

SUZUKI  
DOHC  
4  
FOUR STROKE

SUZUKI  
TSCC  
TWIN SWIRL  
COMBUSTION  
CHAMBER

SUZUKI

GSX1100E

SUZUKI



*The latest bike GSX1100E,  
its high performance realized through  
a smashing style and mechanism.  
It's the ultimate superbike.*

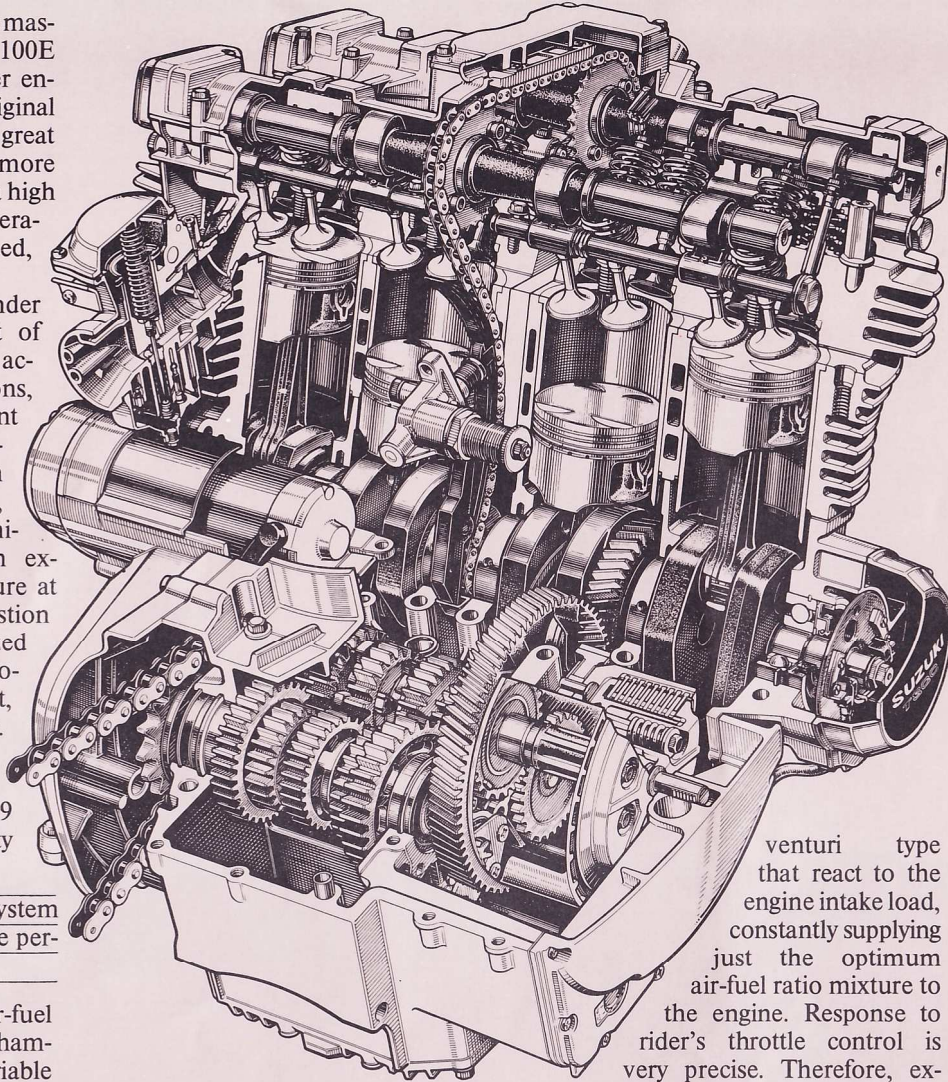


What fundamentally supports the masterly performance of the GSX1100E is the 16-valve DOHC 4-cylinder engine utilizing SUZUKI's original TSCC mechanism that created a great sensation upon making debut. It more than meets the requirements of a high performance bike, such as, acceleration, SS1/4 mile, maximum speed, and everything else.

