

# TE450 - Rapier



HYOSUNG MOTORS  
& MACHINERY INC.

# Key Features overview

- ◆ **Friendly sport machine**
  - **Sporty styling with powerful engine**
  - **Light and Sporty Aluminum-alloy swing-arm and rims**
  - **Maximum wheel travel for impact absorption**
  - **Practical equipment for fun riding**
  - **Electric start and reverse gear for easy riding**



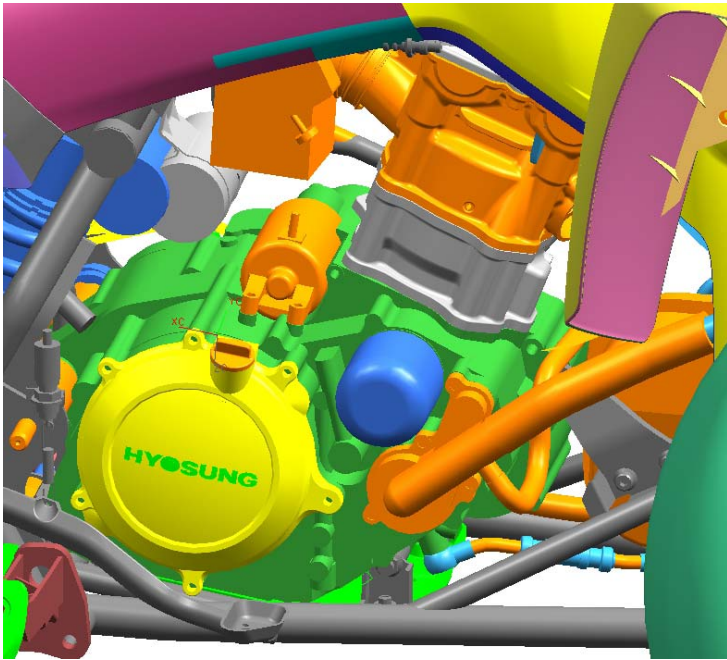
# Engine



- ◆ **4 Stroke, liquid-cooled, DOHC 4 valve**
- ◆ **Decomp. system for easy starting**
- ◆ **Built-in Secondary Air system with air-cut valve.**



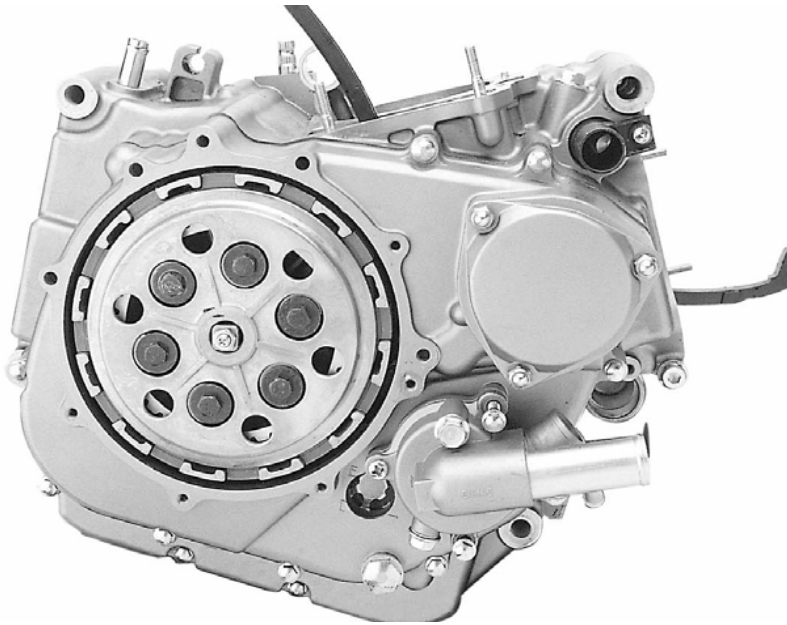
# Engine



- ◆ Engine oil inlet
- ◆ Easy to replace engine oil filter
- ◆ Low vibration with counter balancer
- ◆ Wave washer and seat in clutch plate



