FEATURES AND BENEFITS

Offering high levels of performance, comfort and sophistication, the new TMax superscooter looks sure to make as great an impression on the powered two wheeler market as the first Yamaha YZF-R1 made in the motorcycle scene.

ENGINE FEATURES

- 499cc liquid cooled 4-stroke parallel twin engine
- DOHC 8 valve engine
- High capacity V-belt transmission
- Horizontally opposed reciprocating balancer
- Wet multiple plate automatic centrifugal clutch
- New design air intake route and air filter case
- Low position radiator
- Semi dry sump with oil cooler
- Non adjustable 2-stage silent chain drive train

CHASSIS FEATURES

- Motorcycle-type high rigidity diamond shape frame
- Motorcycle-type front fork
- Highly rigid swingarm
- 14 inch front and rear wheels
- Motorcycle-type hub with fixed rear wheel axle
- Sport bike type weight distribution
- 50º lean angle
- 33 liters luggage compartment
- 1 piece dual seat with 3-stage adjustable backrest

ELECTRICAL FEATURES

- Dual multi-reflector headlight
- Stylish combination taillight
- Automobile-type meter panel with extensive information
- High capacity power supply
- Anti-theft alarm pre-wiring
- Grip warmer pre-wiring
- Mobile phone charger pre-wiring

ENGINE SYSTEM

Displacing 499 cc, the TMax's highly-advanced fully automatic twin-cylinder DOHC liquid-cooled 4-stroke 8-valve engine is one of the most powerful designs available on scooters today.

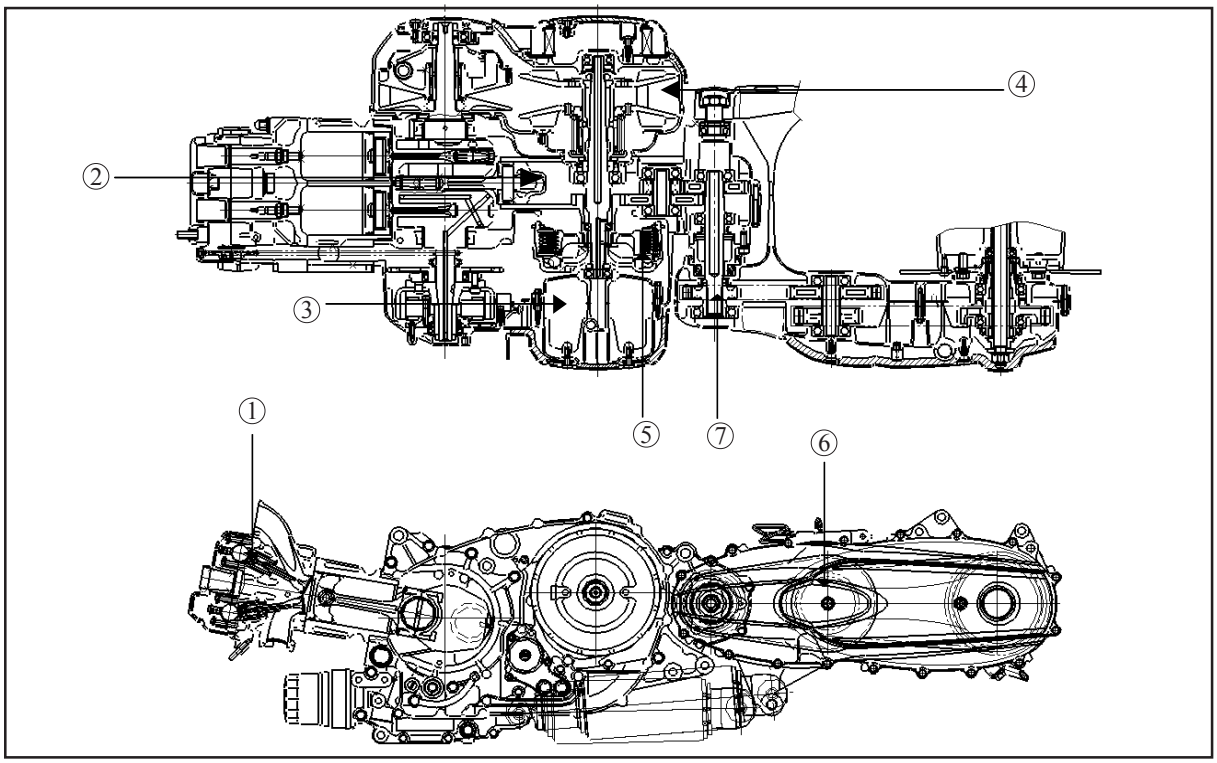
A key feature of its configuration is that unlike most traditional scooter engines which pivot as one unit with the rear suspension, this engine is fixed rigidly into the TMax's strong tubular diamond-shape frame in order to achieve higher levels of chassis rigidity for enhanced handling performance. The swingarm is mounted to a pivot point at the rear of the engine, thereby keeping unsprung weight low for more responsive rear suspension action.

Another innovative feature is the horizontal configuration of the engine that keeps the centre of gravity low for easy handling and also gives extra storage space under the dual seat.

ENGINE FEATURES

- Parallel twin with 360 degree crankshaft
- 66 mm bore and 73 mm stroke
- 10.1 :1 compression ratio
- Left side drive cam chain for reduced engine width

① Horizontal compact cylinder head
② Horizontally opposed reciprocating balancer
③ Semi dry sump
④ High capacity V-belt transmission
⑤ Wet multiple plate automatic centrifugal clutch
⑥ Non adjustable 2-stage silent chain drive train
⑦ Pivot coaxial drive shaft eliminates chain backlash



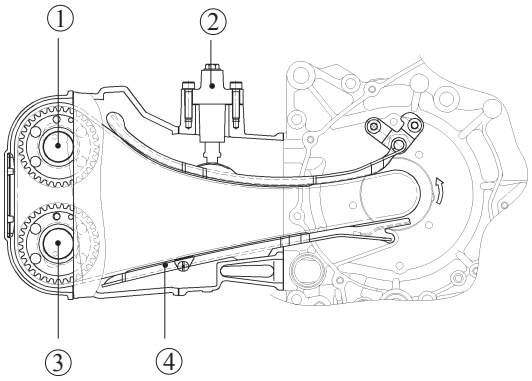
CYLINDER HEAD

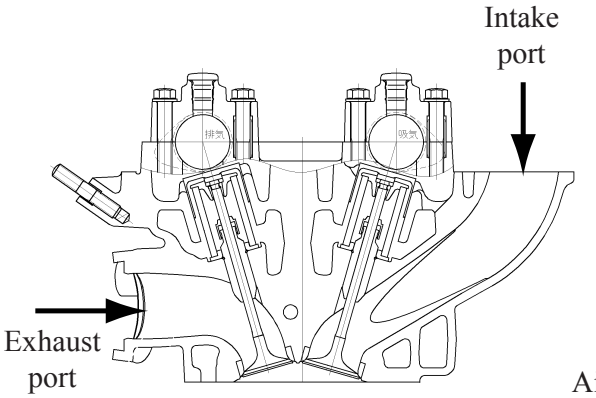
- 4 valves per cylinder, DOHC
- Torsion type auto cam chain tensioner (similar to YZF-R1)
- "Shim-under-bucket" valve adjustment for long maintenance interval (same as YZF-R1/YZF-R6)
- Valve clearance at cold engine condition:

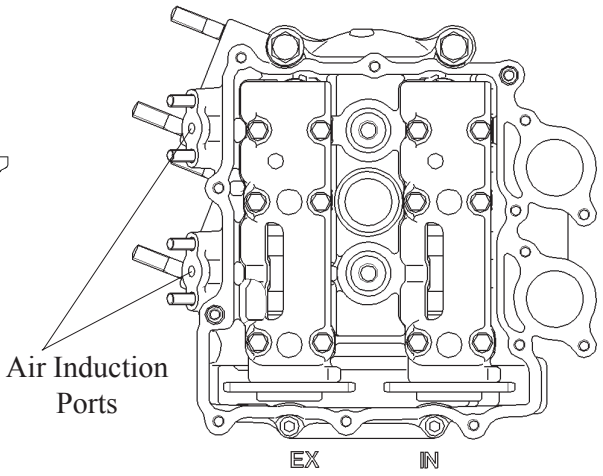
  Intake : 0.15 - 0.20 mm

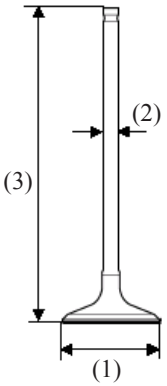
  Exhaust: 0.25 - 0.30 mm

① Intake camshaft
② Cam chain tensioner
③ Exhaust camshaft
④ Silent cam chain

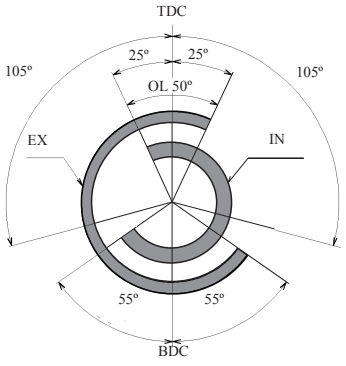








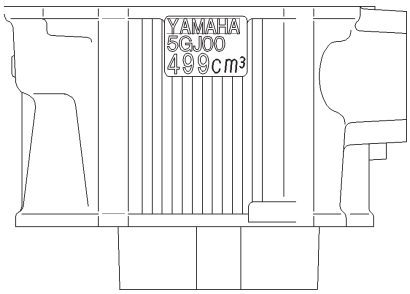
	Intake valve (mm)	Exhaust valve (mm)
(1)	25.0	22.0
(2)	4.0	4.0
(3)	83.3	82.8



VALVE TIMING

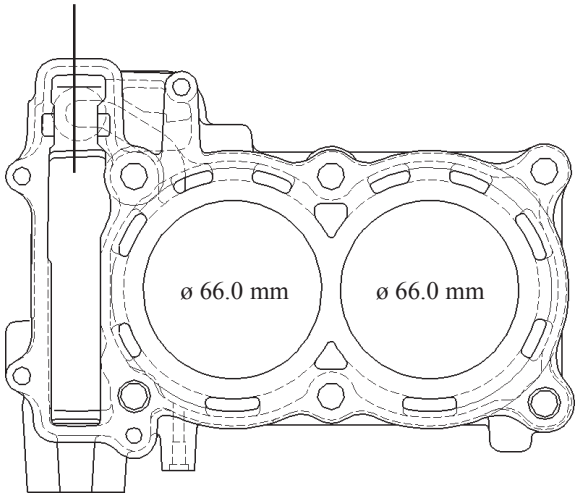
CYLINDER

- New liquid-cooled cylinder body for low weight
- Left side cam chain drive for reduced engine width
- Ceramic composite cylinder coating for increased cooling and longer wear life



Side view

Side cam chain drive

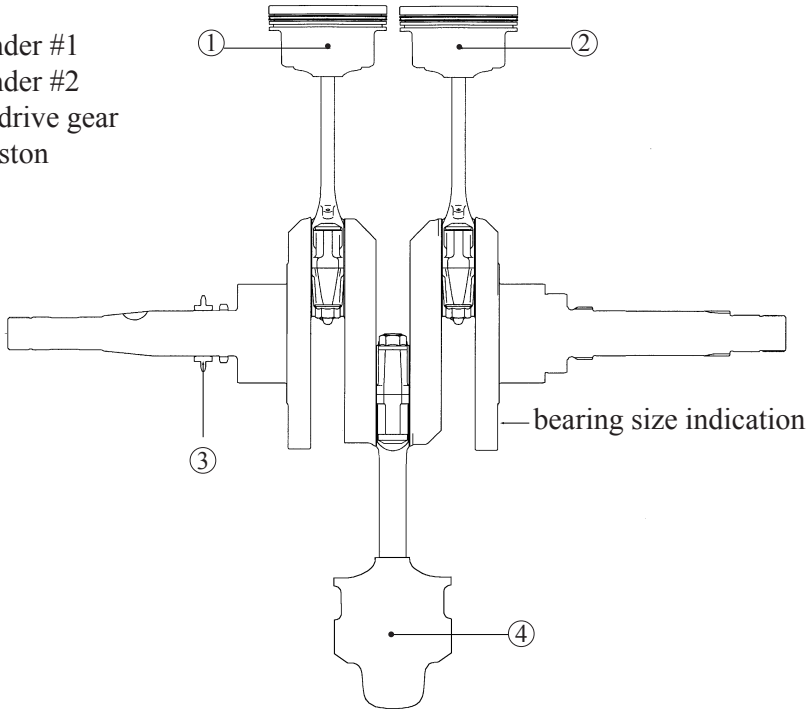


Top view

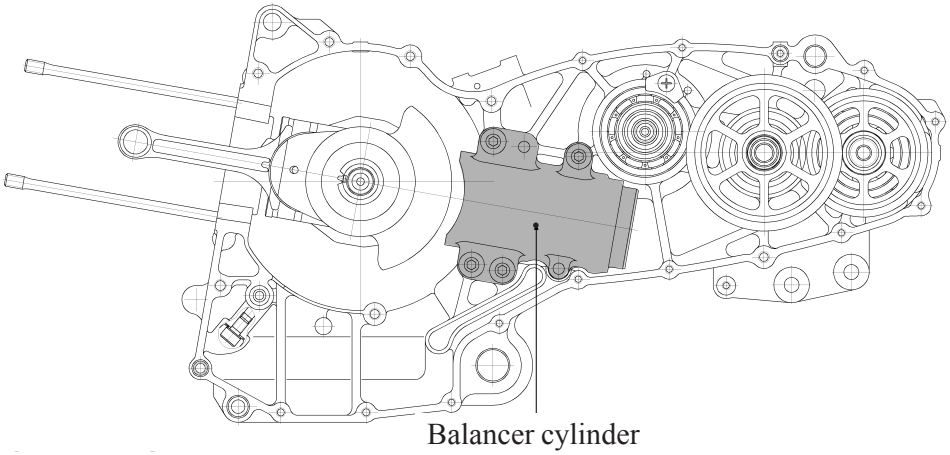
CRANKSHAFT / BALANCER

- New design crankshaft uses replaceable full circumference plain bearings
- Horizontally opposed reciprocating balancer for excellent vibration reduction
  This type achieves same vibration reduction as 3 balancer shafts to reduce primary and secondary inertial forces, while requiring less space.

