

## GENERAL SPECIFICATION

3LN FZR250R  
010 JAPAN

MODEL NAME	FZR250R
MODEL CODE	3LN
E/G START NO	1HX
F/M START NO	3LN-350101
DIMENSIONS:	
Overall Length	1990mm
Overall Width	685mm
Overall Height	1100mm
Seat Height	735mm
Wheelbase	1375mm
Minimum Ground Clearance	140mm
BASIC WEIGHT:	
Dry Weight	146kg
With Oil and Full Fuel Tank	166kg
PERFORMANCE:	
Fuel Consumption	51km/L / 50km/h
Climbing Ability	27°
Minimum Turning Radius	3000mm
ENGINE:	
Engine Type	Liquid Cooled 4-Stroke, DOHC
Cylinder Arrangement	Forward Inclined Parallel 4-Cylinder
Displacement	249cm <sup>3</sup>
Bore x Stroke	48.0×34.5mm
Compression Ratio	12:1
Compression Pressure(STD)	981kpa / 400r/min      10kgf/cm <sup>2</sup> / 400r/min
Maximum Horse Power	29.4KW / 14000r/min      40PS / 14000r/min
Maximum Torque	25.5Nm / 10000r/min      2.6kgf-m / 10000r/min
Starting System	Electric Starter
LUBRICATION SYSTEM:	Wet Sump
Oil Type or Grade	
Engine Oil	SAE20W40SE or SAE10W30SE
OIL CAPACITY:	
Engine Oil	
Periodic Oil Change	2L
With Oil Filter Replacement	2.2L
Total Amount	2.7L
Radiator Capacity (Including All Routes)	1.56L
AIR FILTER:	Dry Type Element
FUEL:	
Type	Regular Gasoline
Fuel Tank Capacity	14L
Fuel Reserve Amount	3.8L
CARBURETOR:	
Type/Quantity	BDST28/4
Manufacturer	MIKUNI
SPARK PLUG:	
Type	CR8E/U24ESR-N
Manufacturer	NGK/NIPPONDENSO
Spark Plug Gap	0.7~0.8mm
TRANSMISSION:	
Primary Reduction System	Spur Gear
Primary Reduction Ratio	89/35(2.542)
Secondary Reduction System	Chain Drive
Secondary Reduction Ratio	56/17(3.294)
Clutch Type	Wet, Multiple-disc

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Transmission Type	Constant Mesh 6-speed	
Gear Ratio 1st	34/11(3.090)	
Gear Ratio 2nd	31/14(2.214)	
Gear Ratio 3rd	32/18(1.777)	
Gear Ratio 4th	27/18(1.500)	
Gear Ratio 5th	25/19(1.315)	
Gear Ratio 6th	27/23(1.173)	
CHASSIS:		
Caster Angle	24.5°	
Trail	87mm	
TIRE:		
Type	Tubeless	
Size(Front)	100/80-17 52H	
Size(Rear)	130/70-17 62H	
BRAKE:		
Front Brake Type	Dual Disc Brake	
Rear Brake Type	Single Disc Brake	
SHOCK ABSORBER:		
Front Shock Absorber	Coil Spring/Oil Damper	
Rear Shock Absorber	Coil-Gas Spring/Oil Damper	
WHEEL TRAVEL:		
Front Wheel Travel	130mm	
Rear Wheel Travel	117mm	
ELECTRICAL:		
Ignition System	T.C.I. (Digital)	
Generator System	A.C. Magneto	
Battery Capacity	12V10AH	
Battery Type	GM10-3A	
Headlight Type	Quartz Bulb (Halogen)	
Bulb Wattage/Quantity		
Headlight	12V55w/40Wx	
Tail/Brake Light	12V5w/21Wx	
Flasher Light	12V10Wx4	
Licence Light	12V5Wx2	
Indicator Light		
Meter Light	12V1.7Wx4	
Neutral	12V3.4Wx1	
Turn	12V3.4Wx2	
Oil Level	12V3.4Wx1	
High Beam	12V3.4Wx1	
Speed Warning	12V3.4Wx1	
TIRE PRESSURE:		
Loading Condition A	0~90kg	
Front	172kPa	1.75kgf/cm <sup>2</sup>
Rear	196kPa	2kgf/cm <sup>2</sup>
Loading Condition B	0kg	
Front	196kPa	2kgf/cm <sup>2</sup>
Rear	221kPa	2.25kgf/cm <sup>2</sup>
High-Speed Riding		
Front	196kPa	2kgf/cm <sup>2</sup>
Rear	221kPa	2.25kgf/cm <sup>2</sup>