In the SUZUKI 4-valve per cylinder DOHC engine, inertial weight of each valve is kept very light to accomplish high speed revolutions, which, in turn, ensure efficient intake. SUZUKI's unique combustion chamber TSCC (Twin Swirl Combustion Chamber), consisting of adjoining semi-hemispherical depressors, then explodes the intook air-fuel mixture at a fantastically improved combustion rate. Together, they have realized a wide power range from low-to-high speeds, very stable output, and improved fuel economy. Maximum output is 73.3 kW (98 HP)/8,700 rpm, and maximum torque 85.2 N.m (8.69 Kgm)/6,500 rpm – a capacity that of a true superbike.

Intake, exhaust, and ignition system that greatly contributes to engine performance

Four SU carburetors supply air-fuel mixture to the ideal combustion chamber. The carburetors are variable



venturi type that react to the engine intake load, constantly supplying just the optimum air-fuel ratio mixture to the engine. Response to rider's throttle control is very precise. Therefore, ex-

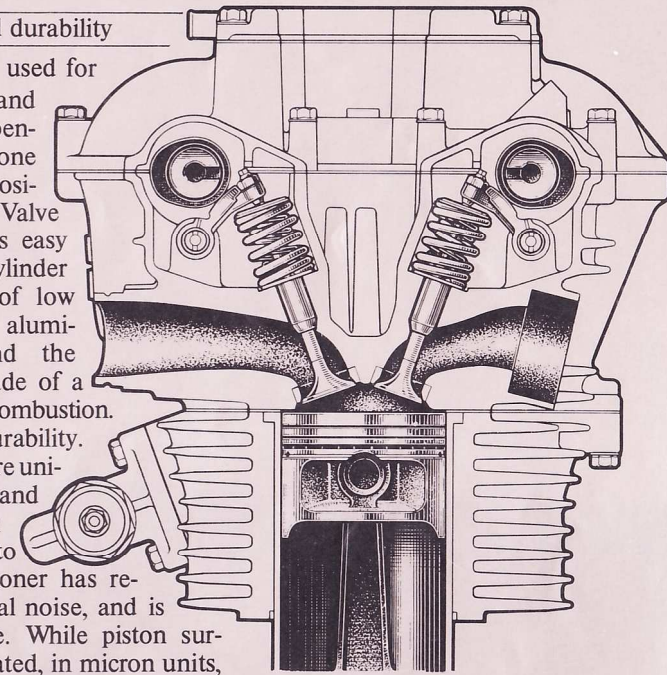
cellent response even to sudden acceleration is guaranteed. Additionally, a full transistorized ignition system, having no mechanical contacts and possessing precise and powerful ignition characteristics, is used. The muffler is a 4-into-2 type having left-right linked chamber. Improved torque is obtained at low-to-medium speeds. All these outstanding features culminate in a very functional bike having a 4-stroke high output engine of top-most performance.

#### Maintenance and durability

Rocker arms are used for valve opening and closing, so the opening/closing is done at just the ideal position and angle. Valve clearance, too, is easy to adjust. The cylinder head is made of low pressure casted aluminum alloy, and the valve seat is made of a special alloy for combustion. Both excel in durability.

The 4 cylinders are unitized into one, and are aluminum diecast. The auto cam chain tensioner has reduced mechanical noise, and is maintenance-free. While piston surface is streak treated, in micron units,

to improve its sliding quality against the cylinder lining. The top piston ring is made of highly wear-resistant stainless steel. Needle roller bearings, originally used in the road racer, are used in the crank shaft. Resistance is very much reduced, and make the crank shaft very suited to high speed revolutions. Each of these features indicates that SUZUKI does not merely stop at seeking higher and higher performance, but constantly endeavours to make the performance more and more reliable and perfect.