① Piston cylinder #1
② Piston cylinder #2
③ Cam chain drive gear
④ Balancer piston



Bearing size indication, reading from left to right (ex. 1 2 3 4 5):
① Left main bearing
② Right main bearing
③ Conrod bearing cylinder #1
④ Conrod bearing balancer cylinder
⑤ Conrod bearing cylinder #2

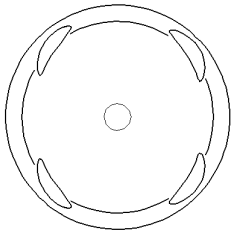


PISTON

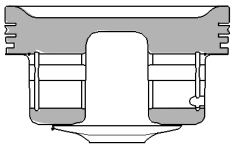
- New combustion piston with V-groove between upper and lower compression rings for improved sealing
- Balancer piston for horizontally opposed reciprocating balancing system

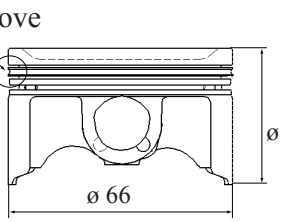
COMBUSTION PISTON

Top view



Cross-section

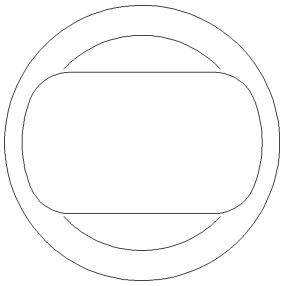




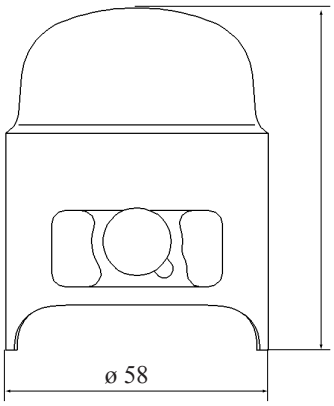
Side view

BALANCER PISTON

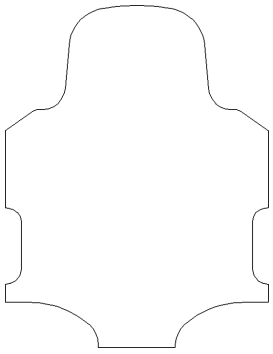
Top view



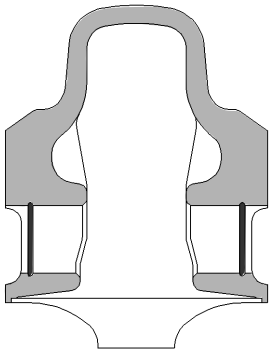
Side view



Front view



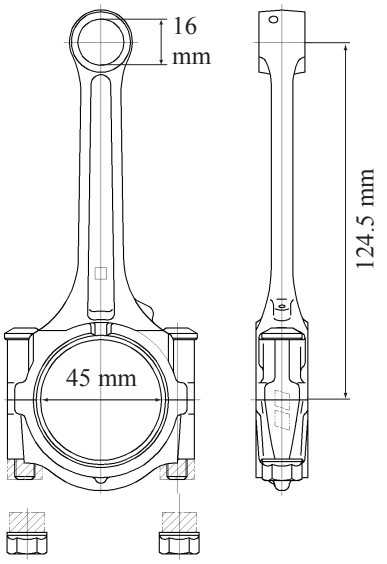
Front view cross-section



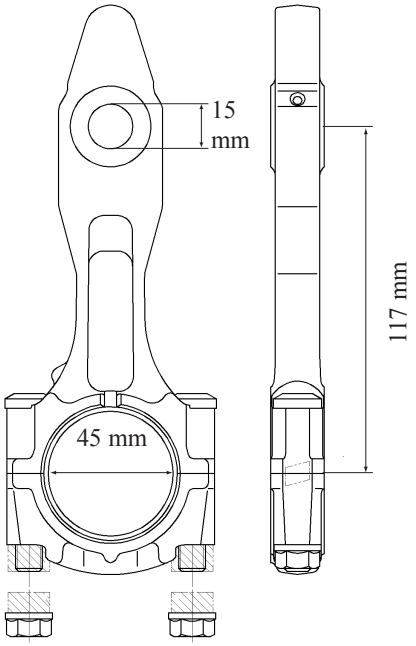
CONNECTING ROD

- Newly designed connecting rods: 2 for combustion, 1 for balancer
- New type connecting rod as integral part of the horizontally opposed reciprocating balancing system

FOR COMBUSTION



FOR BALANCER

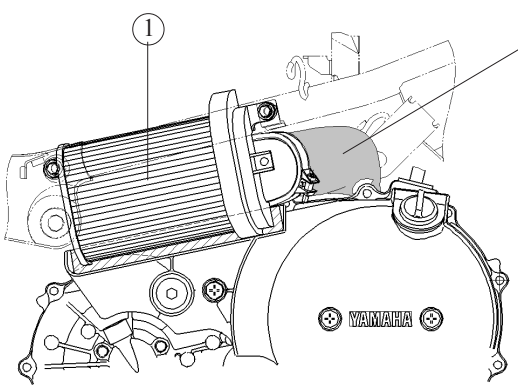


All connecting rods use the same 2-piece plain bearings

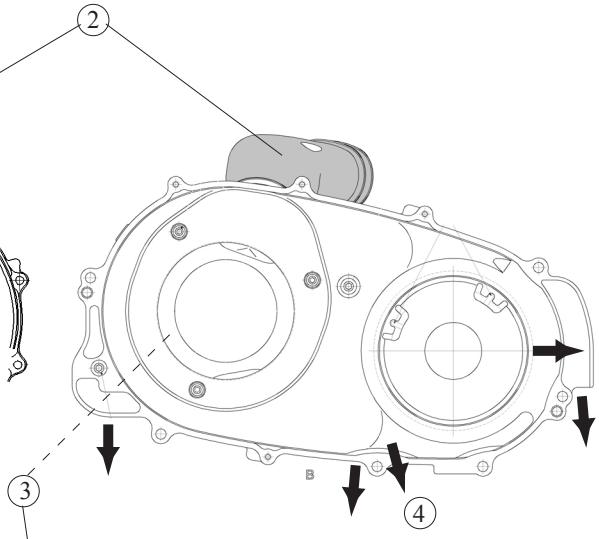
TRANSMISSION SYSTEM

CONTINUOUSLY VARIABLE TRANSMISSION

- Highly efficient V-belt transmission in order to obtain high performance
- Newly designed cooling system with fins on both rotors of the secondary sheave for improved cooling and higher belt durability
- Cooling system uses 2 air filters to provide high volume clean air cooling

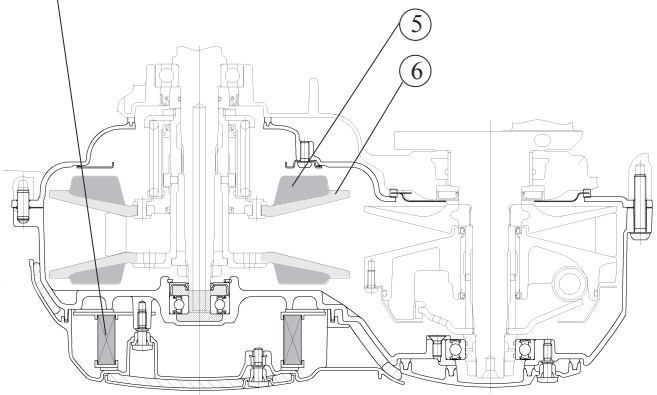


Engine left side



Engine right side

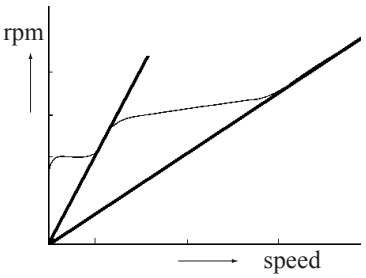
① Left transmission air filter
② Air intake duct to transmission
③ Right transmission air filter
④ Air exhaust ports
⑤ Cooling fin
⑥ Secondary sheave



Engine cross-section

V-belt exchange: each 20,000 km

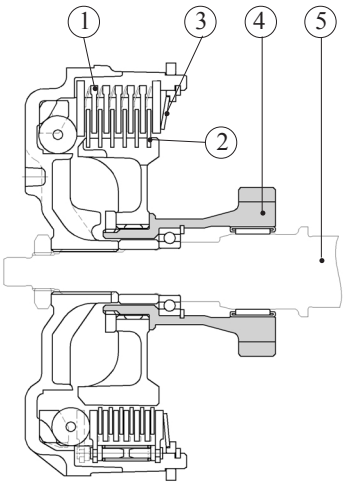
Speed shift rate diagram

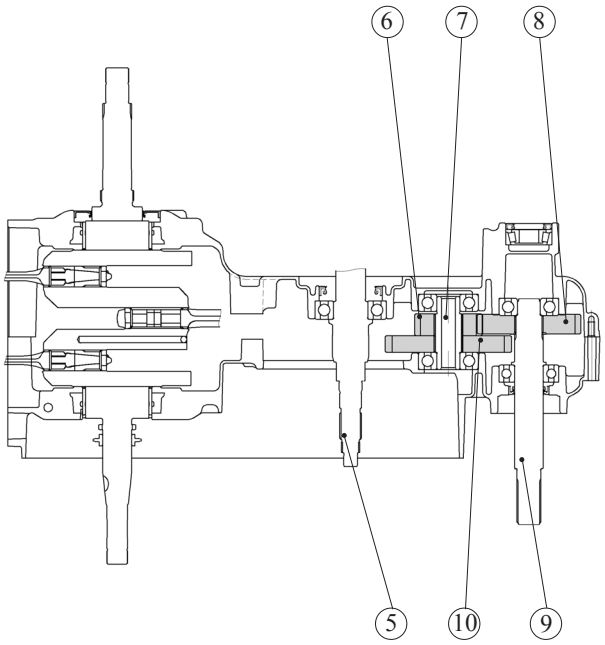


CLUTCH

- Wet type multiple plate centrifugal clutch for smooth power transmission and to meet XP's higher torque
- Clutch uses diaphragm type spring

① Friction plates: 5 pieces
② Clutch plates: 6 pieces
③ Diaphragm clutch spring
④ Primary drive gear
⑤ Main axle
⑥ First pinion gear
⑦ Secondary shaft
⑧ First wheel gear
⑨ Drive axle
⑩ Primary driven gear





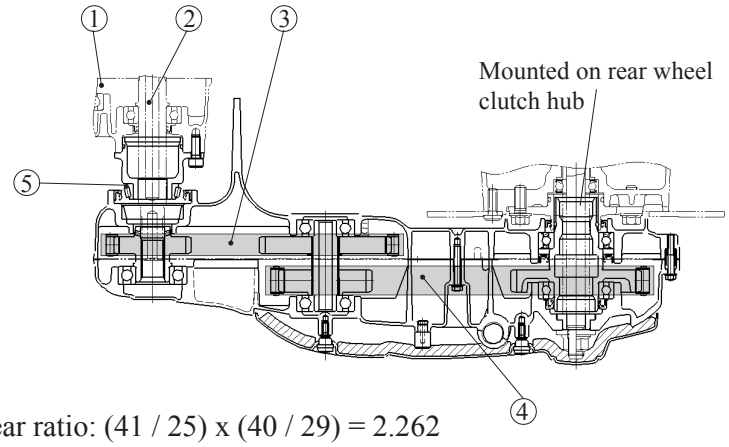
Transmission gear reduction ratio
= (primary driven gear / primary drive gear) x (first wheel gear / first pinion gear)
= (52 / 32) x (36 / 22)
= 2.659

Clutch-in revolution: 1800 ± 300 rpm

FINAL DRIVE

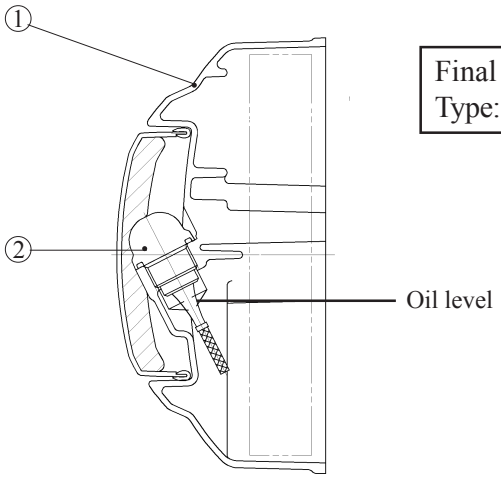
- Newly designed final drive with non-adjustable 2-stage silent chain for an efficient power transmission, reduced noise and low maintenance
- High speed first stage chain with spring-type torque absorber for a further reduction of noise
- The final drive and the swingarm are integrated for improved rigidity and high speed stability

① Crankcase
② Drive axle
③ First stage drive chain
④ Second stage drive chain
⑤ Taper roller bearing



Gear ratio: (41 / 25) x (40 / 29) = 2.262

① Rear drive case
② Oil dip stick



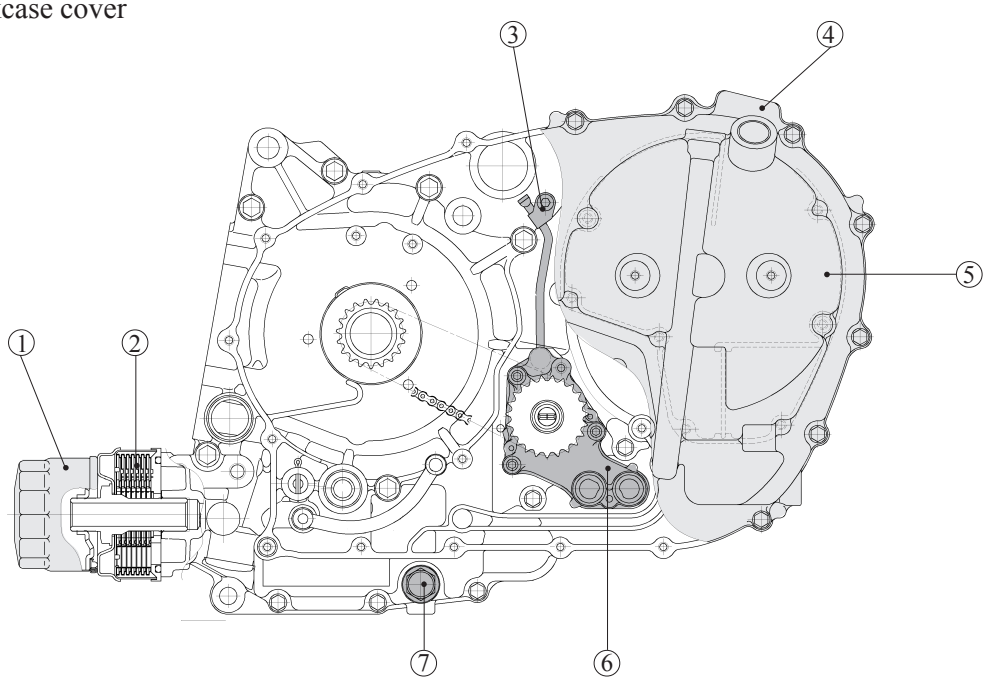
Final drive oil capacity: 700 cc
Type: SAE 80, hypoid

LUBRICATION SYSTEM

- Semi dry sump system for reduced engine size
- Oil tank is incorporated into the left crankcase cover
- Newly designed dual stage oil pump
- Liquid-cooled oil cooler with cartridge type oil filter (5DM-13440-00)
- New type oil drain bolt that allows oil from crankcase and oil tank to be drained at the same time

Dual stage oil pump brings oil from oil tank to respective areas of the engine, including a spray bar over the starter gears and the stator assembly.
The oil pump also has a scavenging pump that returns the oil to the oil tank.
The scavenged oil fills the tank until it is full and then overflows back into the sump area to maintain a constant level in the sump.

