



ATV
2012 Model: LT-F400F/CL2
Date: March 2011

MSRP \$6,199



Key Features

1. Fuel-injected 376cm³ 4-stroke 4-valve engine with cam profiles and inner structures of the muffler, built for more powerful and efficient performance.
2. Fuel injection contributes to smooth power output, especially in the mid-to-high rpm range, as well as more consistent cold starts.
3. The fuel injection system uses 3-D ignition maps for optimum ignition, targeting a responsive yet environmentally efficient performance.
4. The powerplant is air-cooled with SACS, Suzuki's well-proven, efficient air/oil-cooling system.
5. Functional and efficient semi-automatic 5-speed transmission.
6. A gate-type shift lever allows simple and precise shifting from reverse through neutral, high and low ranges.
7. Selectable 4WD. Easy switch into 2WD using a handlebar-mounted lever.
8. Torque-sensing limited slip differential provides maximum traction and light steering effort when in 4WD mode.

9. Independent front A-arm suspension. Swingarm rear suspension with unique dual shock absorbers delivering the comfort benefits of a fully independent suspension.
10. Front brake calipers with a large 34mm piston diameter and matching large brake-pad surface area.
11. Sporty bodywork featuring sharply angled, high-clearance fenders.
12. Front bumper with large-diameter steel tubing enhances the robust looks.
13. Lightweight and strong plastic skid plates, sturdy enough to withstand pounding of trail hazards yet slippery to help let obstacles slide below.
14. Suzuki's exclusive T-shaped seat, designed for all-day comfort and easier body-weight transition.
15. Full floorboards with integrated, raised footpegs and ample drain holes.
16. Dual 35W headlights with high and low settings and a distinctive KINGQUAD shape.
17. LCD digital Instrumentation includes speedometer, odometer, tripmeter, hour meter, clock, fuel gauge and indicator lamps for reverse gear, neutral, oil and FI.

MSRP \$6,599



Realtree Hardwoods HD Enhanced (YVA)

ELECTRICAL

Ignition type.....	Electronic ignition (Transistorized)
Ignition timing.....	7° B.T.D.C. at 1500 r/min
Spark plug.....	NGK CR7E or DENSO U22ESR-N
Battery.....	12V 43.2 kC (12 Ah)/10 HR
Generator.....	Three-phase A.C. generator
Main fuse.....	30A
Fuse.....	10/10/10/10/10/15A
Headlight.....	12V 35/35W (HS1) × 2
Brake light/Tailight.....	12V 21/5W
Speedometer light.....	LED
Oil temperature indicator light.....	LED
Neutral indicator light.....	LED
Reverse indicator light.....	LED
FI indicator light.....	LED

CAPACITIES

Fuel tank, including reserve.....	16.0 L (4.2/3.5 US/Imp gal)
Engine oil, oil change.....	3000 ml (3.2/2.6 US/Imp qt)
with filter change.....	3200 ml (3.4/2.8 US/Imp qt)
overhaul.....	3500 ml (3.7/3.1 US/Imp qt)
Differential gear oil.....	300 ml (10.1/10.6 US/Imp oz)
Final gear oil.....	350 ml (11.8/12.3 US/Imp oz)

Model: LT-F400L2 P-24
LT-F400FL2 P-17, 24, 28, 33
LT-F400FZL2 P-17, 28, 33

Date: July 25, 2011

SERVICE DATA

Valve + Valve Guide

Unit: mm (in)