# Separate Clutch Cover



- ◆ **Easy Replacement of Clutch plate**



# Power & torque

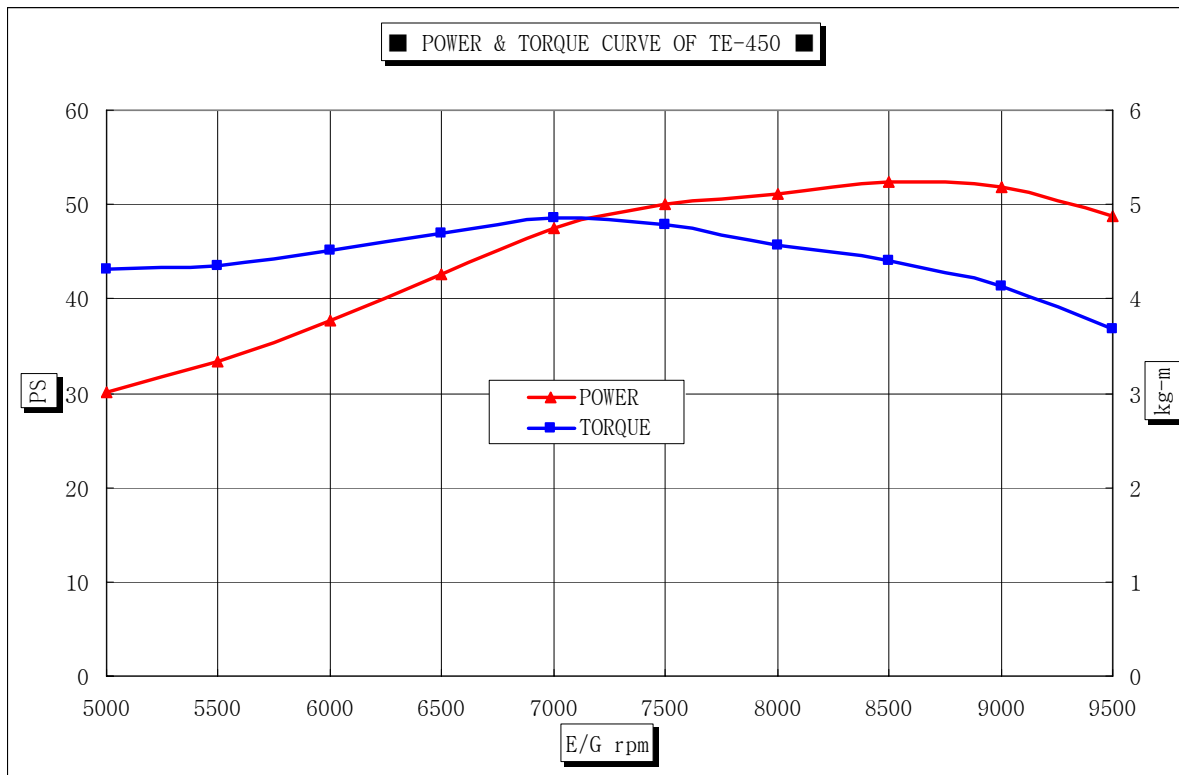
Full power version only

Max Power

52.34 PS/8,500rpm

Max Torque

4.86 kgf.m/7.000rpm



\* Above power and torque data are not official, only for your reference.