① Oil filter
② Oil cooler
③ Oil spray bar
④ Crankcase cover
⑤ Oil tank space
⑥ Oil pump
⑦ Drain bolt



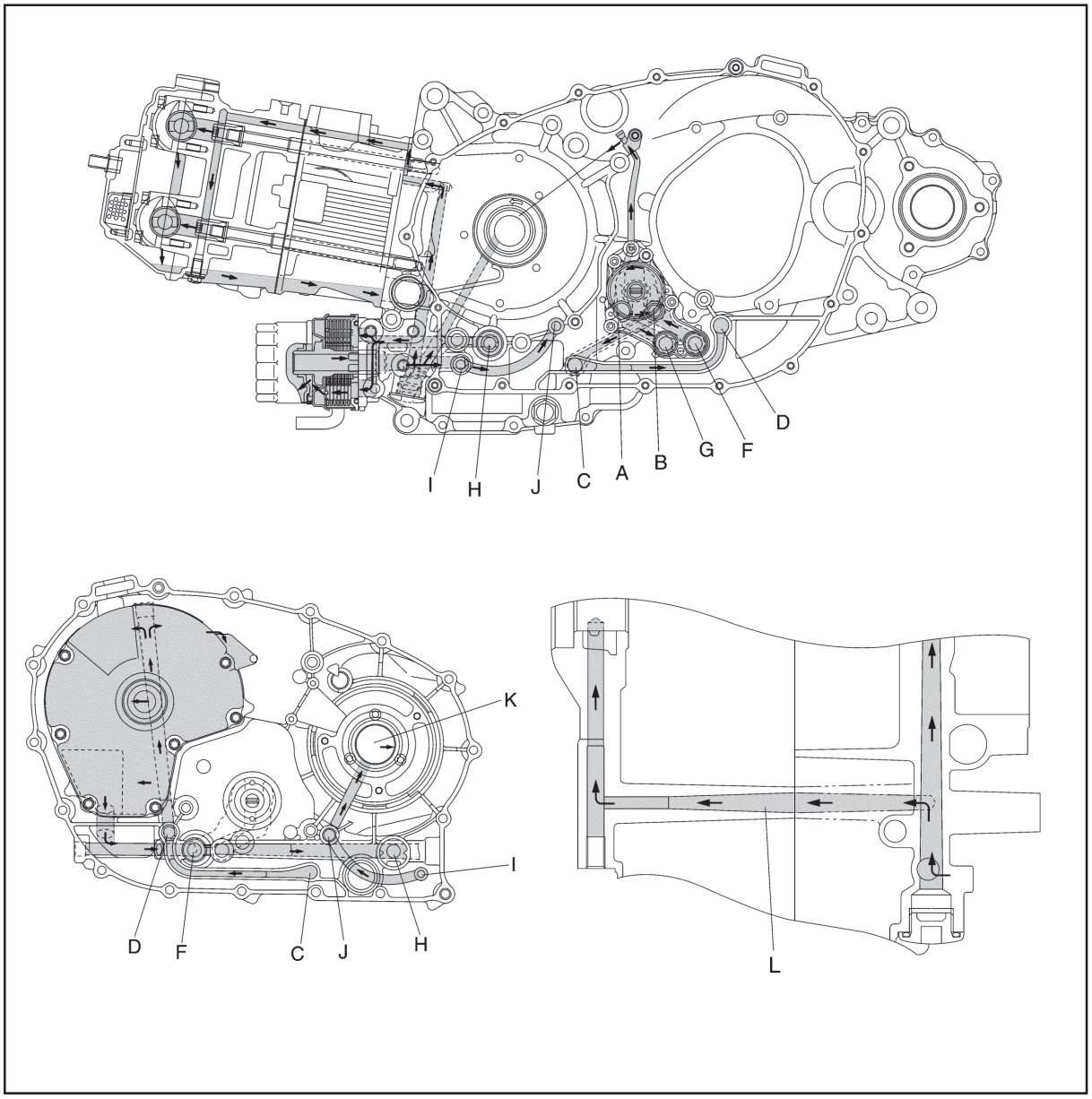
Engine oil capacity
Total amount : 3.6 liters = 2.2 liters in crankcase + 1.4 liter in oil tank
Without oil filter replacement : 2.8 liters
With oil filter replacement : 2.9 liters

Engine oil change: every 5,000 km

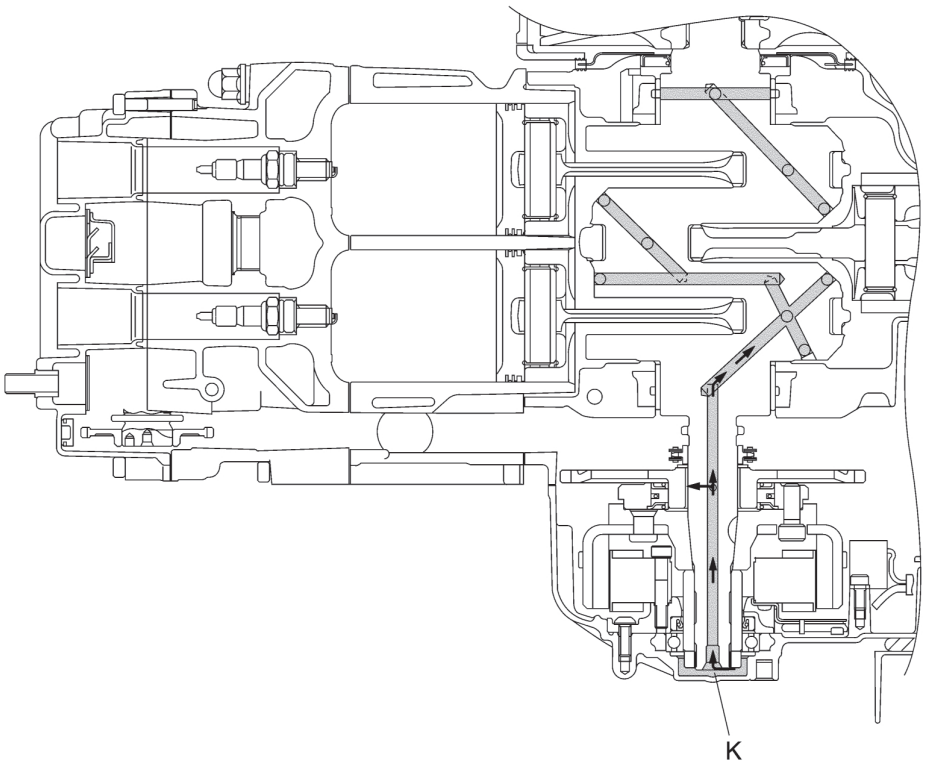
LUBRICATION SYSTEM

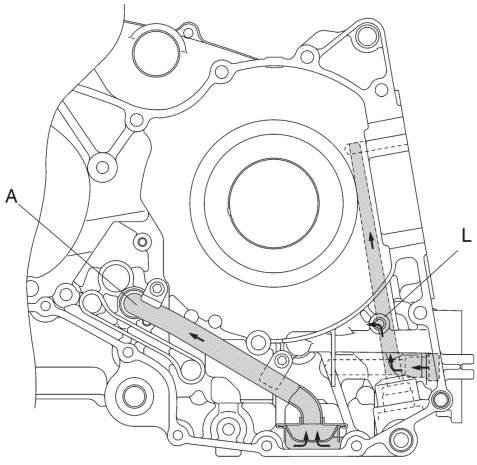
LUBRICATION FLOW CHART

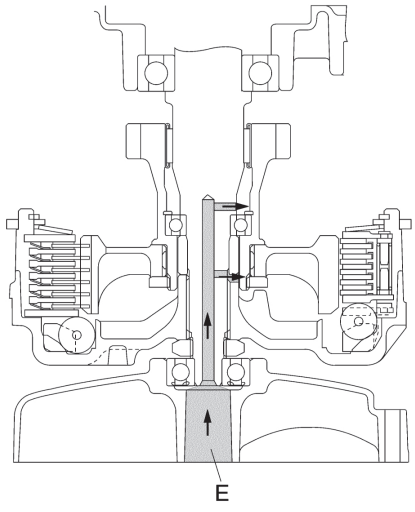
Scavenging Pump	Oil Strainer ⇨ A ⇨ B ⇨ C ⇨ D ⇨ Oil Tank ↘ E ⇨ Main Axle (Clutch System)
Feeding Pump	Oil Tank ⇨ F ⇨ G ⇨ H (check Valve & Relieve Valve) ⇦ Oil Filter ⇨ Cylinder Head ⇨ Crankcase ⇨ Oil Strainer ↘ I ⇨ J ⇨ K ⇨ Crankshaft Left ⇨ Crankcase ⇨ Oil Strainer ↘ L ⇨ Crankshaft Right ⇨ Crankcase ⇨ Oil Strainer



LUBRICATION SYSTEM



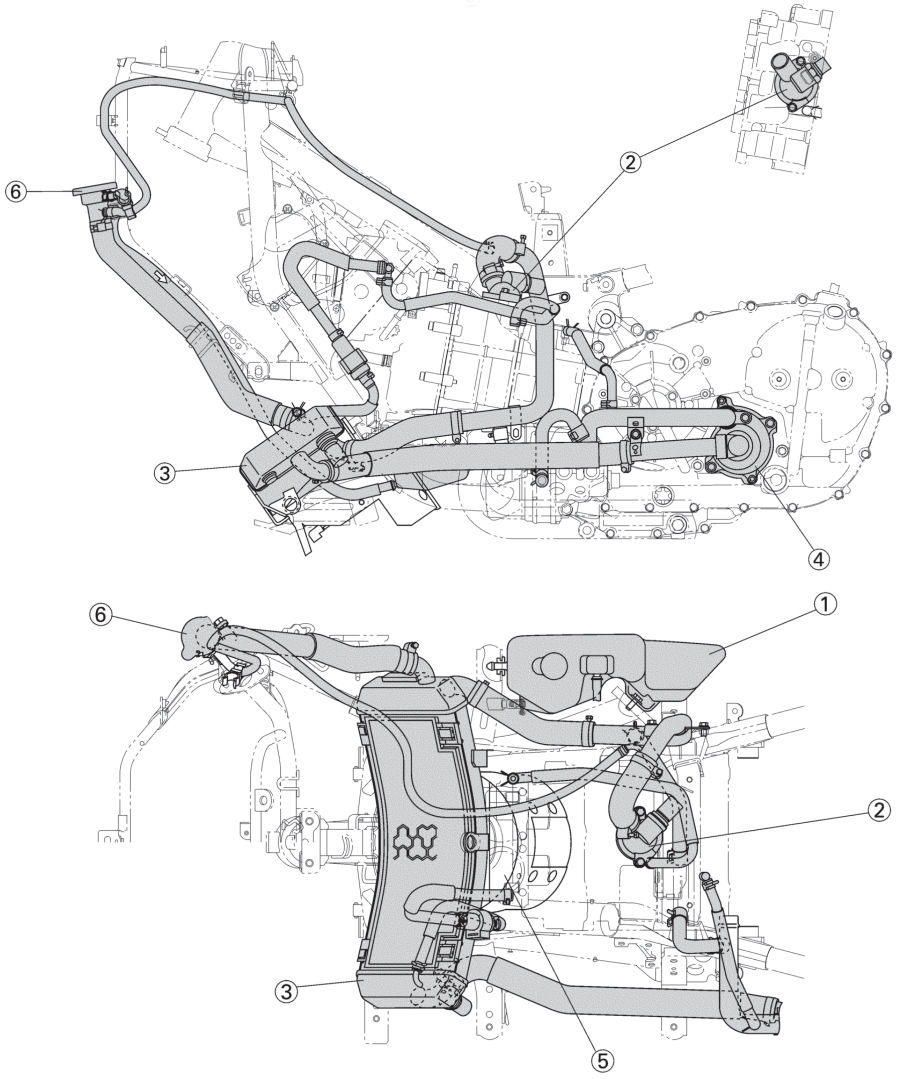




COOLING SYSTEM

- Low mounted radiator for design flexibility
- Automatic air bleed for easy maintenance

① Coolant Reservoir Tank
② Thermostat
③ Radiator
④ Water pump
⑤ Coolant Fan
⑥ Radiator Cap



Cooling system capacity: 1.5 liter

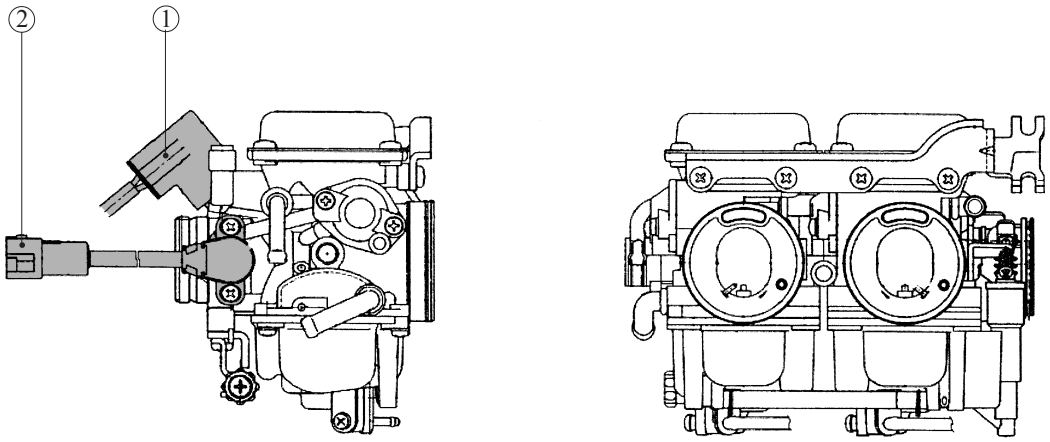
Carburetor heating thermostat:
Coolant temperature is less than 80±2 ºC: OPEN
Coolant temperature is more than 80±2 ºC: CLOSED

Main thermostat:
Coolant temperature is less than 82±2 ºC: OPEN
Coolant temperature is more than 82±2 ºC: CLOSED

CARBURETION SYSTEM

- Twin BS30 round slide carburetors
- Automatic choke for easy starting
- Throttle Position Sensor to optimize ignition timing and reduce emissions
- Coolant type carburetor heater
- Pull-pull type throttle control

① Auto Choke Unit
② Throttle Position Sensor



Carburetor settings

Marking	5GJ1
Main jet	#105
Jet needle	4DK4-3
Needle jet	0 - 0M
Pilot jet	#22.5
Pilot screw turns out	2 1/2

Auto-choke electricity control.