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CYLINDER HEAD:		
Volume		5.2~5.7cm <sup>3</sup>
Warp Limit		0.03mm
CYLINDER:		
Bore Size		48.000~48.005mm
Taper Limit		0.05mm
Out of Round Limit		0.05mm
Wear Limit		48.1mm
CAM SHAFT:		
Drive Method		Chain Drive(Center)
Shaft-to-Cap Clearance		0.020~0.054mm
Cam Dimensions		
	Intake "A"	31.25~31.35mm
	"B"	24.95~25.05mm
	"C"	6mm
	Exhaust "A"	31.25~31.35mm
	"B"	24.95~25.05mm
	"C"	6mm
VALVE TIMING:		
IN-Open(BTDC)		33°
IN-Closed(ABDC)		47°
EX-Open(BBDC)		57°
EX-Closed(ATDC)		23°
Overlap Angle A		56°
Camshaft Runout Limit		0.03mm
CAM CHAIN:		
Cam Chain Type/No.of Links		82RH2010/112
Cam Chain Adjustment Method		Automatic
Valve, Valve Seat, Valve Guide:		
Valve Clearance(Cold)	IN	0.11~0.20mm
	EX	0.21~0.30mm
Valve Dimensions		
"A" Head Dia.	IN	17.9~18.1mm
	EX	15.4~15.6mm
"B" Face Width	IN	1.9~2.3mm
	EX	1.9~2.3mm
"C" Seat Width	IN	0.9~1.0mm
	EX	0.9~1.0mm
Stem Outside Dia.	IN	3.475~3.490mm
	EX	3.460~3.475mm
Guide Inside Dia.	IN	3.500~3.512mm
	EX	3.500~3.512mm
Stem-to-Guide Clearance	IN	0.010~0.037mm
	EX	0.025~0.052mm
Stem Runout Limit		0.01mm
Valve Seat Width	IN	0.9~1.1mm
	EX	0.9~1.1mm
Valve Seat Material	IN	PB6
	EX	CMP27-IW
VALVE SPRING:		
INNER SPRING:		
Free Length	IN	38.12mm
	EX	38.12mm
<limit>	IN	35.56mm
	EX	35.56mm
Set Length(Valve Closed)	IN	33.5mm

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Compressed Pressure (Installed)	EX IN	33.5mm 101.0~122.6N	10.3~12.5kgf
Tilt Limit	EX IN EX	101.0~122.6N 2.5° / 1.7mm 2.5° / 1.7mm	10.3~12.5kgf
<b>PISTON:</b>			
Piston Clearance		0.04~0.06mm	
Piston Size "D"		47.945~47.960mm	
Measuring Point "H"		5mm	
Piston Off-Set		0.5mm	
Piston Off-Set Dirrection		EX Side	
Piston Pin Bore Inside Dia.		14.002~14.013mm	
Piston Pin Outside Dia.		13.991~14.000mm	
<b>PISTON RING:</b>			
<b>TOP RING:</b>			
Type		Barrel	
Dimensions(B x T)		0.8×1.8mm	
End Gap(Installed)		0.15~0.30mm	
<Limit>		0.8mm	
Side Clearance(Installed)		0.03~0.07mm	
<Limit>		0.1mm	
Plating/Coating		Chrome Plated/Parkerrizing	
<b>2ND RING:</b>			
Type		Taper	
Dimensions(B x T)		0.8×1.9mm	
End Gap(Installed)		0.30~0.45mm	
<Limit>		0.8mm	
Side Clearance		0.02~0.06mm	
<Limit>		0.1mm	
Plating/Coating		Parkerrizing	
<b>Oil Ring:</b>			
Dimensions(B x T)		1.5×1.9mm	
End Gap(Installed)		0.2~0.7mm	
Plating/Coating		Chrome Plated/Parkerrizing	
<b>CONNECTING ROD:</b>			
Oil Clearance		0.023~0.047mm	
<Limit>		0.08mm	
<b>CRANKSHAFT:</b>			
Assembly Width	"B"	262.3~264.5mm	
Runout Limit	"C"	0.03mm	
Big End Side Clearance	"D"	0.160~0.262mm	
Journal Oil Clearance		0.023~0.047mm	
<b>CLUTCH:</b>			
Friction Plate Thickness		2.92~3.08mm	
Quantity		5pcs	
Wear Limit		2.8mm	
Clutch Plate Thickness		1.83~2.17mm	
Quantity		5pcs	
Warp Limit		0.1mm	
Clutch Spring Free Length		30.9mm	
Quantity		4pcs	
Clutch Release Method		Inner Push, Cam Push	
<b>TRANSMISSION:</b>			
Main Axle Deflection Limit		0.08mm	
Drive Axle Deflection Limit		0.08mm	