# DOHC



*Suzuki's original and epochal combustion mechanism TSCC (Twin Swirl Combustion Chamber) has coordinated high power with fuel economy.*

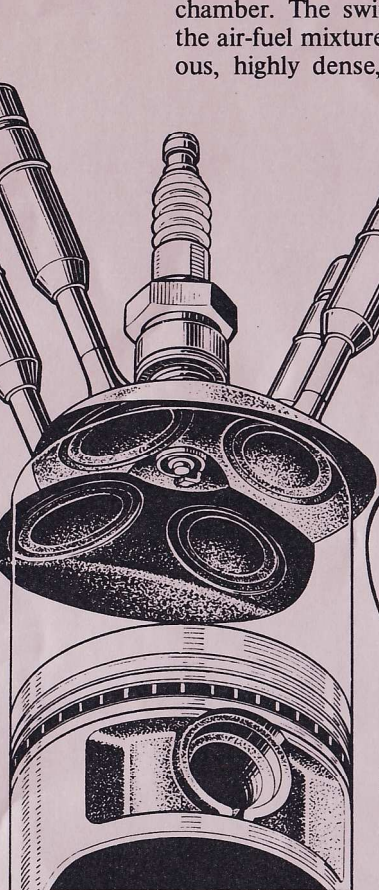
What is TSCC? Abbreviation of Twin Swirl Combustion Chamber, it is a new epochal combustion mechanism that has drastically improved the combustion efficiency to provide the powerful motive force of the GSX1100E.

4-Valve per cylinder DOHC system is employed in the engine for intake and exhaust of greater volumes of air-fuel mixture. In this system, each valve's diameter is smaller and inertial weight lesser so that efficient intake/exhaust and rapid cooling of the engine are achieved, even at high revolutions. To further improve the performance of this system, SUZUKI focussed its efforts on combustion chamber. Faster combustion speed and improved ignition were made the target. The result of the search turned out the TSCC consisting of adjoining semi-hemispherical de-

pressors. Each semi-hemispherical depressor is equipped with a pair of intake and exhaust valves. The air-fuel mixture pulled in from the 2 intake valves creates twin swirls along the hemispherical walls, inside the chamber. The swirls, in turn, make the air-fuel mixture more homogeneous, highly dense, and cause faster spark propagation. The spark plug is also positioned at the center of the chamber, that is nearest to the piston head. This assures perfect

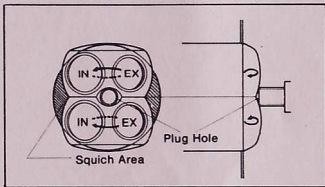
with flat-top piston, account for greatly reduced inside surface area of the combustion chamber as compared to its volume. This, too, adds to improved combustion. All together, the TSCC brings improved combustion, while the DOHC system offers efficient intake/exhaust. Com-

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 U.K. PAT. No. 1281114  
 F. PAT. No. 708290  
 W.G. PAT. No. P2012632  
 I. PAT. No. 890661  
 JAPAN PAT. No. 771502



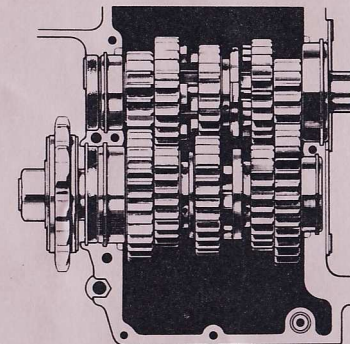
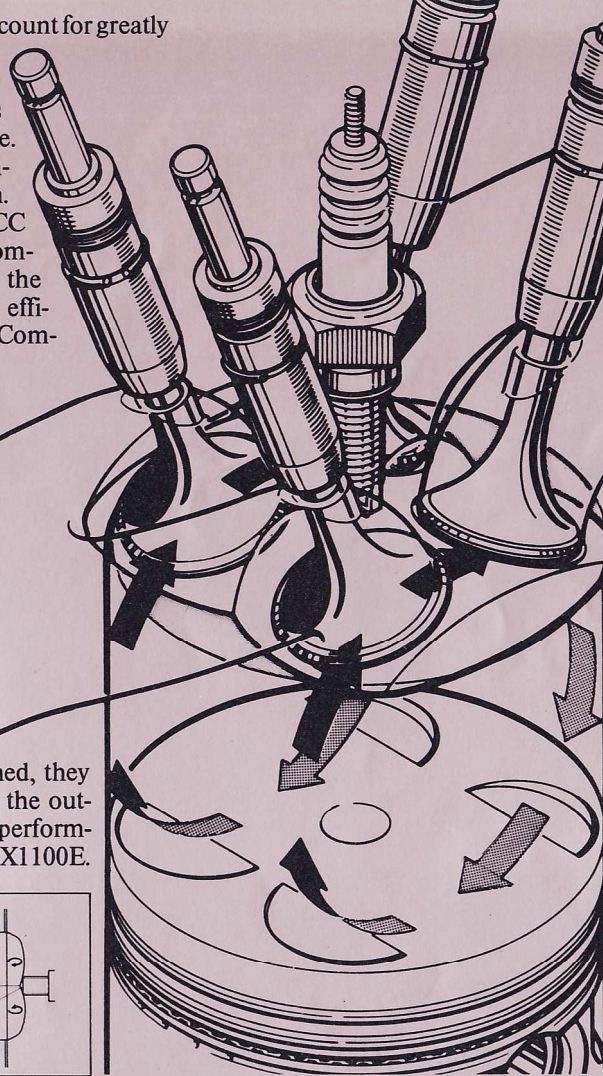
ignition and shorter burning times. The adjoining semi-hemispherical shape, together