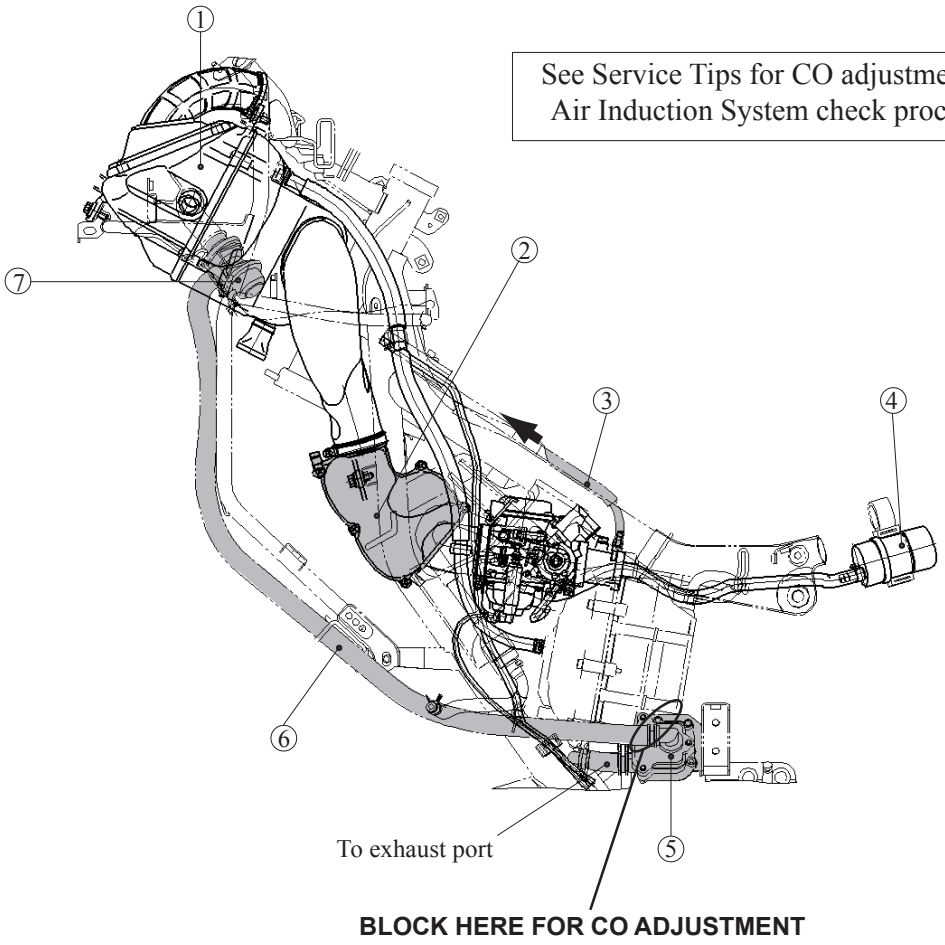
By thermo switch.
coolant temperature is more than 60 ± 3ºC: ON
coolant temperature is less than 55 ± 3ºC: OFF

By TCI Unit
more than 800 rpm: ON
less than 375 rpm: OFF

AIR INTAKE SYSTEM

- Air filter case position in upper front body cowling for effective use of space
- Air intake system uses noise reduction box
- Air Induction System for reduced emissions

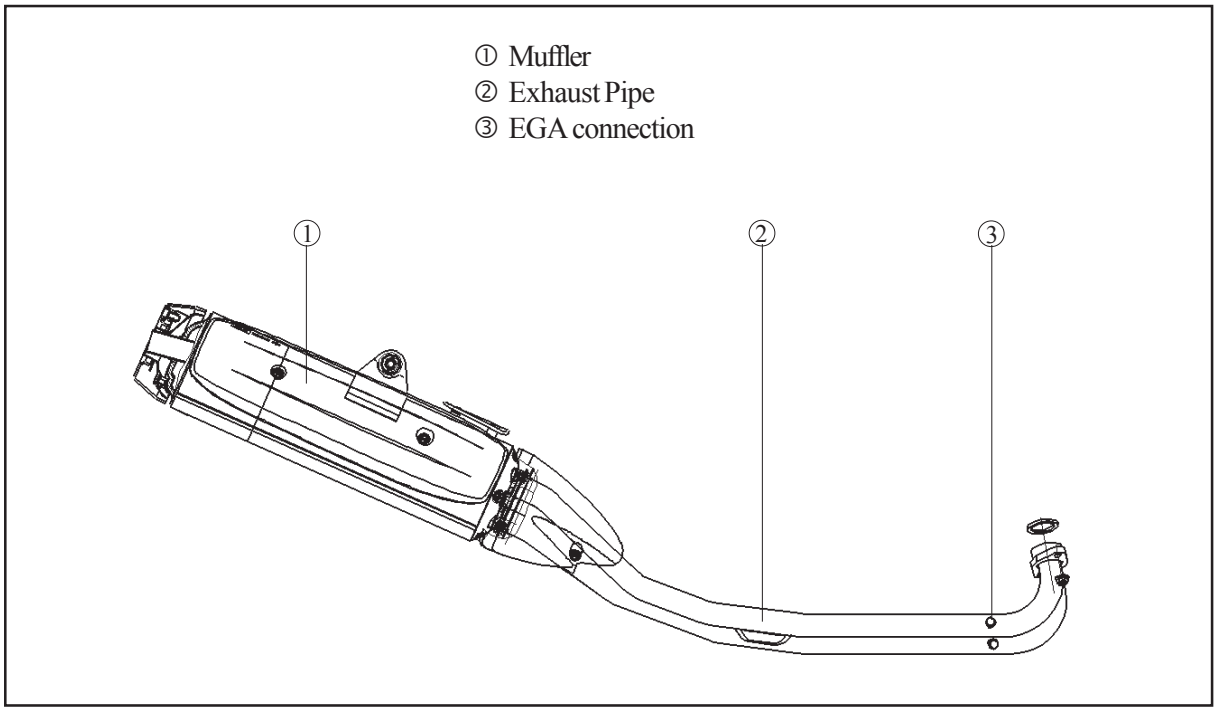
① Air filter case
② Noise reduction box
③ Vacuum hose to Air Cut Valve
④ Fuel pump
⑤ Reed valve
⑥ Air hose (Reed Valve - Air Cut Valve)
⑦ Air Cut Valve



See Service Tips for CO adjustment and Air Induction System check procedure

EXHAUST SYSTEM

■ 2 into 1 stainless exhaust pipes and stainless muffler



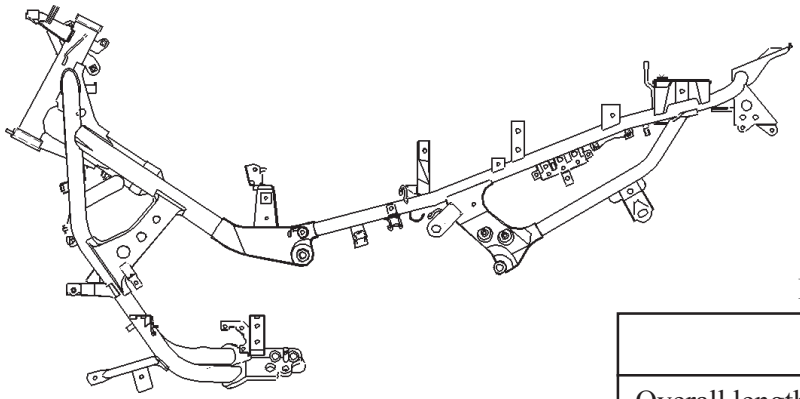
CHASSIS

Like the all-new engine, the TMax's advanced high-rigidity chassis has been developed using some of the latest motorcycle technology in its frame and suspension designs.

- Sports bike type front and rear weight distribution of 47% and 53% respectively
- Ground clearance: 140 mm
- 50º lean angle

FRAME

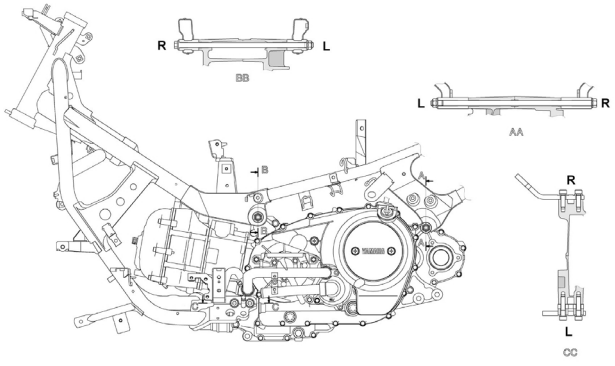
- Newly designed tubular diamond shape frame
- Frame uses engine as a stressed member for added rigidity and enhanced handling performance
- Total configuration keeps centre of gravity low and wheelbase short



References

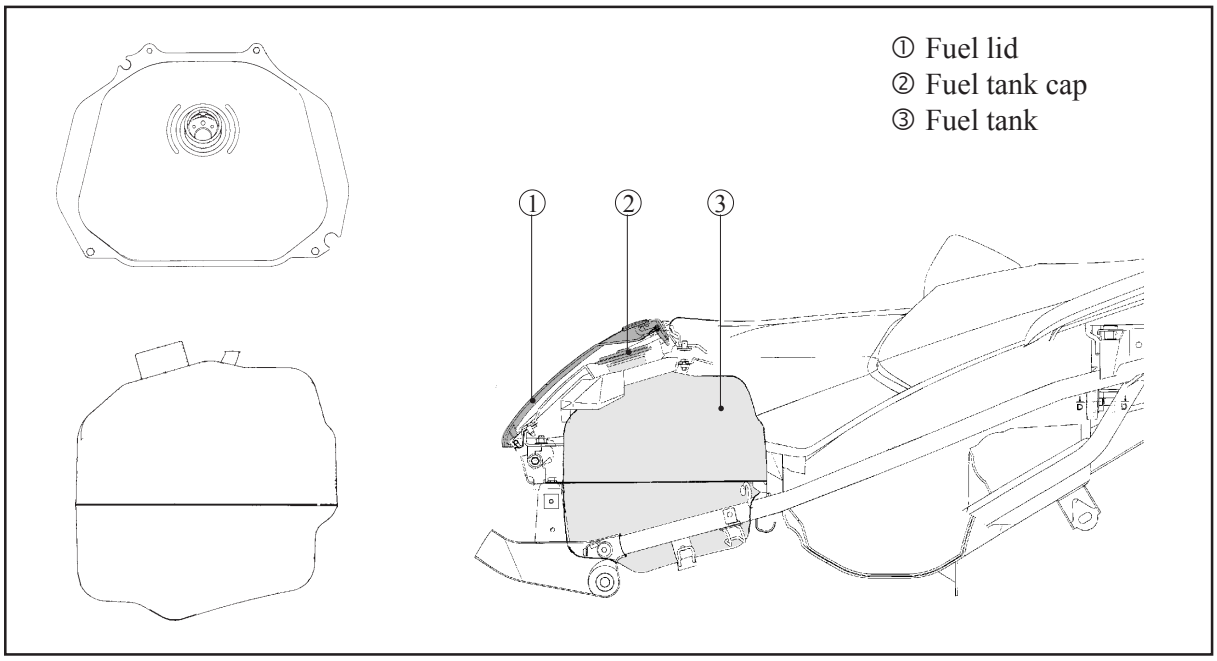
	XP500	YP250
Overall length	2,235 mm	2,120 mm
Wheelbase	1,575 mm	1,540 mm
Min. turn radius	2.8 m	2.6 m

Engine mounting positions



FUEL TANK

- Steel fuel tank just under rider seat
- Fuel lid in rider seat with easy access to fuel cap
- Fuel tank capacity is 14 liters
- Electric fuel pump for stabilized fuel supply uses external fuel filter

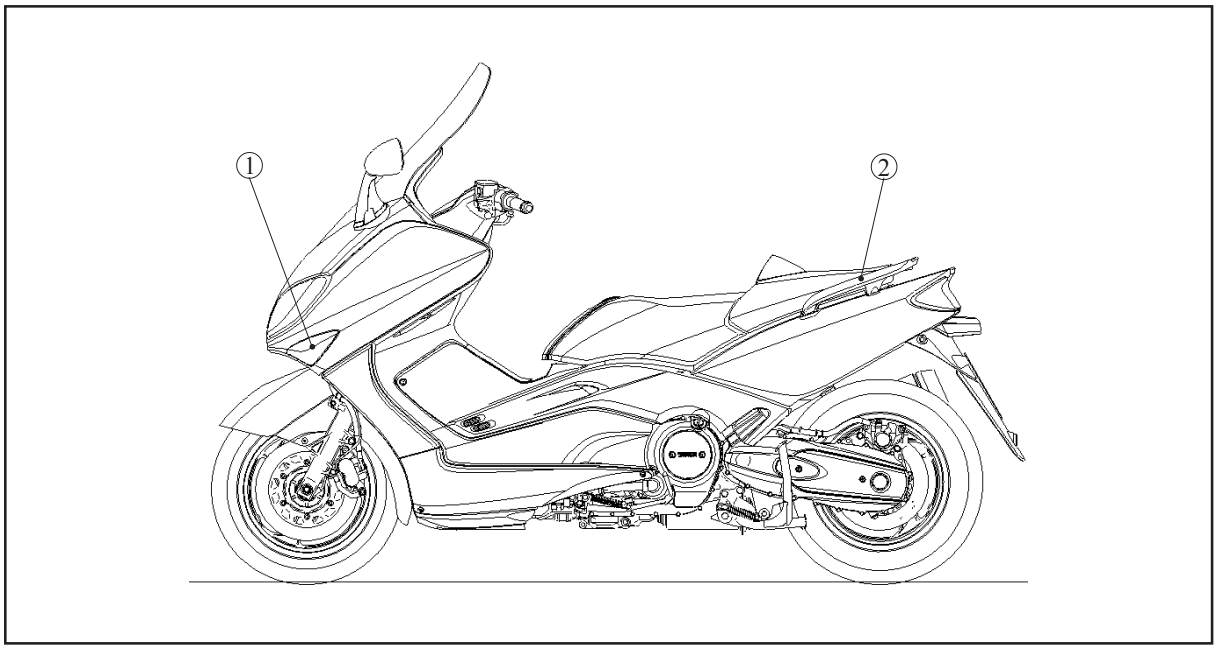


BODYWORK

- Completely new aerodynamically-efficient sports styled bodywork

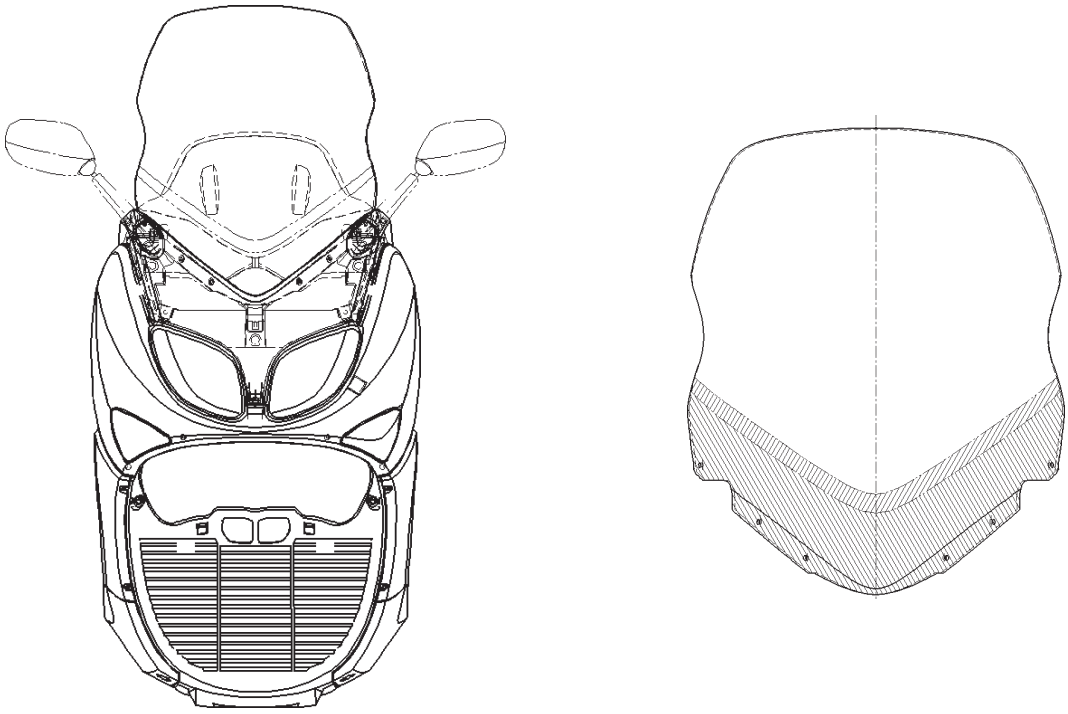
① Integrated turn signal lights

② Aluminium grab bar for improved passenger comfort



WINDSCREEN

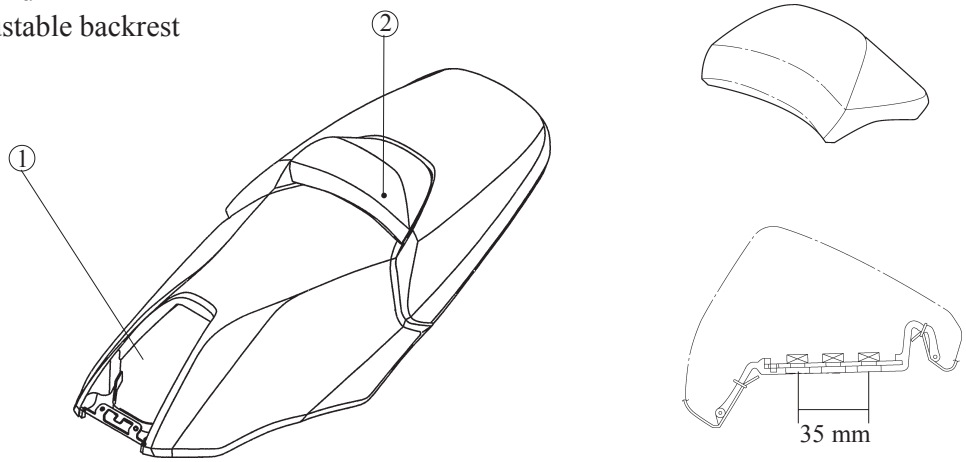
- Large size windscreen for enhanced weather protection
- Newly designed cowling mounted mirrors