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SHIFTER:		
Shift Fork Thickness	4.76~4.85mm	
CARBURETOR:		
I.D.Mark	3LN 20	
Fuel Level (F.L)	10.5mm	
(With Special Tool)		
Main Jet (M.J)	#1,4:#102.5#2,3:#100	
Main Air Jet (M.A.J)	#80	
Jet Needle (J.N)	#1,4:5CL2 #2,3:5C31	
Needle Jet (N.J)	0-5	
Pilot Air Jet (P.A.J.1)	#107.5	
Pilot Jet (P.J)	#12.5	
Pilot Screw (P.S)	3.0	
Valve Seat Size (V.S)	1.0	
Starter Jet (G.S.1)	#42.5	
Starter Jet (G.S.2)	0.6	
IDLING CONDITION:		
Engine Idle Speed	1600r/min	
CO% Intake Vacuum	3.5~4.5% 18.7kPa	140mmHg
Oil Temperature	55~65°C	
FUEL PUMP:		
Type	Electrical Type	
Consumption Amperage<Max>	0.8A	
Output Pressure	10kPa	0.1kgf/cm <sup>2</sup>
LUBRICATION SYSTEM:		
OIL FILTER TYPE:	Paper Type	
OIL PUMP TYPE:	Trochoid Type	
Tip Clearance "A" or "B"	0.03~0.08mm	
Side Clearance	0.10~0.15mm	
Bypass Valve Setting Pressure	78~118kPa	0.8~1.2kgf/cm <sup>2</sup>
Relief Valve Operating Pressure	441~539kPa	4.5~5.5kgf/cm <sup>2</sup>
Oil Pressure (Hot)	78kpa/1600r/min	0.8kgf/cm <sup>2</sup> /1600r/min
COOLING SYSTEM:		
Radiator Cap Opening Pressure	74~103kPa	0.75~1.05kgf/cm <sup>2</sup>
Reservoir Tank Capacity	0.28L	
<From Low to Full Level>	0.28L	

MAINTENANCE SPECIFICATION (CHASSIS)

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<b>STEERING SYSTEM:</b>	
Steering Bearing Type	Ball Bearing
No./Size of Steel Balls	
(Upper)	19pcs0.25in
(Lower)	19pcs0.25in
<b>FRONT SUSPENSION:</b>	
Front Fork Travel	130mm
Fork Spring Free Length	559.6mm
Spring Rate (K 1)	7.8N/mm 0.8kgf/mm
(K 2)	13.7N/mm 1.4kgf/mm
Oil Capacity	390cm <sup>3</sup>
Oil Level	106mm
Oil Grade	Fork Oil 10W or Equivalent
<b>REAR SUSPENSION:</b>	
Shock Absorber Travel	50mm
Spring Free Length	185mm
Fitting Length	173mm
Spring Rate (K 1)	80.9N/mm 8.25kgf/mm
Enclosed Gas/Air Pressure(STD)	1177kPa 12kgf/cm <sup>2</sup>
<b>SWINGARM:</b>	
Swing Arm Free Play Limit-End	1mm
Swing Arm Free Play Limit-Side	1mm
<b>FRONT WHEEL:</b>	
Type	Cast Wheel
Rim Size	J17 X MT2.75
Rim Material	Aluminum
Rim Runout Limit Radial	2mm
Lateral	2mm
<b>REAR WHEEL:</b>	
Type	Cast Wheel
Rim Size	J17 X MT3.50
Rim Material	Aluminum
Rim Runout Limit Radial	2mm
Lateral	2mm
<b>DRIVE CHAIN:</b>	
Type/Manufacturer	428VS/DAIDO
No. of Links	130
Chain Free Play	20~30mm
<b>FRONT DISC BRAKE:</b>	
Type	Dual
Disc Outside Dia. x Thickness	282X4mm
Pad Thickness Inner	5.5mm
<Limit>	0.5mm
Pad Thickness Outer	5.5mm
<Limit>	0.5mm
Master Cylinder Inside Dia.	15.87mm
Caliper Cylinder Inside Dia.	33.34mm
Brake Fluid Type	DOT No4
<b>Rear Disc Brake:</b>	
Type	Single
Disc Outside Dia. x Thickness	210X5mm
Pad Thickness Inner	5.5mm
<Limit>	0.5mm
Pad Thickness Outer	5.5mm
<Limit>	0.5mm
Master Cylinder Inside Dia.	14mm