combined, they creates the outstanding performance of the GSX1100E.



Transmission to efficiently transmit the huge engine power

The transmission is a slick 5-speed return type that allows smooth gear changing. The material used to make the transmission is nickel-chrome molybdenum, the same the was used in the renowned GP machines. Better power transmission, easier control, and outstanding durability are guaranteed. The clutch is a Wet Multi-Plate type. The rack-and-pinion mechanism provides smooth clutch release, and snappy response even to sudden gear changing by the rider. This remarkable pair of clutch and transmission pulls out all the power from the engine to convert it into excellent bike performance.



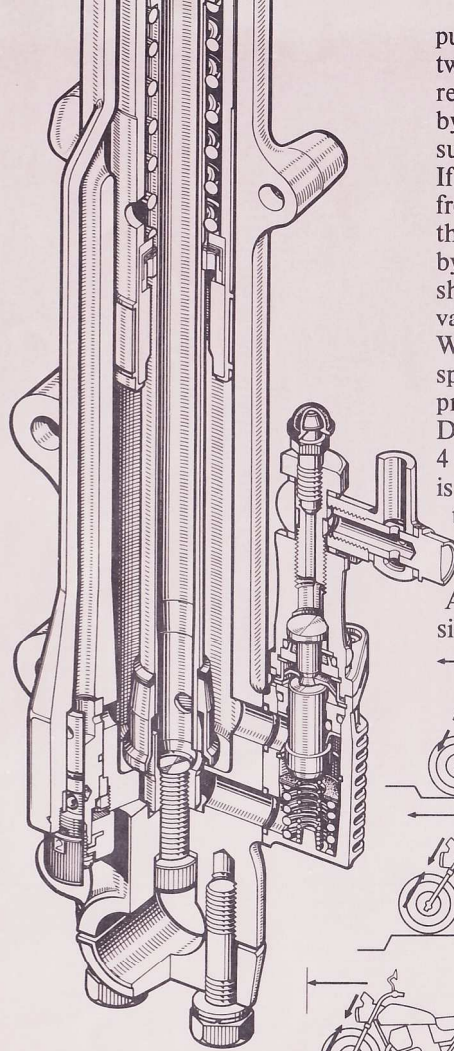
# TSCC

*Driving stability adequate to  
spearhead road racing-  
realized through the use of  
newly developed  
Hydraulic Anti-Dive Fork.*



When braking on corners or at times of sudden braking, the amount of load distribution on the front wheel increases. As a result, the front fork is subject to stroke, that is its spring compressed by an amount equal to the increased load distribution. Also, the rear wheel tends to float due to the moment, causing distortion of the rider's posture and eyeview thereby adversely affecting the stability and balance of the motorcycle. To prevent this type of diving motion, SUZUKI has developed the Hydraulic Anti-Dive Fork. Its usefulness is proven in the champion machine RG500. In GSX1100E, this remarkable feature has been incorporated to enable the machine to exhibit its performance fully. To diminish the diving motion, conventionally there was no alternative but to keep the suspension setting hard. That is, riding comfort had to be compromised. These 2 mutually adverse elements are coordinated by the Hydraulic Anti-Dive Fork.