SEAT

- One piece deeply padded dual seat
- Rider seat features adjustable backrest offering 35 mm of movement in three stages
- Seat is locked at left and right side for enhanced security

① Fuel lid
② Adjustable backrest

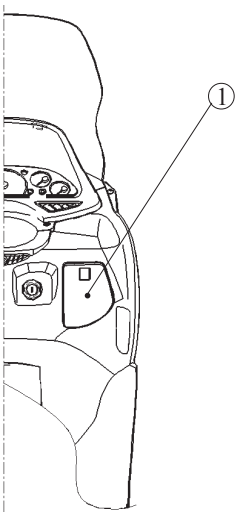


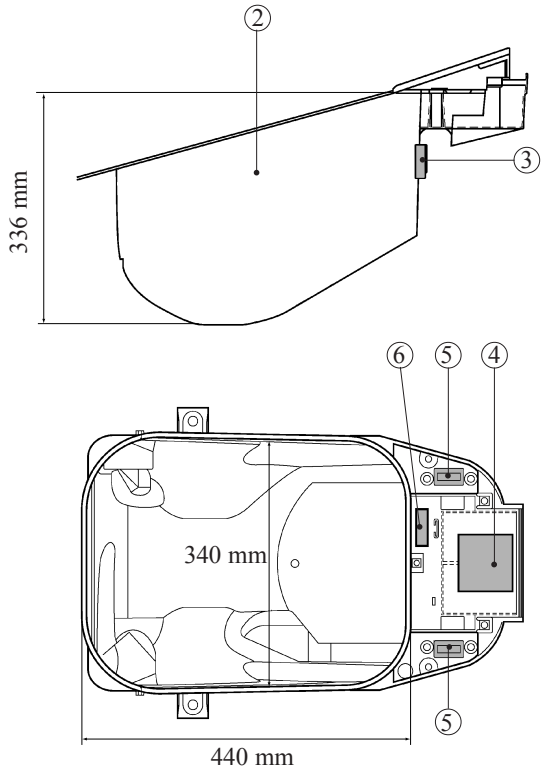
Seat height: 795 mm

STORAGE COMPARTMENTS

- Small compartment in the right side front cowling of 1.2 liter for sunglasses, mobile phone, etc.
- Rear storage compartment under seat of 33 liters and it can hold a full face helmet or B4 size bag
- Rear storage compartment has an interior light, a special area for a U-lock and pre-wired for a 12V accessory plug

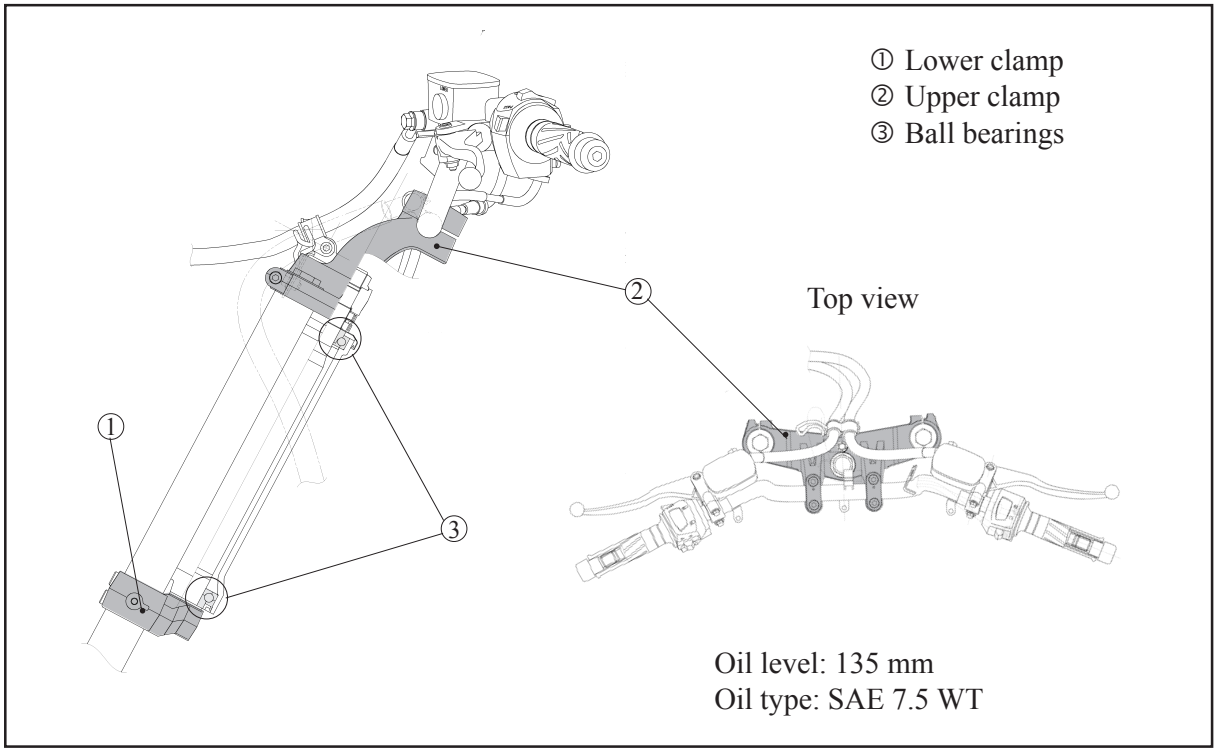
① Front storage compartment
② Rear storage compartment
③ Interior light
④ Battery
⑤ Seat locks
⑥ Fuse box





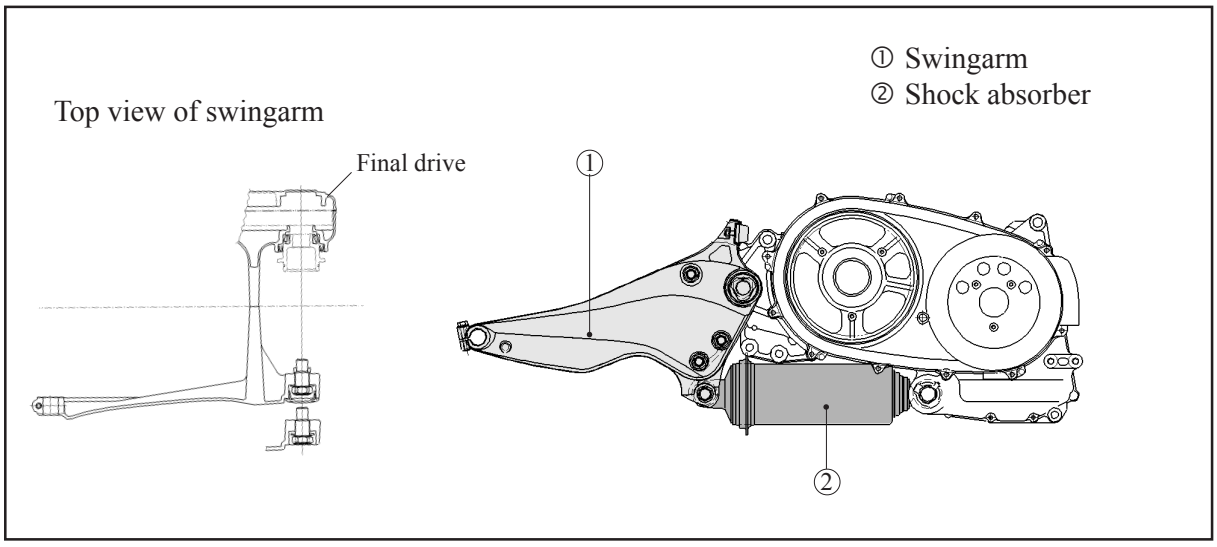
FRONT SUSPENSION

- Motorcycle type front suspension uses upper clamp and 38 mm fork tubes for increased high speed stability
- Front wheel travel: 120 mm



REAR SUSPENSION / SWINGARM

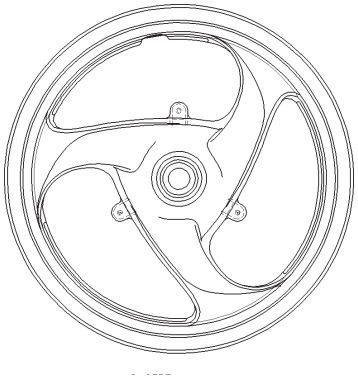
- Single pull type rear shock absorber horizontally positioned underneath the engine for low centre of gravity and increased storage space
- Swingarm and final drive are combined for improved rigidity
- Swingarm pivots independently of engine for more responsive suspension reaction
- Rear wheel travel and shock absorber stroke: 120 mm



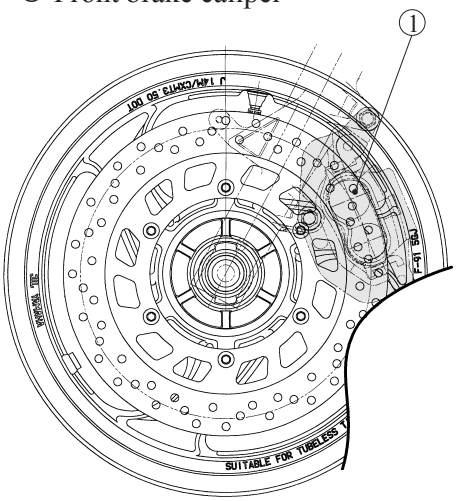
FRONT WHEEL / TIRE / BRAKE

- New 14 x MT 3.50 cast wheel
- Front disc brake diameter: 282 mm
- Front brake: two piston pin slide-type caliper

Front wheel



① Front brake caliper

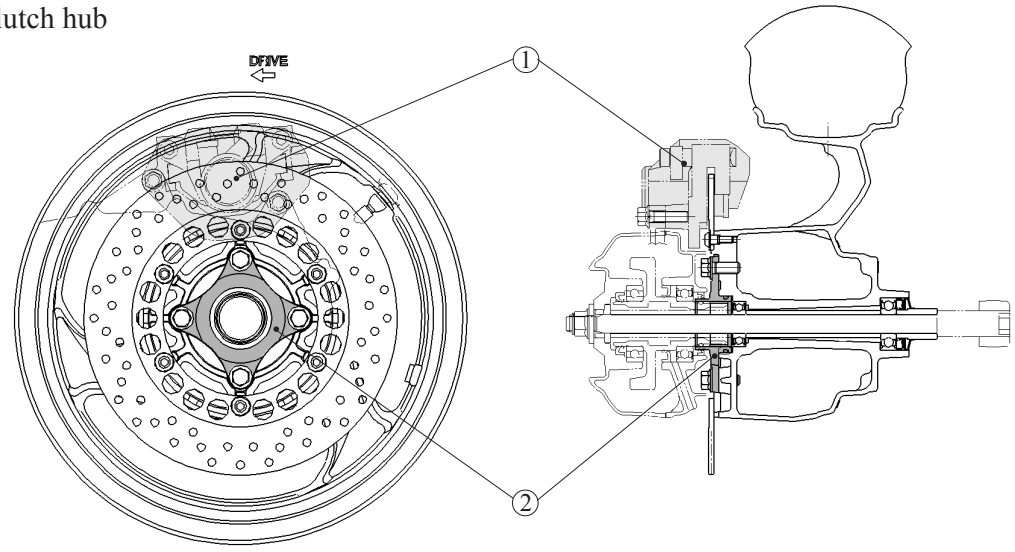


Tires.
Dunlop : D305FA 120/70-14 M/C 55S
Bridgestone : HOOP B03 120/70-14 M/C 55S

REAR WHEEL / TIRE / BRAKE

- New 14 x MT 4.50 cast wheel
- Rear wheel uses motorcycle-type clutch hub and fixed axle for enhanced stability
- Rear disc brake diameter: 267 mm
- Rear brake: 1 piston pin slide-type caliper

① Rear brake caliper
② Clutch hub

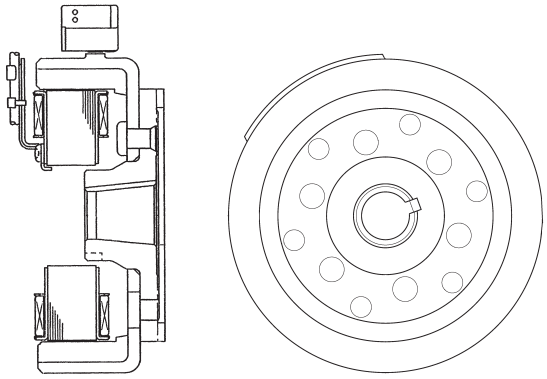


Tires.
Dunlop : D305 150/70-14 M/C 66S
Bridgestone : HOOP B02 150/70-14 M/C 66S

ELECTRICAL SYSTEM

GENERATOR

- The generator supplies ample power for electrical accessories
- Generator capacity: 22A, 14V @ 5000 rpm
- The optional electrical accessories are: mobile phone charger, grip warmers and anti-theft alarm system

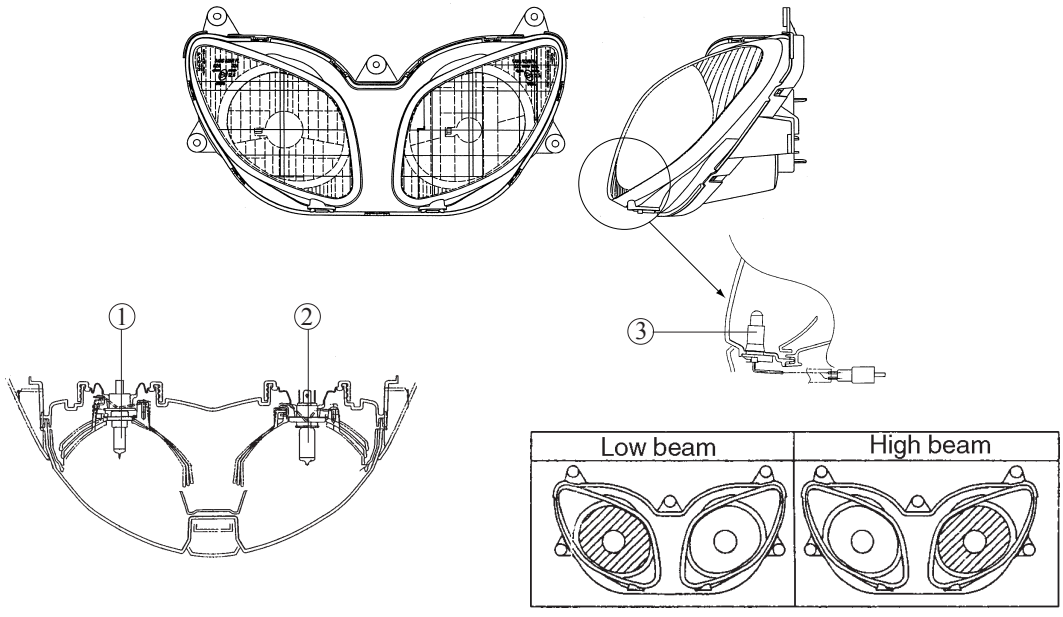


HEADLIGHT ASSEMBLY

- Newly designed multi-reflector dual headlight

① Low beam : 12V, 55W (H7 - 12V, 55W)
② High beam : 12V, 60W (H4 - 12V, 60/55W)
③ Auxiliary lights : 12V, 5Wx2