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Caliper Cylinder Inside Dia.	38.1mm
Brake Fluid Type	DOT No4
BRAKE LEVER AND BRAKE PEDAL:	
Brake Lever Free Play (Lever End)	2~5mm
Brake Pedal Position (N)	45mm
Brake Pedal Free Play (P)	13~15mm
Clutch Lever Free Play (Pivot)	10~15mm
Clutch Lever Free Play (Lever End)	10~15mm
Throttle Grip Free Play	4~7mm

## MAINTENANCE SPECIFICATION (ELECTRICAL)

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NUMBERS FROM LEFT 1234.

Firing Order: 1243.

IGNITION SYSTEM:		
Ignition Timing (B.T.D.C.)	15° / 1600r/min	
Advancer Type	Electrical Type	
T.C.I.		
Pickup Coil Resistance	230Ω ± 20% W/R-W/G	
T.C.I. Unit Model/Manufacturer	TNDF18/NIPPONDENSO	
IGNITION COIL:		
Model/Manufacturer	J0258, J0259/N.D.	
Minimum Spark Gap	6mm	
Primary Winding Resistance	2.8Ω ± 15%	
Secondary Winding Resistance	15KΩ ± 20%	
SPARK PLUG CAP:		
Type	Resin Type	
Resistance	10kΩ	
CHARGING SYSTEM:		
Type	A.C. Magneto	
A.C. MAGNETO GENERATOR:		
Model/Manufacturer	TLK223/NIPPONDENSO	
Standard Output	14V 19A 5000r/min	
Stator Coil Resistance	0.36Ω ± 20% W-W	
VOLTAGE REGULATOR:		
Type	Semi Conductor-Short Circuit Type	
Model/Manufacturer	SH569/SHINDENGEN	
No Load Regulated Voltage	14.3~15.3V	
RECTIFIER:		
Model/Manufacturer	SH569/シロテツケ	
Capacity	25A	
Withstand Voltage	200V	
BATTERY:		
Specific Gravity	1.280	
ELECTRIC STARTER SYSTEM:		
Type	Constant Mesh Type	
STARTER MOTOR:		
Model/Manufacturer	3HX/ヤマハ	
Armature Coil Resistance	0.021Ω ± 10%	
Brush Overall Length	10mm	
<Limit>	3.5mm	
Brush Spring Pressure	5.49~8.24N	560~840gf
Commutator Dia.	22mm	
<Limit>	21mm	
Mica Undercut (Depth)	1.5mm	
STARTER RELAY:		
Model/Manufacturer	A104-128/HITACHI	
Amperage Rating	100A	
HORN:		
Type	Plane Type	
Model/Manufacturer	GF-12/NIKKO	
Maximum Amperage	1.5A	
FLASHER RELAY:		
Type	Condenser Type	
Model/Manufacturer	FZ222SD/NIPPONDENSO	
Self Cancelling Device	No	
Flasher Frequency	75~95cyl/min	
Wattage	10W x 2 + 3.4W	
FUEL PUMP RELAY:		
Model/Manufacturer	G8R-30Y-C/オムロン	



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<p>CIRCUIT BREAKER: Type AMPERAGE FOR INDIVIDUAL CIRCUIT:     Main     Fan     Reserve     Reserve ELECTRIC FAN: Model/Manufacturer Running R/Min.</p>	<p>Fuse  20A / 1pcs 5A / 1pcs 20A / 1pcs 5A / 1pcs  NAAL72/NIPPONDENSO 3150r/min</p>
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