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# Transmission

- Primary reduction ratio 2.500 (75/30)
- Final reduction ratio 3.143 (44/14)
  
- Gear ratios, 1st 2.530 (33/13)  
2nd 1.684 (32/19)  
3rd 1.261 (29/23)  
4th 1.040 (26/25)  
5th 0.885 (23/26)  
Reverse 2.231 (29/13)



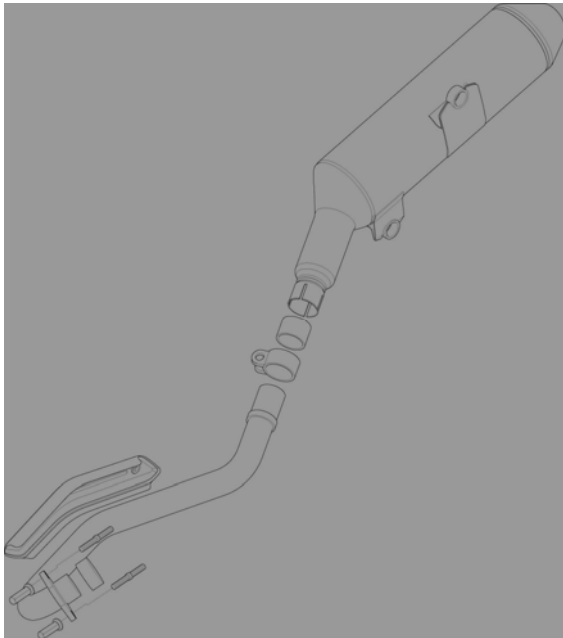
# Air cleaner

- ◆ **6.2-liter air box**
- ◆ **193mm x 160mm x 240 mm**
- ◆ **Urethane Hydrometallurgy**





# Exhaust muffler



- ◆ **Material: Stainless steel**
- ◆ **Oxidized Catalyst.**
  - OD 63.5 x 50 mm
  - approx. 35 grams



# Speedometer



- ◆ **New design Digital LCD**
  - \* Speedometer
  - \* Odometer
  - \* Trip meter
  - \* Clock
  - \* Indicator
  
- ◆ **Blue color back light**



# Headlamp



## ◆ Vertical Dual headlamp

- High beam: 12V/55W H7 x 1 (20,000 cd)
- Low beam: 12V/55W H7 x 1 (8,000 cd)