For UK specifications, the positions of the left and right headlights are opposite

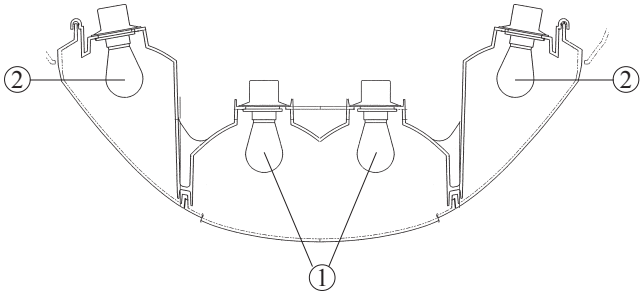


TAILLIGHT ASSEMBLY

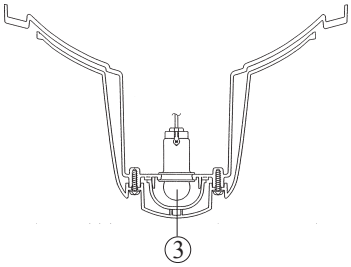
■ Newly designed dual taillight

① Tail / brake light : 12V, 21/5W
② Turn signal light : 12V, 21W
③ License plate light : 12V, 5W

Taillight

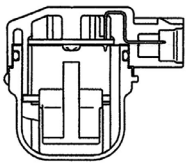


License plate light



LEAN ANGLE CUT-OFF SWITCH

Shuts off fuel pump if TMax falls on its side with running engine
Switch can not be activated if TMax is leaned over while cornering
If activated, the main switch must be turned "off" and then back "on" again to start the engine



ANTI-THEFT ALARM PRE-WIRING

■ Main wiring harness is pre-wired from factory with connectors for an aftermarket alarm system
■ Location: behind left side body cover

GRIP WARMER PRE-WIRING

■ Main wiring harness is pre-wired from factory with connectors for an aftermarket grip warmer
■ Location: under handlebar cover

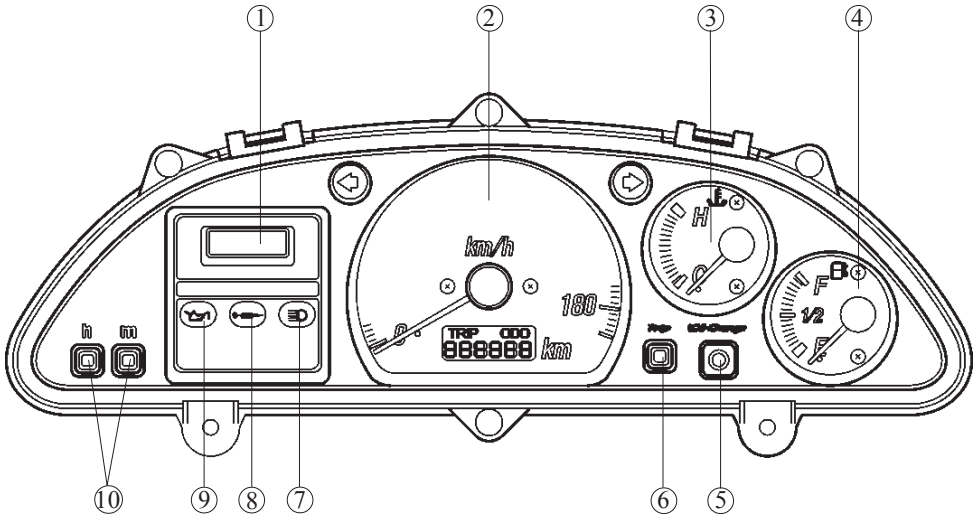
MOBILE PHONE CHARGER PRE-WIRING

■ Main wiring harness is pre-wired from factory with connectors for an aftermarket mobile phone charger
■ Location: behind right side body cover

INSTRUMENTATION

- Automobile-style instrument panel for extensive information and easy reading
- Speedometer uses electronic front wheel speed sensor (same type as FZS600)
- Main switch has luminescent ring (similar to YP250)

① Digital clock
② Speedometer with integrated trip/odometer
③ Coolant temperature gauge
④ Fuel gauge
⑤ Oil indicator reset button
⑥ Trip meter reset button
⑦ High beam indicator
⑧ V-belt change indicator
⑨ Engine oil change indicator
⑩ Time set buttons (left minutes / right hours)



- Oil change indicator lights up at 1,000 km, 5,000 km and then every 5,000 km.
- V-belt indicator lights up every 20,000 km.

See Service Tips for details.

SERVICE TIPS

The Service Tips portion of the Technical Orientation Guide is designed to further familiarize you with some key servicing points of the TMax. It is not designed to replace the TMax Service Manual. For complete servicing details please refer to the Service Manual.

ENGINE OIL LEVEL CHECK

Start checking from cold engine condition.

- Put the TMax on the main stand on level ground and check that the oil is at minimum level in the sight glass. If not, add enough oil to bring it up to the minimum level and start the engine for about 2 to 3 minutes so the oil sufficiently circulates through the system.
- Turn the engine off and let it sit for a couple of minutes to allow the oil to settle into the sump and recheck the level. Add oil to the tank if necessary until the oil is at the proper level in the sight glass.

FINAL DRIVE OIL LEVEL CHECK

With the TMax still on the main stand:

- Remove the two screws and the plastic cover on the left side of the swingarm
- Remove the dipstick and wipe clean
- Reinsert the dipstick but do not screw it in
- Remove again and check the level. If it is below the full level add oil accordingly.

RADIATOR FILL

The radiator fill cap is located just inside the lower right side of the front fairing near the front tire.

COOLANT RESERVOIR

There is a small cutout on the right side cowl under the floorboard area to check the reservoir coolant level. If coolant is below the minimum level, pull up the rubber floorboard mat and remove the screw that holds the filler cap access lid and the cap to add coolant.

AIR FILTER REPLACEMENT

- Remove the mirrors and the windshield with the base, **do not remove the windshield from the base**, to access the air box.
- Remove the airbox cover and air filter.

PROPER REMOVAL OF THE MIDDLE SIDE PANELS

Some caution should be taken when removing these panels to prevent damaging them.

- Remove the two allen screws from the front and the allen screw near the passenger footrest
- Now pull on the bottom of the panel to pop the tabs out of the rubber grommets
- Then push the panel upward from the bottom to pop out the top section.

FUEL PUMP AND FILTER

The fuel pump and filter are located underneath the right middle side panel.

CARBURETOR ACCESS

Carburetor adjustment is easily accessible through the center of the floorboard. The vacuum plugs for carburetor synchronization are on the intake manifolds and the fuel mixture screws for CO adjustment are on the top of carburetors.

AIR CUT VALVE

The Air Cut Valve for the Air Induction System is located under the windshield on the left side of the air box.

AIR INDUCTION SYSTEM REED VALVE

When performing the CO adjustment, be sure to block off the large hose to the reed valve located under the left floorboard. This will prevent air from entering the system and giving inaccurate readings.

CO ADJUSTMENT / AIR INDUCTION SYSTEM CHECK PROCEDURE

CO ADJUSTMENT

1. Cut the secondary air supply by blocking the hose between the Air Cut Valve and the Reed Valve (See pg.16 for Illustration).
2. Connect the exhaust gas analyzer to the head pipe fittings.
3. Disconnect the crankcase breather hose. This will prevent any oil contamination or combustion blow-by from affecting the EGA readings.
4. Warm up the engine for several minutes at idle rpm.
5. Adjust the CO while maintaining the following conditions::
   - Oil temperature : 65 ~ 75 ºC
   - Coolant temperature : 75 ~ 85 ºC
   - Intake vacuum : 33 ~ 39 kPa
   - Idle revolution : 1150 ~ 1250 rpm.

   CO measurement should be: **3.0%**

AIR INDUCTION SYSTEM CHECK PROCEDURE

1. Adjust CO following the above procedure.
2. Restore the secondary air supply to the air induction system unit.
3. Check the CO reading while maintaining the above conditions (oil temperature, coolant tempera - ture , intake vacuum and idle rpm).
4. CO reading should be: **0.5%**

NOTE: Reconnect the crankcase breather hose and check the CO reading again. If the CO level is much higher, the engine oil may be contaminated with gasoline or the engine may be suffering from poor mechanical condition. Change the engine oil and check the CO level again. If the reading is still out of specification, check the engine for a mechanical problem.

V-BELT TRANSMISSION AIR FILTERS

One of the V-belt transmission air filters is located under the left side panel next to the fuel tank and the other one is inside the right crankcase cover in front of the secondary sheave.

HEADLIGHT BULB ACCESS

The head light bulbs can be accessed by reaching up under the front cowling.

TAILLIGHT AND REAR TURN SIGNAL BULB ACCESS

The taillight and turn signal bulbs can be accessed after removing the aluminium grab rail, middle and side sections of the tail cowl.

OTHER COMPONENTS LOCATED UNDER REAR COWL

- The Main fuse, starter relay, flasher relay, starter cut-off relay, fuel pump relay, seat lock cable junction and regulator/rectifier are all located under the right side rear cowl.
- The stator, pick up coil and alarm connectors are located under the left side.

THERMO SENSOR AND THERMO SWITCH

The thermo switch for the auto choke is located directly on the thermostat housing and the thermo sensor for the temperature gauge is next to the thermostat on the cylinder. The electric cooling fan is mounted directly on the radiator and is controlled by a thermo switch mounted on the left upper corner of the radiator.

REAR WHEEL REMOVAL

To remove the rear wheel, place the TMax on the main stand on level ground.

- Take off the plastic cover on the left side of the swingarm.
- Remove the axle nut.
- Remove the rear brake caliper from the swingarm.
- Loosen the axle pinch bolt on the right side.
- Remove the axle and spacer.
- Pull the wheel to the right to slide the hub out of the splines and pull the wheel out of the swingarm.
- Be sure to grease the hub splines before re-installation.

V-BELT REPLACEMENT

The V-belt on the TMax can be replaced by taking off:

- Right middle side panel
- Right floorboard
- Small shroud
- Rear passenger footpeg
- Muffler stay bolt
- Plastic cover from V-belt transmission cover.

- Move the fuel filter and pump out of the way.
- Remove the V-belt transmission cover while moving the muffler out of the way.
- Install two 45 x 6 mm bolts into the threaded holes of the secondary sheave.
- Tighten the bolts evenly until the secondary sheave is spread apart far enough so that the V-belt can be removed.
- Install the new belt and remove the bolts.

To reset the V-belt indicator light, disconnect the 2-pin jumper connector for 2 to 5 seconds with the main switch turned on, then reconnect it.

CHECKING TDC AND CAM TIMING POSITION

- Remove the left and right floorboards as shown earlier.
- Remove the valve cover according to the service manual.
- Remove the inspection plug on the left crankcase cover just above the water pump.
- Remove the small cover on the front of the right side crankcase cover to access the primary sheave nut.
- Rotate the primary sheave nut clockwise until the TDC mark on the rotor is aligned with the mark in the inspection window. The number one cylinder will also be at TDC of its compression stroke when the small holes on both camshaft sprockets are even with the cylinder head surface and facing towards the intake side of the engine.

VALVE ADJUSTMENT PRECAUTION

Because of the near horizontal angle of the cylinder head, the exhaust valve lifters may have a tendency to slide out of their pockets when the cams are removed. If this occurs the adjustment shim may fall out of the valve retainer and damage the cylinder head if the engine is run in this condition.

To prevent this from happening, apply a small amount of grease to the adjusting shim and the valve lifter before reassembly. This will hold the shim and lifter in place while the cams are reinstalled and timed.

RESET ENGINE OIL CHANGE INDICATOR

To reset the engine oil indicator, push the oil indicator reset button on the instrument panel for 2 - 5 seconds. The required reset time is to prevent accidentally resetting the oil change indicator (i.e. the counter in the igniter-unit). See also Self-diagnostics.

SELF-DIAGNOSTICS

The oil indicator light of the TMax has 3 functions:

- Oil indicator bulb check
- Indicate replacement timing of engine oil
- Indicate an electrical problem (self-diagnostics).

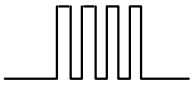
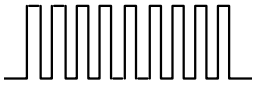
Function 1
The oil indicator lights up momentarily when the main switch is turned on, in order to indicate that the oil indicator light bulb is working properly.

Function 2
The oil indicator lights up continuously in order to indicate that the engine oil has to be replaced. It lights up initially at 1,000 km and 5,000 km, after that it lights up every 5,000 km (10,000 - 15,000 - etc.).

NOTE:
The mileage is counted by the igniter after every reset, it therefore is possible that the timing of the light is different from the odometer reading.

Function 3

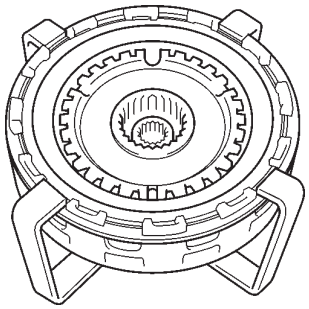
If the igniter detects an electrical problem, the engine oil indicator will flash according to patterns mentioned as Condition Codes in the table below.

Circuit	Defect(s)	System Response	Condition Code	Remarks
TPS	● Disconnected ● Short circuit. ● Mechanical Malfunction.	● The igniter-unit stays set to wide-open throttle ignition timing. ● Oil indicator displays condition code.		Light on : 0.5 s Light off : 0.5 s Pattern interval: 3.0 s
Speed Sensor	● Disconnected	● Oil indicator displays condition code.		
Lean Angle Switch	● Disconnected ● Short circuit. ● Mechanical Malfunction.	● The system stops fuel pump operation. ● Oil indicator displays condition code.		

SPECIAL TOOLS

There are three new special tools introduced for the TMax:

Primary Clutch Holder



Part Name	Part Number
Primary Clutch Holder	90890-01482
Sheave Holder	90890-01481
Plain Bearing Installer/Remover	90890-04139

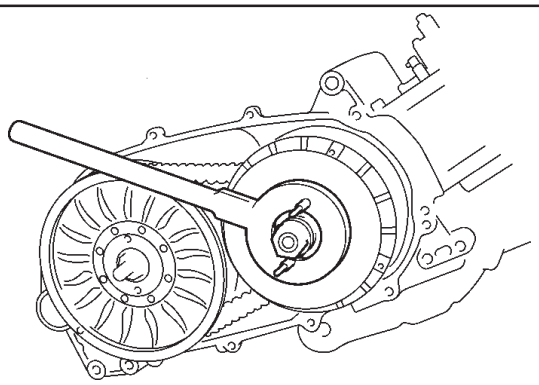
PRIMARY SHEAVE REMOVAL AND DISASSEMBLY

After the V-belt has been removed:

- Install the sheave holder on the primary sheave.
- Take off the nut.
- Take off the front sheave.
- Take off the rear sheave from the crankshaft.