Item	Standard		Limit
Valve diam.	IN.	30.6 (1.20)	—
	EX.	27.0 (1.06)	—
Valve clearance (when cold)	IN.	0.05 – 0.10 (0.002 – 0.004)	—
	EX.	0.22 – 0.27 (0.009 – 0.011)	—
Valve guide to valve stem clearance	IN.	0.010 – 0.037 (0.0004 – 0.0015)	—
	EX.	0.030 – 0.057 (0.0012 – 0.0022)	—
Valve guide I.D.	IN. & EX.	5.000 – 5.012 (0.1969 – 0.1973)	—
Valve stem O.D.	IN.	4.975 – 4.990 (0.1959 – 0.1965)	—
	EX.	4.955 – 4.970 (0.1951 – 0.1957)	—
Valve stem deflection	IN. & EX.	—	0.35 (0.014)
Valve stem runout	IN. & EX.	—	0.05 (0.002)
Valve head thickness	IN. & EX.	—	0.5 (0.02)
Valve stem end length	IN. & EX.	—	2.3 (0.09)
Valve seat width	IN. & EX.	0.9 – 1.1 (0.035 – 0.043)	—
Valve head radial runout	IN. & EX.	—	0.03 (0.001)
Valve spring free length	IN. & EX.	—	40.9 (1.61)
Valve spring tension	IN. & EX.	Approx. 196 N (20.0 kgf, 44.1 lbs) at length 31.5 mm (1.24 in)	—

Camshaft + Cylinder Head

Unit: mm (in)

Item	Standard		Limit
Cam height	IN.	33.200 – 33.250 (1.3071 – 1.3091)	32.900 (1.2953)
	EX.	33.180 – 33.230 (1.3063 – 1.3083)	32.880 (1.2945)
Camshaft journal oil clearance	φ 22	0.032 – 0.066 (0.0013 – 0.0026)	0.150 (0.0059)
	φ 17.5	0.028 – 0.059 (0.0011 – 0.0023)	0.150 (0.0059)
Camshaft journal holder I.D.	φ 22	22.012 – 22.025 (0.8666 – 0.8671)	—
	φ 17.5	17.512 – 17.525 (0.6894 – 0.6900)	—
Camshaft journal O.D.	φ 22	21.959 – 21.980 (0.8645 – 0.8654)	—
	φ 17.5	17.466 – 17.484 (0.6876 – 0.6883)	—
Camshaft runout	—		0.10 (0.004)
Rocker arm I.D.	IN. & EX.	12.000 – 12.018 (0.4724 – 0.4731)	—
Rocker arm shaft O.D.	IN. & EX.	11.973 – 11.984 (0.4714 – 0.4718)	—
Cylinder head distortion	—		0.05 (0.002)
Cylinder head cover distortion	—		0.05 (0.002)

Cylinder + Piston + Piston Ring

Unit: mm (in)

Item	Standard			Limit
Compression pressure (Automatic-decomp. actuated)	Approx. 1 000 kPa (10.0 kgf/cm ² , 142 psi)			—
Piston to cylinder clearance	0.065 – 0.075 (0.0026 – 0.0030)			0.120 (0.0047)
Cylinder bore	82.000 – 82.015 (3.2283 – 3.2289)			82.070 (3.2311)
Piston diam.	81.930 – 81.945 (3.2256 – 3.2262) Measure at 15 mm (0.6 in) from the skirt end.			81.880 (3.2236)
Cylinder distortion	—			0.05 (0.002)
Piston ring free end gap	1st	R	Approx. 8.9 (0.35)	7.1 (0.28)
	2nd	R	Approx. 10.4 (0.41)	8.3 (0.33)
Piston ring end gap	1st		0.15 – 0.27 (0.006 – 0.011)	0.50 (0.020)
	2nd		0.15 – 0.27 (0.006 – 0.011)	0.50 (0.020)
Piston ring to groove clearance	1st		—	0.180 (0.0071)
	2nd		—	0.150 (0.0059)
Piston ring groove width	1st		1.01 – 1.03 (0.0398 – 0.0406)	—
	2nd		1.01 – 1.03 (0.0398 – 0.0406)	—
	Oil		2.01 – 2.03 (0.0791 – 0.0799)	—
Piston ring thickness	1st		0.970 – 0.990 (0.0382 – 0.0390)	—
	2nd		0.970 – 0.990 (0.0382 – 0.0390)	—
Piston pin bore	20.002 – 20.008 (0.7875 – 0.7877)			20.030 (0.7886)
Piston pin O.D.	19.996 – 20.000 (0.7872 – 0.7874)			19.980 (0.7866)

Conrod + Crankshaft

Unit: mm (in)