In this Hydraulic Anti-Dive Fork, as the inner tube slides down at times of braking the oil in the lower part of the fork enters into it. By regulating the flow route of fork oil, the load imposed due to the dive can be sustained by the oil pressure. When the front brake is applied, the brakeoil is forced into a modulator, which in turn pushes out the plunger with a pressure matching that created by the braking. As the plunger is



pushed out, the fork oil flowing between valve and the relief valve is regulated whereby the load imposed by the drive gets absorbed, making the suspension momentarily hard.

If the front wheel receives a hard shock from the ground surface while braking, the relief valve spring gets compressed by an amount corresponding to the shock load, which then opens the relief valve to dampen out the shock.

What's more, the fork employs air/coil springs. By regulating the air pressure, preload can be adjusted steplessly. Damping force, too, is adjustable to 4 different levels. To sum up, the fork is easily adjusted to a setting best suited to the encountered ground terrain and running conditions.

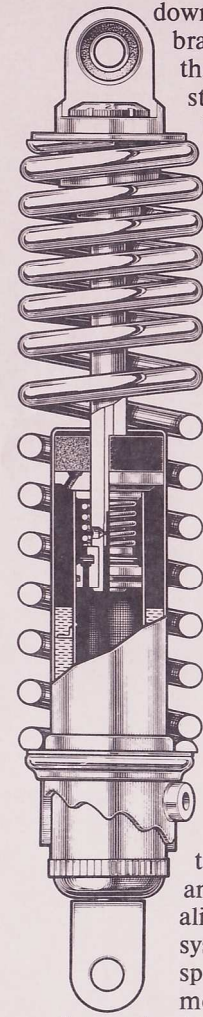
The development of this Hydraulic Anti-Dive Fork has now made it possible to overcome the dive problem

while keeping the suspension setting soft. Riding comfort is not in the least compromised, while improved running stability is accomplished. The rider's posture and eyeview remain undisturbed, and while braking on night rides

the head lamp beam no more faces down. Inefficiency of rear brake performance and the loss of vehicle stability both caused by the floating of the rear wheel is greatly reduced.

Rear suspension to dampen out shocks

The rear shock absorber is an all-round type permitting 5-stage spring preload adjustments and 4-stage damping force adjustments. The result is a suspension that provides just the precise adjustments needed for ground conditions encountered. Full attention has also gone in to preventing any obstruction of its smooth stroke. In touring, sports riding, and in everything alike, the suspension system infallibly responds to requirements, precisely according to the riders choice.

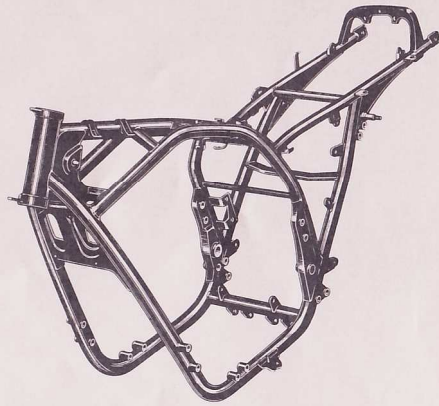


Sturdy double cradle frame

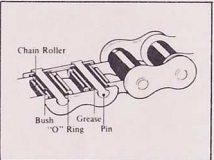
The frame is the proven double cradle type. Made of high tensile strength steel pipes, it is both lightweight and very rigid. The lightweight feature, which allows stable handling of the bike, is further enhanced by the use of rectangular (cross-section) aluminium pipes for the swinging arm, needle bearings for its pivot, and tapered needle bearings in the steering head.

Drive chain excelling in durability

SUZUKI is one of the first makers to



offer grease-sealed drive chain. With molybdenum grease sealed between its pin and bush, the drive chain offers minimum operating resistance and long durability.