To disassemble the primary sheave:

- Remove the screws.
- Remove the sheave cap.
- Remove the cam.
- Remove and inspect the weights and sliders for damage.



Sheave holder used on primary sheave

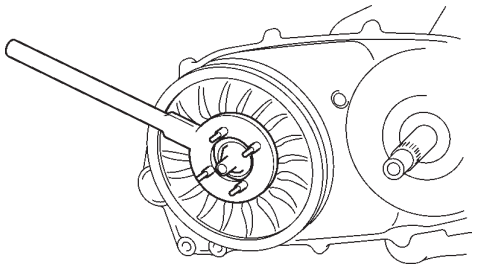
Clean and check the sheave surfaces for cracks or other damage. Clean the entire sheave assembly of the old grease and repack it with 80 to 90 grams of the same special sheave grease as used on the YP250 and re-assemble.

When re-installing the primary sheave on the crankshaft, be sure to grease the crankshaft splines with the special grease and that the sheave plate splines are properly aligned with the crankshaft splines.

SECONDARY SHEAVE REMOVAL AND DISASSEMBLY

Follow the same procedures for the secondary sheave removal as the primary sheave using the opposite side of the sheave holding tool:

- Install the secondary spring compressor tool in a vise.
- Install the secondary sheave onto the tool.
- Remove the nut and spring from the assembly.
- Then separate the sheaves by removing the collar and pins from the cam.



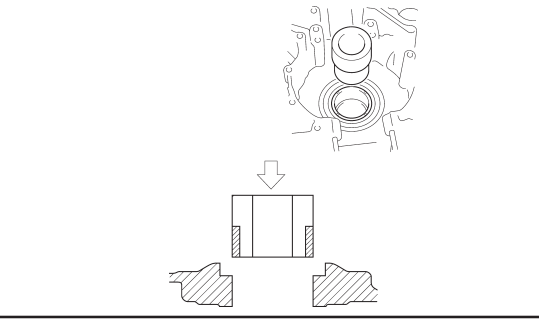
Sheave holder used on secondary sheave

Clean and inspect all parts for wear or damage. Lube all sliding parts with assembly lube and reassemble the sheave.

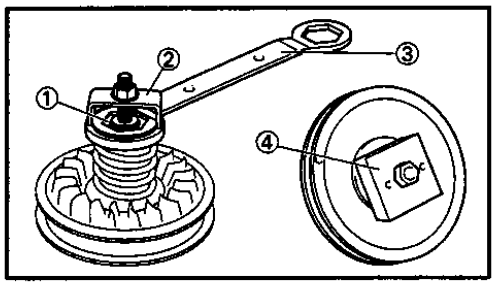
MAIN BEARING REPLACEMENT

Because the TMax uses full circumference plain bearings, it is necessary to use the special bearing installer/remover to remove and install them. Use extreme caution when installing these bearings to prevent damage.

For detailed drawings and instructions refer to the XP500 Service Manual.



Following special tools are NOT new, but they are used only for ATV.
It is possible that motorcycle dealers have do not have the proper tools.



DISASSEMBLING THE SECONDARY SHEAVE

1. Remove:
   - secondary sheave nut ①

NOTE:

Install the sheave spring compresser ② onto the secondary sheave as shown. Then, compress the spring, and remove the secondary pulley nut ① with locknut wrench ③.

Sheave spring compressor ②
90890-04134
Locknut wrench ③
90890-01348
Sheave fixed block ④
90890-04135

PERIODIC CHECKS AND ADJUSTMENTS

This chapter includes information necessary to perform recommended checks and adjustments. If followed, these preventive maintenance procedures will ensure more reliable vehicle operation, a longer service life and reduce the need for costly overhaul work. This information applies to vehicles already in service as well as to new vehicles that are being prepared for sale. All service technicians should be familiar with this entire chapter.

Periodic maintenance and lubrication chart

NOTE:

- **The annual checks must be performed every year, except if a kilometer-based maintenance is performed instead.**
- From 50,000 km, repeat the maintenance intervals starting from 10,000 km.
- Items marked with an asterisk should be performed by a Yamaha dealer as they require special tools, data and technical skills.

NO.		ITEM	CHECK OR MAINTENANCE JOB	ODOMETER READING (×1,000 km)					ANNUAL CHECK
				1	10	20	30	40	
1	*	Fuel line	• Check fuel hoses and vacuum hose for cracks or damage.		√	√	√	√	√
2	*	Fuel filter	• Check condition.			√		√	
3		Spark plugs	• Check condition. • Clean and regap.		√		√		
			• Replace.			√		√	
4	*	Valves	• Check valve clearance. • Adjust.	Every 40,000 km					
5		Air filter element	• Clean.		√		√		
			• Replace.			√		√	
6	*	V-belt case air filter elements	• Clean.		√		√		
			• Replace.			√		√	
7	*	Front brake	• Check operation, fluid level and vehicle for fluid leakage. (See NOTE on page 6-5.)	√	√	√	√	√	√
			• Replace brake pads.	Whenever worn to the limit					
8	*	Rear brake	• Check operation, fluid level and vehicle for fluid leakage. (See NOTE on page 6-5.)	√	√	√	√	√	√
			• Replace brake pads.	Whenever worn to the limit					
9	*	Brake hose	• Check for cracks or damage.		√	√	√	√	√
			• Replace. (See NOTE on page 6-5.)	Every 4 years					
10	*	Wheels	• Check runout and for damage.		√	√	√	√	
11	*	Tires	• Check tread depth and for damage. • Replace if necessary. • Check air pressure. • Correct if necessary.		√	√	√	√	
12	*	Wheel bearings	• Check bearing for looseness or damage.		√	√	√	√	
13	*	Steering bearings	• Check bearing play and steering for roughness.	√	√	√	√	√	
			• Lubricate with lithium-soap-based grease	Every 20,000 km					
14	*	Chassis fasteners	• Make sure that all nuts, bolts and screws are properly tightened.		√	√	√	√	√
15		Sidestand/centerstand	• Check operation. • Lubricate.		√	√	√	√	√
16	*	Sidestand switch	• Check operation.	√	√	√	√	√	√
17	*	Front fork	• Check operation and for oil leakage.		√	√	√	√	
18	*	Rear shock absorber assembly	• Check operation and shock absorber for oil leakage.		√	√	√	√	
			• Lubricate the pivoting points with lithium-soap-based grease.			√		√	
19	*	Carburetors	• Adjust engine idling speed and synchronization.	√	√	√	√	√	√
20		Engine oil	• Change. (See page 3-2 for more information about the oil change indicator light.)	√	4,000 km after initial 1,000 km				
				When the oil change indicator light comes on (every 5,000 km)					
21		Engine oil filter cartridge	• Replace.	√		√		√	
22	*	Cooling system	• Check coolant level and vehicle for coolant leakage.		√	√	√	√	√
			• Change.	Every 3 years					
23		Chain drive oil	• Check vehicle for oil leakage. • Change.		√	√	√	√	
24	*	V-belt	• Replace.	When the V-Belt replacement indicator light comes on (every 20,000 km)					
25	*	Front and rear brake switches	• Check operation.	√	√	√	√	√	√
26		Moving parts and cables	• Lubricate.		√	√	√	√	√
27	*	Lights, signals and switches	• Check operation. • Adjust headlight beam.	√	√	√	√	√	√

EAU03884

NOTE:

- The air filter needs more frequent service if you are riding in unusually wet or dusty areas.
- Hydraulic brake service
  - Regularly check and, if necessary, correct the brake fluid level.
  - Every two years replace the internal components of the brake master cylinders and calipers, and change the brake fluid.
  - Replace the brake hoses every four years and if cracked or damaged.

GENERAL SPECIFICATIONS

XP500 – General Specifications	
Dimensions:	
Overall length	2235mm
Overall width	775mm
Overall height	1410mm
Seat height	795mm
Wheelbase	1575mm
Minimum ground clearance	130mm
Weight:	
Dry (without oil and fuel)	197kg
Wet (with oil and a full fuel tank)	217kg
Maximum load-except motorcycle	183kg
Performance:	
Minimum turning radius	2800mm
Engine:	
Engine type	Liquid cooled 4-stroke, DOHC
Cylinder arrangement	Forward inclined parallel 2-cylinder
Displacement	499cc
Bore x stroke	66 x 73mm
Compression ratio	10.1:1
Standard compression pressure (at sea level)	1450kPa/360r/min (14.5kgf/cm^2/360r/min)
Starting system type	Electric starter
Lubrication System:	
Type	Dry sump
Oil Type or Grade:	
Engine oil	SAE 10W30SE or SAE10W40SE
Chain drive oil	SAE80API ”GL-4” hypoid gear oil
Oil Capacity:	
Periodic oil change	2.8L
With oil filter replacement	2.9L
Total amount	3.6L
Chain Drive Oil:	
Total Amount	0.7L
Radiator	
Capacity (including all routes)	2.4L
Air Filter:	
Type	Dry element
Fuel:	
Recommended fuel	Regular unleaded gasoline
Fuel tank capacity	14L
Carburetor:	
Type/quantity	BS30/2
Manufacturer	Mikuni
Spark Plug:	
Type	CR7E
Manufacturer	NGK
Spark plug gap	0.7~0.8mm

GENERAL SPECIFICATIONS

Transmission:	
Primary reduction system	Helical gear/spur gear
Primary reduction ratio	52/32x36/22(2.659)
Secondary reduction system	Chain drive
Secondary reduction ratio	41/25x40/29(2.262)
Clutch type	Wet multiple-disc automation
Transmission type	V-Belt automatic
Chassis:	
Frame type	Diamond
Caster angle	28º
Trail	95mm
Tire:	
Tire type	Tubeless
Size(front)	120/70-14M/C 55S
Size(rear)	150/70-14M/C 66S
Manufacturer (front)	Dunlop/Bridgestone
Manufacturer (rear)	Dunlop/Bridgestone
Brake:	
Front brake type	Single disc brake
Rear brake type	Single disc brake
Suspension:	
Front suspension	Telescopic fork
Rear suspension	Swingarm
Shock Absorber:	
Front fork type	Coil spring/oil damper
Rear shock absorber assembly type	Coil spring/gas-oil damper
Wheel Travel:	
Front wheel travel	120mm
Rear wheel travel	120mm
Electrical:	
Ignition system type	Transistorized coil ignition (digital)
Charging system type	A.C. magneto
Battery voltage/capacity	12V8Ah
Battery type	GT9B-4
Headlight type	Bulb type
Headlight bulb type	halogen bulb
Bulbs (voltage/wattage x quantity)	
Headlight	12V60W/55Wx1
Headlight	12V55Wx1
Auxiliary light	12V5Wx1
Brake /tail light	12V21W/5Wx2
Front flasher light	12V21W/5Wx2
Rear flasher light	12V21Wx2
Licence plate light	12V5Wx1
Meter light	12V1.7Wx1
Indicator light	
Turn indicator light	12V3.4Wx2

GENERAL SPECIFICATIONS

Oil level indicator light	12V1.7Wx1
High beam indicator light	12V1.7Wx1
V-belt replacement indicator light	12V1.7Wx1
Tire pressure (cold):	
Loading condition A	0~90kg
Front	200kPA(2kgf/cm2)
Rear	225kPa(2.25kgf/cm2)
Loading Condition B	90~183kg
Front	225kPa(2.25kgf/cm2)
Rear	250kPa(2.5gf/cm2)
High speed riding	
Front	225kPa(2.25kgf/cm2)
Rear	250kPa(2.5kgf/cm2)
Maintenance Specification	
Cylinder Head	
Volume	14.97~15.57cc
Max. warpage	0.03mm
Cylinder	
Bore	66.00~66.01mm
Taper limit	0.05mm
Max. out of round	0.05mm
Chamshaft	
Drive system	Chain drive(left)
Camshaft cap inside diameter	23.000~23.021mm
Camshaft-journal-to-camshaft-cap clearance	0.020~0.054mm
Camshaft lobe dimensions	
Intake-measurement A	33.252~33.352
Intake-measurement B	24.956~25.056
Intake-measurement C	8.196~8.396mm
Exhuast-measurement A	33.252~33.352
Exhaust-measurement B	24.956~25.056
Exhaust-measurement C	8.196~8.396
Valve Timing:	
Intake-open (BTDC)((degree))	25º
Intake-closed (ABDC) ((degree))	55º
Exhaust-open (BBDC) ((degree))	55º
Exhaust-closed (ATDC) ((degree))	25º
Overlap angle “A” ((degree))	50º
Max. camshaft runout	0.03mm
Timing Chain:	
Model/Number of links	SCR-0409 SDH/132
Tensioning system	Automatic
Valve, valve seat, valve guide:	
Valve clearance-intake (cold)	0.15~0.20mm
Valve clearance-exhuast (cold)	0.25~0.30mm
Valve Dimensions:	
Valve head diameter A intake	24.9~25.1mm

GENERAL SPECIFICATIONS

Valve head diameter A exhaust	21.9~22.1mm
Valve face width B intake	1.14~1.98mm
Valve face width B exhaust	1.14~1.98mm
Valve seat width C intake	0.9~1.1mm
Valve seat width C exhaust	0.9~1.1mm
Valve margin thickness D intake	0.6~0.8mm
Valve margin thickness D exhaust	0.6~0.8mm
Valve stem diameter-intake	3.975~3.990mm
Valve stem diameter-exhaust	3.960~3.975mm
Valve guide inside diameter-intake	4.000~4.012mm
Valve guide inside diameter-exhaust	4.000~4.012mm
Valve stem to valve guideclearance-intake	0.010~0.037mm
Valve stem to valve guideclearance-exhaust	0.025~0.052mm
Valve stem runout	0.04mm
Valve seat width-intake	0.9~1.1mm
Valve seat width-exhaust	0.9~1.1mm
Valve seat material-intake	PB6
Valve seat material-exhaust	V557W
Valve spring:	
Free length-intake	35.59mm
Free length-exhaust	35.59mm
Spring rate-intake (K1)	18.845N/mm(1.92kgf/mm)
Spring rate-intake (K2)	24.52N/mm(2.5kgf/mm)
Spring rate-exhaust (K1)	18.845N/mm(1.92kgf/mm)
Spring rate-exhaust (K2)	24.52N/mm(2.5kgf/mm)
Installed length-intake (valve closed)	30.39mm
Installed length-exhaust (valve closed)	30.39mm
Spring tilt-intake ((degree))	2.5º/1.6mm
Spring tilt-exhaust ((degree))	2.5º/1.8mm
Winding direction-intake(top view)	Clockwise
Winding direction-exhaust(top view)	Clockwise
Piston:	
Piston part number (***-11631-**)	5GJ-11631-00
Piston-to-cylinder clearance	0.020~0.045mm
<Limit>	0.15mm
Diameter D	65.965~65.980mm
Height H	9mm
Offset	0.5mm
Offset direction	Intake side
Piston pin bore inside diameter	16.002~16.013mm
Piston pin outside diameter	15.991~16.000mm
Piston ring:	
Top ring:	
Ring type	Barrel
Dimensions (B x T)	0.80x2.45mm
End gap (installed)	0.15~0.25mm
Ring side clearance	0.030~0.065mm