Item	Standard			Limit
Conrod small end I.D.	20.006 – 20.014 (0.7876 – 0.7879)			20.040 (0.7890)
Conrod deflection	—			3.0 (0.12)
Conrod big end side clearance	0.00 – 0.55 (0.000 – 0.022)			1.0 (0.04)
Conrod big end width	21.95 – 22.00 (0.864 – 0.866)			—
Conrod web to web width	59.9 – 60.1 (2.36 – 2.37)			—
Crankshaft runout	—			0.080 (0.0031)

Oil Pump

Item	Standard			Limit
Oil pressure (at 60 °C, 140 °F)	Above 60 kPa (0.6 kgf/cm ² , 9 psi) Below 100 kPa (1.0 kgf/cm ² , 14 psi) at 3 000 r/min			—

Clutch

Unit: mm (in)

Item	Standard			Limit
Clutch release screw	1/16 – 1/8 turns back			—
Drive plate thickness	2.92 – 3.08 (0.115 – 0.121)			2.62 (0.103)
Drive plate claw width	13.85 – 13.95 (0.545 – 0.549)			13.05 (0.514)
Driven plate distortion	—			0.10 (0.004)
Clutch spring free length	37.44 (1.47)			35.6 (1.40)
Clutch wheel I.D.	140.0 – 140.2 (5.512 – 5.520)			140.5 (5.53)
Clutch shoe thickness	—			No groove at any part
Clutch engagement r/min	1 500 – 2 000 r/min			—
Clutch lock-up r/min	3 300 – 3 900 r/min			—

Drive Train

Unit: mm (in) Except ratio

Item		Standard	Limit
Primary reduction ratio		2.392 (67/28)	—
Secondary reduction ratio		1.133 (17/15)	—
Final reduction ratio	Front	3.600 (36/10)	—
	Rear	3.600 (36/10)	—
Transfer reduction ratio	Low	2.435 (35/13 x 19/21)	—
	High	1.296 (35/27)	—
Transmission gear ratio	Low	3.083 (37/12)	—
	2nd	1.933 (29/15)	—
	3rd	1.388 (25/18)	—
	4th	1.095 (23/21)	—
	Top	0.913 (21/13)	—
	Reverse	2.833 (34/12)	—
Transmission shift fork to groove clearance		0.10 – 0.30 (0.004 – 0.012)	0.50 (0.020)
Transfer shift fork to groove clearance		0.10 – 0.30 (0.004 – 0.012)	0.50 (0.020)
Reverse shift fork to groove clearance		0.10 – 0.30 (0.004 – 0.012)	0.50 (0.020)
Shift fork groove width	Transmission	4.50 – 4.60 (0.178 – 0.181)	—
	Transfer	5.50 – 5.60 (0.217 – 0.220)	—
	Reverse	5.00 – 5.10 (0.197 – 0.201)	—
Shift fork thickness	Transmission	4.30 – 4.40 (0.169 – 0.173)	—
	Transfer	5.30 – 5.40 (0.209 – 0.213)	—
	Reverse	4.80 – 4.90 (0.189 – 0.193)	—
Front/Rear output shaft bevel gear backlash		0.03 – 0.15 (0.001 – 0.006)	—
Front drive (differential) gear backlash		0.05 – 0.10 (0.002 – 0.004)	—
Final gear backlash		0.08 – 0.13 (0.0031 – 0.0051)	—

Engine Oil Temperature Switch + Cooling Fan Thermo-switch

Item	Standard/Specification		Limit
Engine oil temperature indicator light switch operating temperature	OFF → ON	Approx. 160 °C (320 °F)	—
	ON → OFF	Approx. 150 °C (302 °F)	—
Cooling fan thermo-switch operating temperature	OFF → ON	Approx. 120 °C (248 °F)	—
	ON → OFF	Approx. 110 °C (230 °F)	—

Injector + Fuel Pump + Fuel Pressure Regulator

Item	Specification	Note
Injector resistance	10 – 11 Ω at 24 °C (72.5 °F)	
Injector voltage	Battery voltage	
Fuel pump discharge amount	84 ml (2.8/3.0 US/Imp qt) and more/10 sec.	
Fuel pressure regulator operating set pressure	Approx. 294 kPa (2.94 kgf/cm ² , 42 psi)	