# ANTI-DIVE



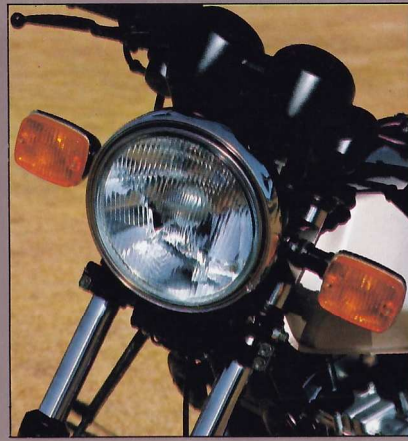




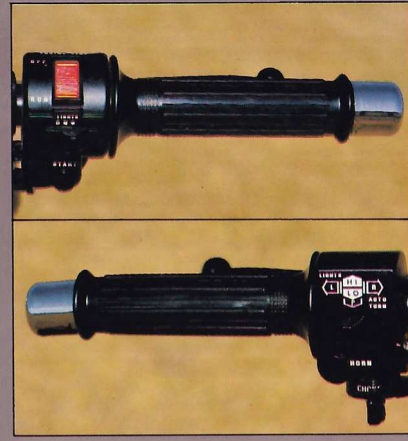
A hydraulic anti-dive fork using air/coil springs is stepless adjustable. And damping force is 4 levels adjustable.



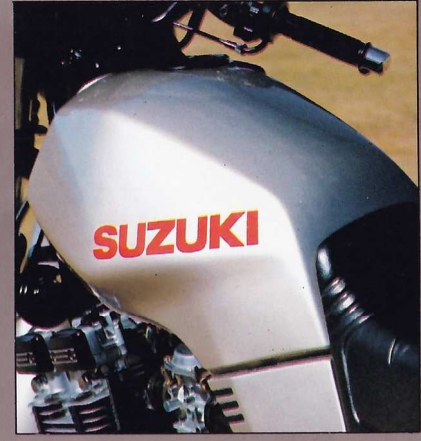
An all-round type rear suspension permits 5-stage spring preload and 4-stage damping force adjustments.



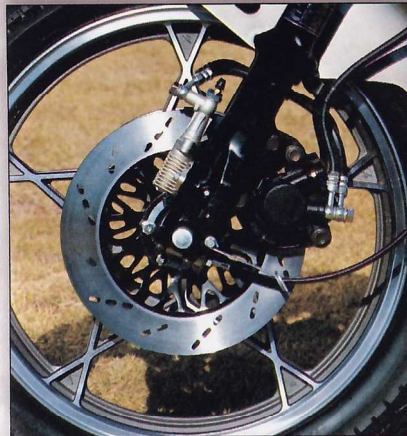
Large 200 mm head lamp of new design. Supplying voluminous light, it brings safety to night journeys.



Frequently used switches are clustered on the left handlebar. Both functionality and manipulating ease.



The fuel tank shaped to bring natural knee-grip comes with a reserve cock and fuel meter.



Dual perforated disc brakes on the front and a single one on the rear assure positive braking.



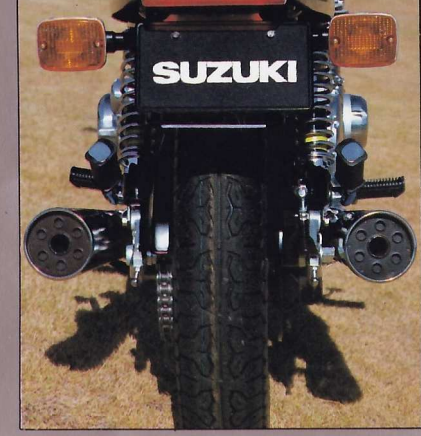
Large size speedometer and tachometer with convenient indicators for turn-signals and other indications.



A 2-bulb tail lamp and 23 watt turn-signals provide adequate indications to other drivers.



A truly comfortable soft-hard two layer seat for 2 persons, carrying a convenient keylock, too.



The muller is a left-right chamber linked muller and the tyres are of rugged V-specification.