GENERAL SPECIFICATIONS

Plating/coating	Chrome plated/ferox coating
2nd ring:	
Ring type	Plain
Dimensions (B x T)	0.8x2.5mm
End gap (installed)	0.4~0.5mm
Ring side clearance	0.020~0.055mm
Plating/coating	Parkerrizing
Oil ring:	
Dimensions (B x T)	1.5x2.0mm
End gap (installed)	0.10~0.35mm
Ring side clearance	0.04~0.16mm
Plating/coating	Chrome plated/parkerrizing
Connecting rod:	
Oil clearance (using plasti-gauge)	0.026~0.050mm
Bearing color code	1.Blue 2.Black 3.Brown 4.Green
Connecting rod length	124.45~124.55mm
Crankshaft:	
Width A	50.0~50.6mm
Width B	118.55~118.60mm
Max. runout C	0.03mm
Big end side clearance D	0.160~0.262mm
Big end radial clearance E	0.026~0.050mm
Journal oil clearance (using plasti-gauge)	0.040~0.082mm
Bearing color code	1.Blue 2.Black 3.Brown 4.Green
Ballancer drive method	Piston
Clutch:	
Friction plate thickness	2.75~3.05mm
Plate quantity	5pcs
Wear limit	2.65mm
Friction plate thickness	1.8~2.0mm
Plate quantity	2pcs
Wear limit	1.7mm
Clutch plate thickness	1.3~1.5mm
Plate quantity	4pcs
Max. warpage	0.1mm
Clutch spring free length	25.9mm
Spring quantity	6pcs
Minimum length	25.4mm
Clutch spring height	4.7mm
Spring quantity	1pcs
Minimum height	4.4mm
Clutch spring height	3.3mm
Spring quantity	6pcs
Minimum height	2.9mm
Clutch release method	Automatic
Carburetor:	
ID mark	5GJ1 00

GENERAL SPECIFICATIONS

Fuel level (using special tool)	29.5~30.5mm
Main jet	#102.5
Main air jet	#100
Jet needle	4DK4-3/5
Needle jet	O-0M (#893)
Pilot air jet 1	#85
Pilot air jet 2	#170
Pilot outlet	0.8
Pilot jet	#22.5
Bypass 1	0.8
Bypass 2	0.8
Bypass 3	0.8
Pilot screw turns out	2
Valve seat size	1
Throttle valve size	#117.5
Idling condition:	
Engine idle speed	1150~1200r/min
CO% with AIS blocked	3%
Intake vacuum	35kPa(263mmHg)
Water temparature ((degreeC))	85~100ºc
Oil temparature ((degree C))	70ºc
Fuel pump:	
Pump type	Electrical
Model/manufacturer	3LN/MITSUBISHI
Consumption amperage (max.)	0.8A
Output pressure	8.3~12.3kPa(0.08~0.12kgf/cm2)
Oil filter type:	Wire mesh
Oil pump:	
Oil pump type	Trochoid
Inner rotor to outer rotor tip clearance	0.04~0.12mm
Outer rotor to pump housing clearance	0.045~0.085mm
Housing and rotor clearance	0.11~0.23mm
Bypass valve opening pressure	80~120kPa(0.8~1.2kgf/cm2)
Relief valve operating pressure	450~550kPa(4.5~5.5kgf/cm2)
Oil pressure (hot)	150kPa/1200r/min(1.5kgf/cm2/1200r/min)
Pressure check location	MAIN GALLERY
Cooling system:	
Radiator core:	
Width	330mm
Height	138mm
Depth	24mm
Radiator cap opening pressure	107.9~137.3kPa(1.08~1.37kgf/cm2)
Coolant reservoir capacity	0.6L
<from low to full level>	0.25L
Water pump:	
Water pump type	Single suction centrifugal pump
Reduction ratio	23/19(1.210)

GENERAL SPECIFICATIONS

Steering:	
Steering bearing type	Angular bearing
Lock to lock angle (left)((degree))	38.5º
Lock to lock angle (Right)((degree))	38.5º
Front suspension:	
Front fork travel	120mm
Fork spring free length	428.5mm
Installed length	419.5mm
Collar length	129.6mm
Spring rate (K 1)	11.8N/mm(1.2kgf/mm)
Spring rate (K 2)	15.7N/mm(1.6kgf/mm)
Spring rate (K 3)	19.6N/mm(2kgf/mm)
Spring stroke (K 1)	0~19mm
Spring stroke (K 2)	19~83mm
Spring stroke (K 3)	83~120mm
Optional spring available	No
Oil Quantity	402cc
Oil Level	135mm
Recommended oil	Fork oil 7.5W or equivalent
Inner tube outer diameter	38mm
Rear suspension:	
Rear shock absorber assembly travel	44.5mm
Spring free length	190mm
Installed length	180mm
Spring rate (K 1)	226N/mm(23.05kgf/mm)
Spring rate (K 2)	294N/mm(29.98kgf/mm)
Spring stroke (K 1)	0~30mm
Spring stroke (K 2)	30.0~44.5mm
Optional spring available	No
Enclosed gas/air pressure(STD)	4900kPa(49kgf/cm2)
Swingarm:	
Free play limit(at the end of the swingarm)-radial	1mm
Free play limit(at the end of the swingarm)-axial	1mm
Front wheel:	
Wheel type	Cast wheel
Rim size	14M/C x MT3.50
Rim material	Aluminum
Max. radial wheel runout	1mm
Max. lateral wheel runout	0.5mm
Rear wheel:	
Wheel type	Cast wheel
Rim size	14M/C x MT4.50
Rim material	Aluminum
Max. radial wheel runout	1mm
Max. lateral wheel runout	0.5mm
Front disc brake:	
Disc brake type	Single

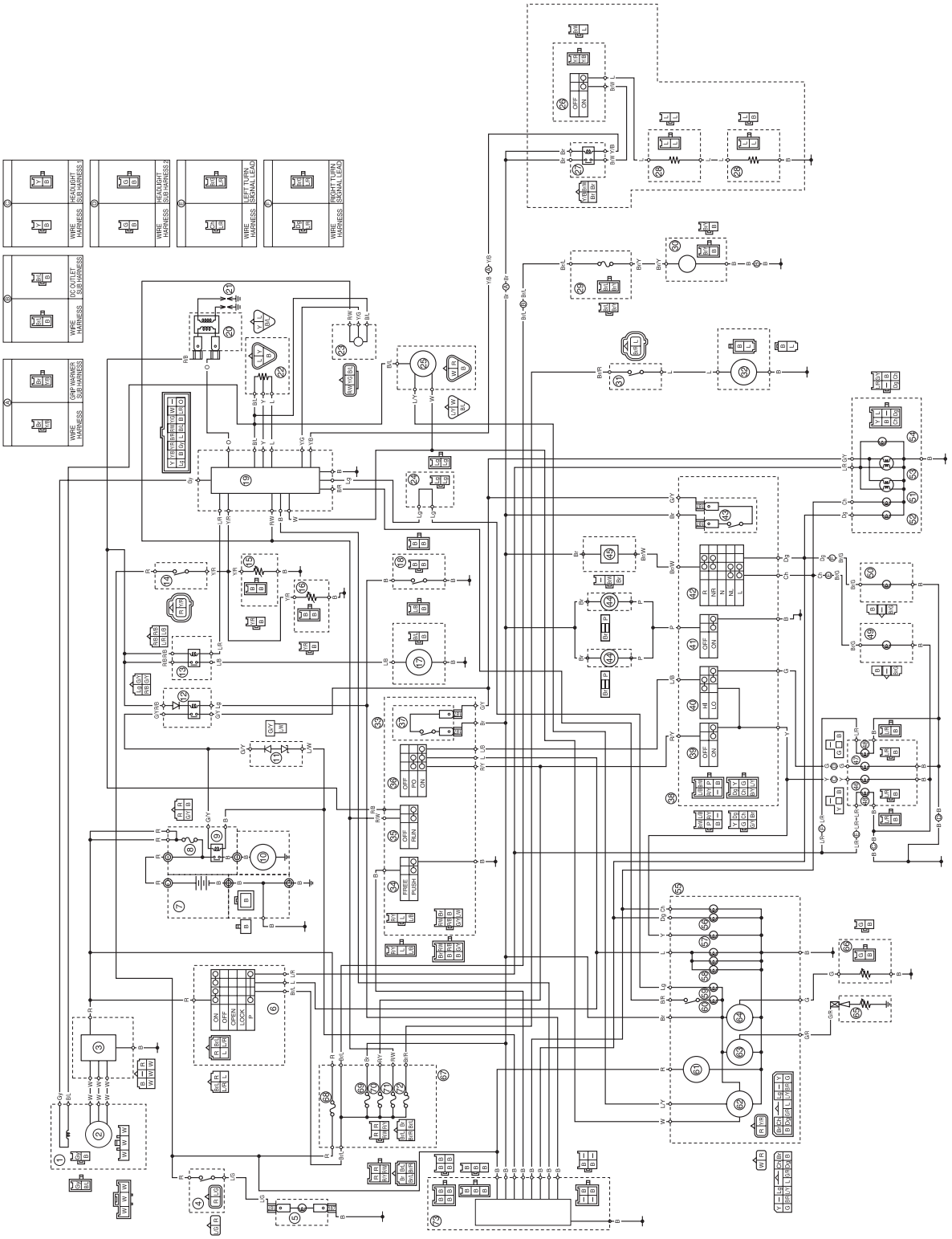
GENERAL SPECIFICATIONS

Disc outside diameter x thickness	282x5mm
Max. deflection	0.15mm
Brake pad lining thickness-inner	6mm
<Limit>	0.8mm
Brake pad lining thickness-outer	6mm
<Limit>	0.8mm
Master cylinder inside diameter	14mm
Caliper cylinder inside diameter	30.16mm
Caliper cylinder inside diameter	33.34mm
Recommended fluid	Dot 4
Rear disc brake:	
Disc brake type	Single
Disc outside diameter x thickness	267x5mm
Max. deflection	0.15mm
Brake pad lining thickness-inner	8.3mm
<Limit>	0.8mm
Brake pad lining thickness-outer	8.3mm
<Limit>	0.8mm
Master cylinder inside diameter	12.7mm
Caliper cylinder inside diameter	38.1mm
Recommended fluid	Dot 4
Brake lever and brake pedal:	
Brake lever free play (pivot)	1.8~2.6mm
Brake lever free play (lever end)	6.7~14.1mm
Throttle grip free play	3~5mm
Ignition system:	
Ignition timing (B.T.D.C.)((degree))	10º/1200r/min
Advancer type	Digital
Transistorized coil ignition:	
Pickup coil resistance ((ohm))	210Ω+-10%Gy-B
T.C.I. unit model/manufacturer	J4T120/MITSUBISHI
Ignition coil:	
Model/manufacturer	JO313/DENSO
Primary coil resistance ((ohm))	2.2Ω+-15%
Secondary coil resistance((k ohm))	15KΩ+-20%
Spark plug cap:	
Material	Resin
Resistance ((k ohm))	10KΩ
A.C. magneto:	
Model/manufacturer	F4T373/MITSUBISHI
Standard output	14V310W5000r/min
Stator coil resistance ((ohm))	0.375Ω+-10%W-W
Rectifier/regulator:	
Regulator type	Semi conductor-short circuit
Model/manufacturer	SH650A-12/SHINDENGEN
No load regulated voltage(DC)	14.5<+->0.4V
Rectifier capacity (DC)	18A

GENERAL SPECIFICATIONS

Withstand voltage	200V
Battery:	
Specific gravity	1.32
Electric starting system:	
System type	Constant mesh
Starter motor:	
Model/manufacturer	SM-13/YAMAHA
Power output	07kW
Armature coil resistance ((ohm))	0.0015~0.0025Ω
Brush overall length	12mm
<Limit>	4mm
Brush spring force	7.65~10.01N(780~1021gf)
Commutator diameter	28mm
<Limit>	27mm
Mica undercut (depth)	0.7mm
Starter relay:	
Model/manufacturer	MS5F-561/JIDECO
Amperage	180A
Coil resistance ((ohm))	4.4Ω+-5%
Horn:	Horn type Plane
Quantity	2pcs
Model/manufacturer	YF-12/NIKKO
Max. amperage	3A
Turn signal/hazard relay:	
Relay type	Full transistor
Model/manufacturer	FE246BH/DENSO
Self cancelling device built-in	No
Turn signal blinking frequency	75~95cyl/min
Wattage	21Wx2+3.4W
Fuel gauge:	
Model/manufacturer	5GJ/NIPPON SEIKI
Sender unit resistance-full ((ohm))	4~10Ω
Sender unit resistance-empty ((ohm))	90~100Ω
Circuit breaker:	
Circuit breaker type	Fuse
Amperage for fuses:	
Main fuse	30A
Headlight fuse	15A
Signaling system fuse	15A
Ignition fuse	10A
Radiator fan fuse	15A
Back up fuse	10A
Reserve fuse	30A
Reserve fuse	15A
Reserve fuse	10A
Thermo-unit:	
Model/manufacturer	46X/NIPPON SEIKI

WIRING DIAGRAM



WIRING DIAGRAM

① Pickup coil
② A.C.magneto
③ Rectifier / regulator
④ Box light switch
⑤ Box light
⑥ Main switch
⑦ Battery
⑧ Main fuse
⑨ Starter relay
⑩ Starter motor
⑪ Diode
⑫ Starting circuit cut-off relay
⑬ Fuel pump relay
⑭ Thermo switch (Auto choke)
⑮ Auto choke 1
⑯ Auto choke 2
⑰ Fuel pump
⑱ Sidestand switch
⑲ Igniter unit
⑳ Ignition coil
㉑ Spark pulg
㉒ Throttle position sensor
㉓ Lean angle cut-off switch
㉔ Reset coupler
㉕ Speed sensor
㉖ Grip warmer switch (OPTION)
㉗ Grip warmer relay (OPTION)
㉘ Grip warmer (OPTION)
㉙ DC outlet fuse
㉚ DC outlet
㉛ Thermo switch (Fan)
㉜ Radiator fan motor
㉝ Right handlebar switch
㉞ Start switch
㉟ Engine stop switch
㊱ Light switch
㊲ Front brake light switch
㊳ Left handlebar switch
㊴ Pass switch
㊵ Dimmer switch
㊶ Horn switch
㊷ Turn signal switch
㊸ Rear brake light switch
㊹ Horn
㊺ Flasher relay
㊻ Headlight (Hi)
㊼ Headlight (Low)
㊽ Auxiliary light
㊾ Front turn signal light (Left)
㊿ Front turn signal light (Right)
(51) Rear turn signal light (Left)
(52) Rear turn signal light (Right)
(53) Tail / brake light
(54) License plate light
(55) Meter assembly
(56) Trun signal indicator light
(57) Hi beam indicator light
(58) Meter light
(59) V-belt indicator light
(60) Engine oil change indicator light
(61) Clock
(62) Speedometer
(63) Water temperature gauge
(64) Fuel gauge
(65) Thermo unit (Water temperature)
(66) Fuel level sender
(67) Fuse box
(68) Backup fuse
(69) Signal fuse
(70) Headlight fuse
(71) Ignition fuse
(72) Radiator fan fuse
(73) Alarm (OPTION)

COLOR CODE

B	Black	Br/G	Brown/Green
Br	Brown	Br/L	Brown/Blue
Ch	Chocolate	Br/R	Brown/Red
Dg	Dark green	Br/Y	Brown/Yellow
G	Green	Br/W	Brown/White
Gy	Gray	G/R	Green/Red
L	Blue	G/Y	Green/Yellow
Lg	Light green	L/B	Blue/Black
O	Orange	L/G	Blue/Green
P	Pink	L/R	Blue/Red
R	Red	L/Y	Blue/Yellow
Y	Yellow	L/W	Blue/White
W	White	R/B	Red/Black
B/R	Black/Red	R/Y	Red/Yellow
B/Y	Black/Yellow	R/W	Red/White
B/W	Black/White	Y/B	Yellow/Black
B/L	Black/Blue	Y/R	Yellow/Red