FI Sensors

Item	Specification	Note
CKP sensor resistance	130 – 250 Ω	
CKP sensor peak voltage	4.0 V and more	When cranking
IAP sensor input voltage	4.5 – 5.5 V	
IAP sensor output voltage	Approx. 2.0 V at idle speed	
TP sensor input voltage	4.5 – 5.5 V	
TP sensor output voltage	Closed	Approx. 0.6 V
	Opened	Approx. 3.8 V
IAT sensor input voltage	4.5 – 5.5 V	
IAT sensor output voltage	Approx. 2.0 V	
IAT sensor resistance	20 °C (68 °F)	Approx. 2.45 k Ω
Engine oil temperature sensor input voltage	4.5 – 5.5 V	
Engine oil temperature sensor output voltage	0.1 – 4.85 V	
Engine oil temperature sensor resistance	20 °C (68 °F)	Approx. 13 k Ω
TO sensor resistance	15.0 – 25.0 k Ω	
TO sensor voltage	Normal	0.4 – 1.4 V
	Leaning	3.7 – 4.4 V

Throttle Body

Item	Specification
Bore size	32 mm (1.26 in)
I.D. No.	27H0
Idle r/min	1 500 $\pm$ 100 r/min
Idle air screw	1/2-3 turns back
Throttle cable play	3.0 – 5.0 mm (0.12 – 0.20 in)
Starter cable play	0.5 – 1.0 mm (0.02 – 0.04 in)

Electrical

Unit: mm (in)

Item		Specification		Note
Spark plug	Type	NGK: CR7E DENSO: U22ESR-N		
	Gap	0.7 – 0.8 (0.028 – 0.031)		
Spark performance		Over 8 (0.3) at 1 atm.		
Ignition coil resistance	Primary	3.1 – 4.14 Ω		(+) Terminal – (–) Terminal
	Secondary	25.6 – 34.6 k Ω		Plug cap – (+) Terminal
Generator coil resistance		0.7 – 1.6 Ω		B – B
Generator no-load voltage (When the engine is cold)		125 V (AC) and more at 5 000 r/min		
Generator Max. output		Approx. 300 W at 5 000 r/min		
Regulated voltage		14.0 – 15.0 V at 5 000 r/min		
Ignition coil primary peak voltage		180 V and more		(+): Ground, (–): W/BI
Starter relay resistance		3 – 5 Ω		
Starter motor brush length	Standard	12.0 (0.47)		
	Limit	6.5 (0.26)		
Battery	Type designation	YTX14-BS		
	Capacity	12 V 43.2 kC (12 Ah)/10 HR		
Fuse size	Main	30 A		
	Power source	10 A		
	Headlight (HI)	10 A		
	Headlight (LO)	10 A		
	Illumi	10 A		
	Ignition	10 A		
	Fuel	15 A		

Wattage

Unit: W

Item		Specification	
		P-17	Others
Headlight	HI	35 x 2	←
	LO	35 x 2	←
Brake light/Tail light		21/5	←
Speedometer light		LED	←
Neutral indicator light		LED	←
Engine oil temperature indicator light		LED	←
FI indicator light		LED	←
High beam indicator light		LED	—
Reverse indicator light		LED	←
Reversing light		21	—

Brake + Wheel

Unit: mm (in)

Item	Standard		Limit
Rear brake cable play	3 – 5 (0.12 – 0.20)		—
Rear brake pedal free travel	20 – 30 (0.8 – 1.2)		—
Brake disc thickness	Front	3.3 – 3.7 (0.130 – 0.146)	3.0 (0.20)
Brake drum runout	Front	—	0.30 (0.012)
Brake disc I.D.	Rear	—	160.7 (6.33)
Master cylinder bore	Front	14.000 – 14.043 (0.5512 – 0.5529)	—
Master cylinder piston diam.	Front	13.957 – 13.984 (0.5495 – 0.5506)	—
Brake caliper cylinder bore	Front	33.960 – 34.010 (1.3370 – 1.3390)	—
Brake caliper piston diam.	Front	33.878 – 33.928 (1.3338 – 1.3357)	—
Brake fluid type	DOT 4		—
Steering angle	Right	47°	—
	Left	47°	—
Turning radius	3.1 m (10.2 ft)		—
Toe-in (with 75 kg, 165 lbs)	10 ± 4 (0.39 ± 0.16)		—
Chamber	0.3°		—
Caster	3°		—
Wheel rim size	Front	12 x 6.0 AT	—
	Rear	12 x 7.5 AT	—