# EQUIPMENT

*GSX1100E – a new sensation to  
the road sports world.  
Created by no other than Suzuki with  
its persistent dedication to the manufacture of  
ever-better motorcycles.*



The RG500 claimed 6 consecutive manufacturers championships, in the highest 500cc class, of the 1976 to 1981 GP road race. Another 7 consecutive championships claimed in the 125cc class of Motocross GP. And now, GS1000 based machine won manufacturer's championship in Tourist Trophy world championship races. The high grade technological experience gained in the course of these radiant accomplishments does very much reflect in SUZUKI's marketed motorcycles. Race accomplishments are proof-enough of performance and quality that eventually constitute the basis for producing ever-better motorcycles. Aside from this feedback technology SUZUKI, research and development for all the more better performance and quality never stops. The innovative technology derived through this rigorous search is then employed to produce motorcycles in an up-to-date modern factory, equipped with elaborate assembly lines and stringent quality controls. SUZUKI is firmly dedicated to produce high quality motorcycles that have gained reputation around the world. It is this fastidious dedication of SUZUKI that has gone in to produce the fabulous superbike GSX1100E.



Head Office & Main Plant



Toyoakawa Plant



Toyama Plant



Rivyo J.C. Golf Course

# SPIRIT

## GSX1100E SPECIFICATIONS

### DIMENSIONS AND DRY MASS

Overall length	2,225 mm (87.6 in)
Overall width	770 mm (30.3 in)
Overall height	1,165 mm (45.9 in)
Wheelbase	1,510 mm (59.4 in)
Ground clearance	155 mm ( 6.1 in)
Dry mass	237 kg (522 lbs)

### PERFORMANCE

Maximum horsepower	82.6 kW (111 Hp) at 8,500 r/min (SAE, NET)
Maximum torque	96.1 N.m. (9.80 kg·m, 70.9 lb·ft) at 6,500 r/min

### ENGINE

Type	Four-stroke cycle, air-cooled, DOHC, TSSC
Number of cylinders	4
Bore	72.0 mm (2.835 in)
Stroke	66.0 mm (2.598 in)
Piston displacement	1074 cm <sup>3</sup> (65.5 cu.in)
Compression ratio	9.5 : 1
Carburetor	MIKUNI BS34SS, four
Air cleaner	Paper element
Starter system	Electric
Lubrication system	Wet sump

### TRANSMISSION

Clutch	Wet multi-plate type
Transmission	5-speed constant mesh
Gearshift pattern	1-down, 4-up

### CHASSIS

Front suspension	Telescopic, pneumatic/coil spring 4-way adjustable, 4-way oil dampened with Anti-Dive
Rear suspension	Swinging arm, oil dampened, damper 4-way/spring 5-way adjustable
Front brake	Disc brake, twin
Rear brake	Disc brake
Front tyre size	3.50V19-4PR
Rear tyre size	4.50V17-4PR

### ELECTRICS

Ignition type	Transistorized
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### CAPACITIES

Fuel tank including reserve	22 L (5.8/4.8 US/Imp gal)
Engine oil	3.2 L (3.4/2.8 US/Imp qt)

*SUZUKI MOTOR CO., LTD. reserves the right to change, without notice, equipment, specifications, colours, materials and other items to apply to local conditions. Each model might be discontinued without notice. Please inquire at your local dealer for details of any such changes. Actual body colours might differ slightly from the colours in this brochure.*

Fantastic  
copper  
gold

*Reliable Suzuki Loved by People  
in 150 Countries in the World.*



Since its foundation in 1920, Suzuki has been supplying the world with value-packed products endorsed by numerous achievements and high-level techniques. A wide range of products.

Motorcycles with champion's pride and experience obtained in the world's famous, most gruelling GP races. Low fuel consumption and maneuverability-conscious automobiles which will lead the future small-car market. Outboard motors which have won high reputation

in durability, lightweight construction, high performance and easy operation. What is more, Suzuki products extend to generators, general-purpose engines, motorized wheelchair for handicapped persons as well.

They are all product lineups which deserve the name as an integrated manufacturer of transportation machines. Suzuki will continue to supply products loved and trusted by people in the world, with high-advanced technology.