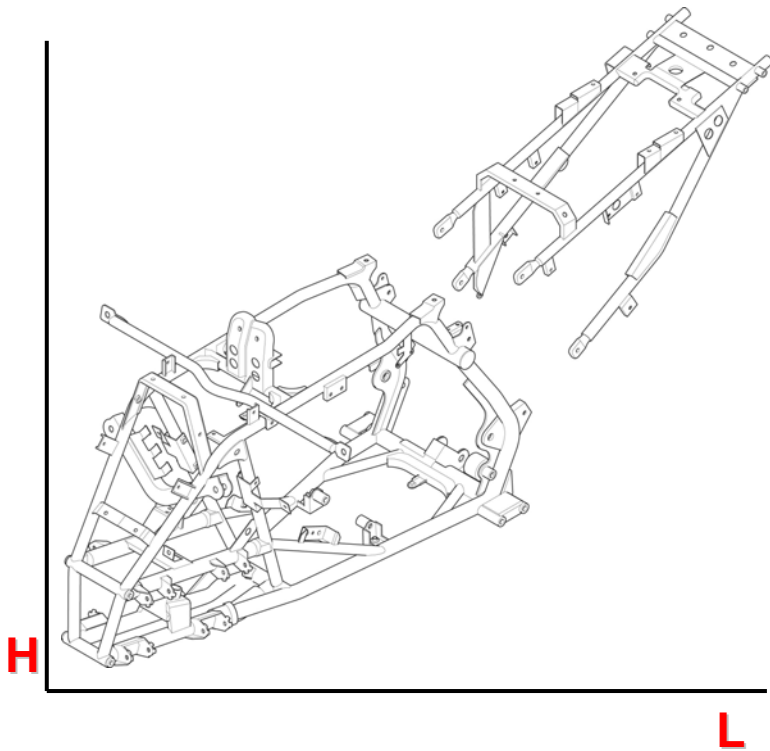
# Tail lamp



- ◆ **High luminance LED**
  - **Light-Emitting Diode**



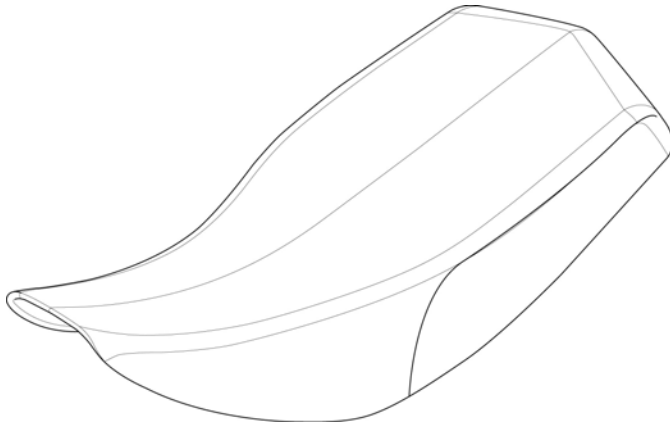
# Frame dimension



- **Double cradle**
- **Material: Steel STKM11A**
- **Pipe Size:  $\Phi$  29, 2.5t**
- **H : 619 mm**
- **L : 1,549 mm**
  
- **Easy maintenance with separate(front and rear) frame.**



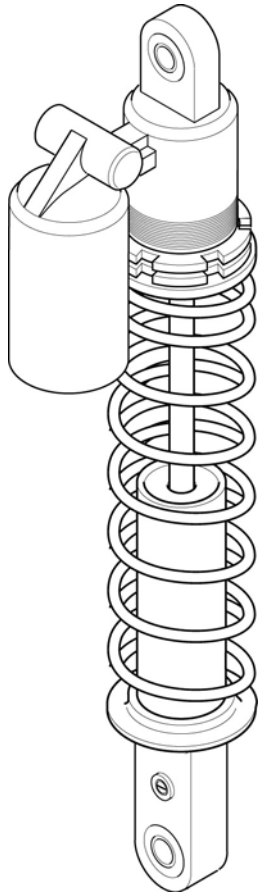
# Seat



- ◆ **TE450 seat provides an optimized sitting position while driving steep road and jumping.**



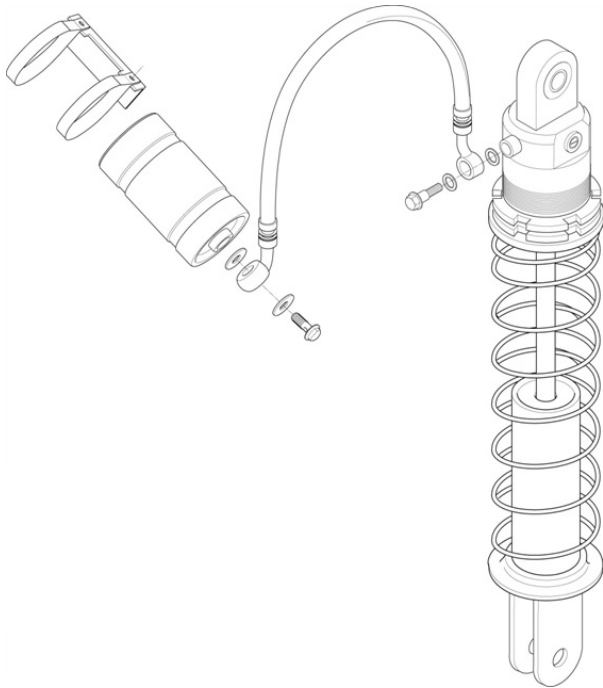
# Front Absorber



- ◆ **Tension damping, compression damping full adjustable**
- ◆ **Pre-load spring adjustable**
  - **Spring rate : 2.73 kgf/mm**
  - **Stroke : 118mm**