Tire

Item	Standard		Note
Cold inflation tire pressure	Front	32.5 kPa (0.325 kgf/cm ² , 4.7 psi)	Load capacity up to 172 kg (380 lbs)
	Rear	30 kPa (0.30 kgf/cm ² , 4.4 psi)	
Tire size	Front	AT25 x 8-12 ☆☆, tubeless	
	Rear	AT25 x 10-12 ☆☆, tubeless	
Tire tread depth	Front	—	Limit: 4.0 mm (0.16 in)
	Rear	—	Limit: 4.0 mm (0.16 in)

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.		P-28, 33
	Gasoline used should be graded 91 octane or higher. An unleaded gasoline type is recommended.		Others
Fuel tank capacity	Including reserve	16.0 L (4.2/3.5 US/Imp gal)	
	Reserve	2.9 L (0.8/0.6 US/Imp gal)	
Engine oil type	SAE 10 W-40, API SF/SG or SH/SJ with JASO MA		
Engine oil capacity	Change	3 000 ml (3.2/2.6 US/Imp qt)	
	Filter change	3 200 ml (3.4/2.8 US/Imp qt)	
	Overhaul	3 500 ml (3.7/3.1 US/Imp qt)	
Front/Rear drive gear oil type	Hypoid gear oil SAE #90, API grade GL-5		
Front drive (differential) gear oil capacity	300 ml (10.1/10.6 US/Imp oz)		
Final gear oil capacity	350 ml (11.8/12.3 US/Imp oz)		

Tightening Torque List

Engine

Item		N·m	kgf-m	lbf-ft
Cylinder head cover bolt		10	1.0	7.0
Camshaft sprocket bolt		15	1.5	11.0
Cylinder head bolt	Initial	25	2.5	18.0
	Final	37	3.7	26.5
Cylinder head nut	Initial	10	1.0	7.0
	Final	25	2.5	18.0
Cylinder base nut		10	1.0	7.0
Cam chain tensioner bolt		13	1.3	9.5
Cam chain tension adjuster bolt		10	1.0	7.0
Cam chain tension adjuster spring holder bolt		8	0.8	6.0
Spark plug		11	1.1	8.0
Valve clearance adjuster lock-nut		10	1.0	7.0
Rocker arm shaft bolt		28	2.8	20.0
Crankcase bolt	M6	11	1.1	8.0
	M8	26	2.6	19.0
TDC plug		23	2.3	16.5
Clutch shoe nut		145	14.5	105.0
Clutch sleeve hub nut		100	10.0	72.5
Generator rotor nut		140	14.0	101.0
Starter clutch bolt		26	2.6	19.0
Left crankshaft spacer nut		38	3.8	27.5
Clutch release adjusting screw lock-nut (1)		10	1.0	7.0
Clutch release adjusting screw lock-nut (2)		23	2.3	16.5
Oil pump drive gear bolt		80	8.0	58.0
Oil pressure regulator		28	2.8	20.0
Exhaust pipe nut		18	1.8	13.0
Exhaust pipe mounting bolt		23	2.3	16.5
Muffler mounting bolt		23	2.3	16.5
Muffler connecting bolt		23	2.3	16.5
Engine oil drain plug		23	2.3	16.5
Drive bevel gear nut		100	10.0	72.5
Driven bevel gear nut		100	10.0	72.5
Engine mounting nut	M8	40	4.0	29.0
	M10	60	6.0	43.5
Engine mounting bracket bolt		28	2.8	20.0
Rear output shaft nut		100	10.0	72.5
Air cleaner box mounting bolt		10	1.0	7.0
Oil filter		20	2.0	14.5
Transfer gearshift cam stopper bolt		22	2.2	16.0
Main oil gallery plug		23	2.3	16.5
Starter motor mounting bolt		10	1.0	7.0
Starter motor lead wire mounting nut		11	1.1	8.0
Starter motor housing bolt		5	0.5	3.5
Generator stator set bolt		11	1.1	8.0
Generator lead wire clamp bolt		6	0.6	4.3
Gear shift cam stopper		19	1.9	13.5
Gear shift cam stopper nut		10	1.0	7.0

