11	1.1	8.5
Cam chain tension adjuster bolt	10	1.0	7.5
Crankshaft hole plug	11	1.1	8.5
TDC plug	21	2.1	15.5
Intake pipe nut	10	1.0	7.5
Spark plug	11	1.1	8.5
Cam chain tensioner bolt	8.0	0.82	5.90
Crankcase bolt	10	1.0	7.5

Engine Lubrication System

Fastening part	Tightening torque		
	N·m	kgf-m	lbf-ft
Oil gallery plug	10	1.0	7.5
Oil filter case nut	63	6.4	46.5

Fuel System

Fastening part	Tightening torque		
	N·m	kgf-m	lbf-ft
Fuel cock bolt	4.4	0.45	3.25
Carburetor mounting bolt	6.5	0.66	4.80

Starting System

Fastening part	Tightening torque		
	N·m	kgf-m	lbf-ft
Starter motor mounting bolt	10	1.0	7.5
Starter clutch bolt	10	1.0	7.5

Charging System

Fastening part	Tightening torque		
	N·m	kgf-m	lbf-ft
Stator coil bolts	10	1.0	7.5
Pick-up coil bolts	4.5	0.46	3.35
Magnet lead wire clamp bolt	10	1.0	7.5
Magnet rotor nut	55	5.6	40.5
Magnet cover bold	10	1.0	7.5

Exhaust System

Fastening part	Tightening torque		
	N·m	kgf-m	lbf-ft
Exhaust pipe bolt	10	1.0	7.5
Muffler mounting nut	23	2.3	17.0

Front Suspension

Fastening part	Tightening torque		
	N·m	kgf-m	lbf-ft
Front fork upper bracket bolt	45	4.6	33.5

Rear Suspension

Fastening part	Tightening torque		
	N·m	kgf-m	lbf-ft
Rear shock absorber nut [Upper and Lower]	50	5.1	37.0
Swingarm pivot nut	42	4.3	31.0

Wheels and Tires

Fastening part	Tightening torque		
	N·m	kgf-m	lbf-ft
Front axle nut	53	5.4	39.0
Rear axle nut	54	5.5	40.0

Drive Chain / Drive Train / Drive Shaft

Fastening part	Tightening torque		
	N·m	kgf-m	lbf-ft
Rear sprocket nut	27	2.8	20.0

Front Brakes

Fastening part	Tightening torque		
	N·m	kgf-m	lbf-ft
Brake cam lever nut	3.0	0.31	2.25

Manual Transmission

Fastening part	Tightening torque		
	N·m	kgf-m	lbf-ft
Gearshift arm stopper	19	1.9	14.0

Clutch

Fastening part	Tightening torque		
	N·m	kgf-m	lbf-ft
Clutch cover bolt	10	1.0	7.5

Steering / Handlebar

Fastening part	Tightening torque		
	N·m	kgf-m	lbf-ft
Handlebars set bolt	23	2.3	17.0
Front fork upper bracket bolt	45	4.6	33.5

Body Structure

Fastening part	Tightening torque		
	N·m	kgf-m	lbf-ft
Footrest mounting bolt	23	2.3	17.0

Fuel / Oil / Recommendation

BENK42H10108003

Fuel

NOTICE

Do not use leaded gasoline. If it is used, the engine and the emission control system will be damaged.

Use unleaded gasoline with an octane rating of 87 AKI or higher.
Unleaded gasoline containing up to 10% ethanol by volume may be used.

Engine Oil

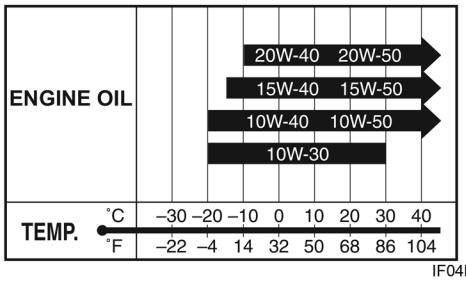
Use Suzuki genuine engine oil or equivalent.
If Suzuki genuine engine oil is not available, select a proper engine oil according to the following guideline.

	Engine oil
API service classification	SG, SH, SJ, SL, SM or SN
JASO T903 standard	MA
Viscosity	SAE 10W-40

If SAE 10W-40 engine oils are not available, select oils of an appropriate viscosity grade according to the following chart.

NOTICE

When 10W-30 engine oil is used, use only SG, SH, SJ, SL API classification. If there are not used API classification engine oils, the engine will be damaged.



IF04K1030001-01

Suzuki does not recommend the use of engine oils which have an “ENERGY CONSERVING” or “RESOURCE CONSERVING” indication in the API service symbol for any of its motorcycles / ATVs.

ID26J1030005-02

Suzuki recommends the use of SUZUKI PERFORMANCE 4 MOTOR OIL.