# Rear shock absorber

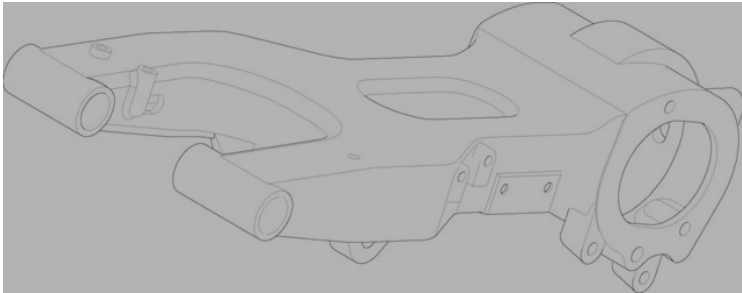


- ◆ **Tension damping, compression damping full adjustable**
- ◆ **Preload spring adjustable**
  - **Stroke : 75 mm**
  - **Spring rate : 7.8 kgf/mm**





# Swingarm



- ◆ Light weight aluminum hollow swingarm
  - Pivot shaft axis to rear end
    - 496 mm (44T rear sprocket)
- ◆ Drive chain
  - RK520EXW, 102 links

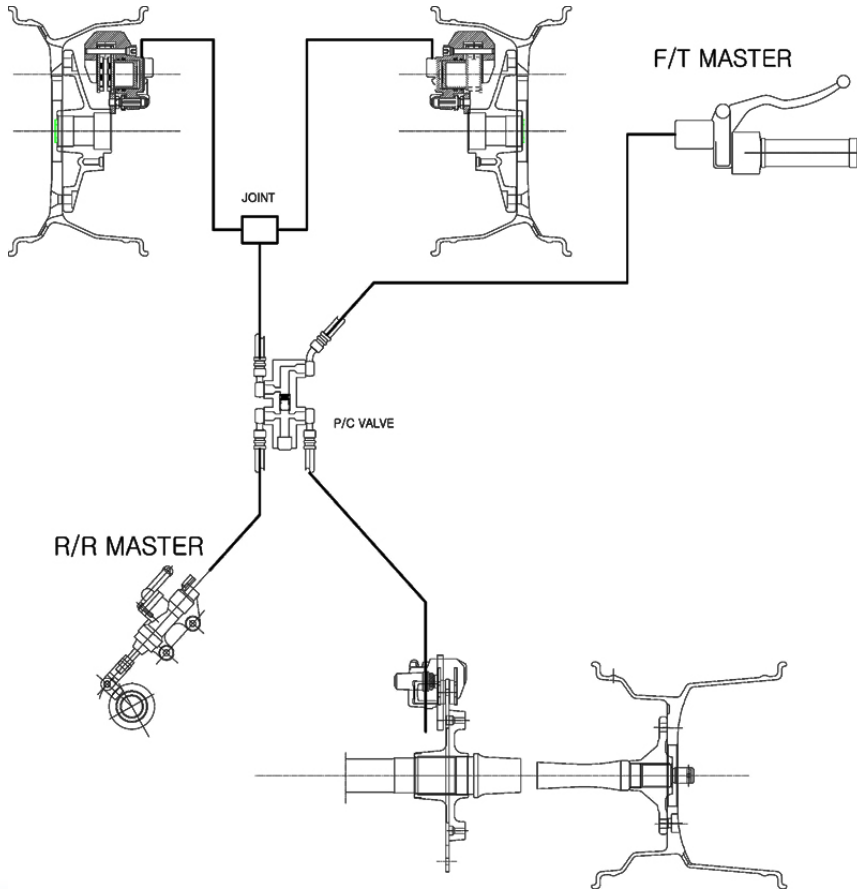


# Brake

- ◆ **Combined Brake system**
- ◆ **Parking Brake available**
- ◆ **Front brake**
  - 1-piston(32Φ) caliper
  - 170mm brake disks
- ◆ **Rear brake**
  - 1-piston(34Φ) caliper
  - 240mm single disk
  - Sintered metal pad