Differential

Item	N·m	kgf·m	lbf·ft
Front drive (Differential) gear oil drain plug	32	3.2	23.0
Front drive (Differential) gear oil level plug	8	0.8	6.0
Front drive (Differential) gear oil filler plug	35	3.5	25.5
Front drive (Differential) gear case mounting nut	45	4.5	32.5
Front drive (Differential) gear case bolt	22	2.2	16.0
Final gear case bolt	22	2.2	16.0
Final gear oil filler plug	33	3.3	24.0
Final gear oil level plug	10	1.0	7.0
Final gear oil drain plug	33	3.3	24.0
Final gear coupling nut	100	10.0	72.5
Final drive gear bearing lock-nut	80	8.0	58.0

FI System and Fuel System

Item	N·m	kgf·m	lbf·ft
CKP sensor mounting bolt	6	0.6	4.5
TP sensor mounting bolt	3.5	0.35	2.5
Fuel pump mounting bolt	10	1.0	7.0
Fuel pressure regulator mounting bolt	10	1.0	7.0
Fuel cock mounting bolt	10	1.0	7.0
Fuel level gauge mounting bolt	4.6	0.46	3.5
Engine oil temperature sensor	9	0.9	6.5
Speed sensor mounting bolt	10	1.0	7.0

Chassis

Item		N·m	kgf·m	lbf·ft
Handlebar clamp bolt		26	2.6	19.0
Steering shaft holder bolt		23	2.3	16.5
Steering shaft nut		49	4.9	35.5
Steering knuckle pinch bolt		50	5.0	36.0
Tie-rod end nut		29	2.9	21.0
Tie-rod lock-nut		29	2.9	21.0
Front shock absorber mounting bolt (Upper)		55	5.5	40.0
Front shock absorber mounting nut (Lower)		60	6.0	43.5
Suspension arm pivot nut (Upper & Lower)		65	6.5	47.0
Wheel hub nut	Front	110	11.0	79.5
	Rear	121	12.1	87.5
Wheel set nut	Front	60	6.0	43.5
	Rear	60	6.0	43.5
Front Brake air bleeder valve		6	0.6	4.5
Brake disc bolt		23	2.3	16.5
Brake caliper mounting bolt		26	2.6	19.0
Footrest mounting bolt	M8	26	2.6	19.0
	M10	55	5.5	40.0
Rear brake cam lever nut		11	1.1	8.0
Rear axle housing mounting bolt (Final gear case)		55	5.5	40.0
Rear axle housing mounting bolt (Swingarm)		60	6.0	43.5
Rear shock absorber mounting nut	Upper	35	3.5	25.5
	Lower	60	6.0	43.5
Rear swingarm pivot nut		102	10.2	74.0
Brake disc cover mounting bolt		12	1.2	8.5
Brake pipe flare nut		16	1.6	11.5
Master cylinder holder bolt (Upper & Lower)		10	1.0	7.0
Brake lever pivot bolt		6	0.6	4.5
Brake lever pivot bolt lock-nut		6	0.6	4.5
Rear brake pedal pivot nut		12	1.2	8.5
Front brake pad mounting pin		18	1.8	13.0
Front brake hose union bolt		23	2.3	16.5

Item	N·m	kgf-m	lbf-ft
Caliper holder slide pin nut	23	2.3	16.5
Caliper holder pin	18	1.8	13.0
Rear brake anchor panel nut	32	3.2	23.0
Steering shaft lower nut	49	4.9	35.5
Front carrier mounting bolt	28	2.8	20.0
Rear carrier mounting bolt	28	2.8	20.0
Front grip bar mounting bolt	28	2.8	20.0