# Combined Brake System



- ◆ **Combined Brake system**
- ◆ **Mechanical parking brake**

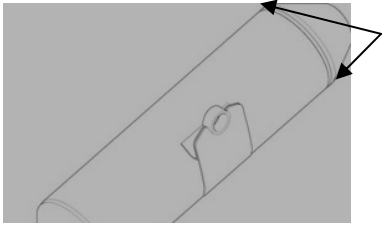
# Tire & Wheel

- ◆ **Radial tires**
  - **Front : AT21 X 7-10**
  - **Rear : AT21 X 11-9**
  
- ◆ **Cast aluminum-alloy wheels**
  - **Front : 10 x 5.5**
  - **Rear : 9 x 8.0**

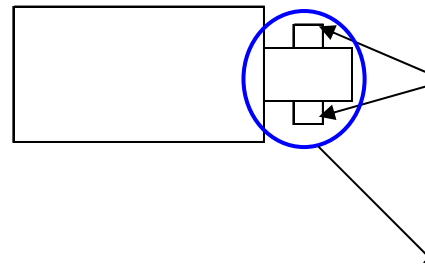


# How to power up

## 1. Remove tail pipe



- 1) Unscrew 2 bolts
- 2) Open muffler cover



- 1) Unscrew 2 bolts
- 2) Remove tail pipe

Tail Pipe



# How to power up

## 2. Replace piston valve



15 kw power



Full power

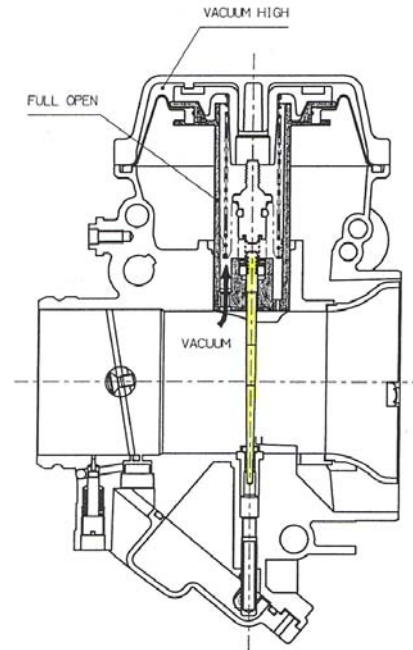
## 3. Replace main jet

162.5  $\phi$

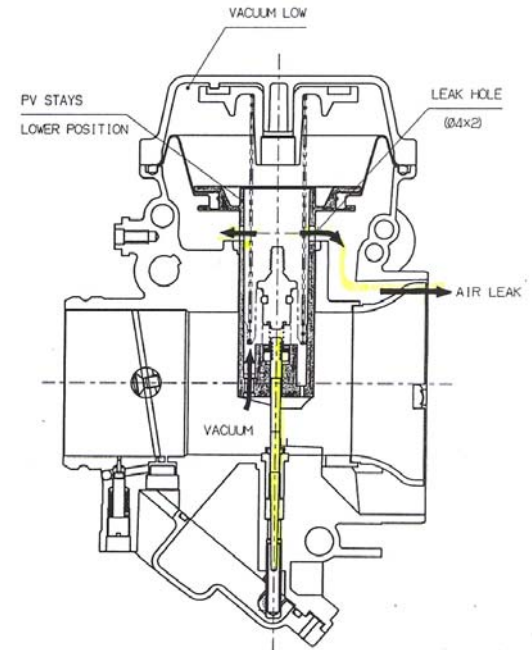
152.5  $\phi$

15 kw power

Full power



STANDARD (FULL POWER)



REGULATION FOR POWER



# Color

- ◆ Solid Red
- ◆ Solid White



# Accessories

The accessories hereunder are under development.

## Front Bumper



**Material: Aluminum**



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# Accessories

## Front Arm protection set



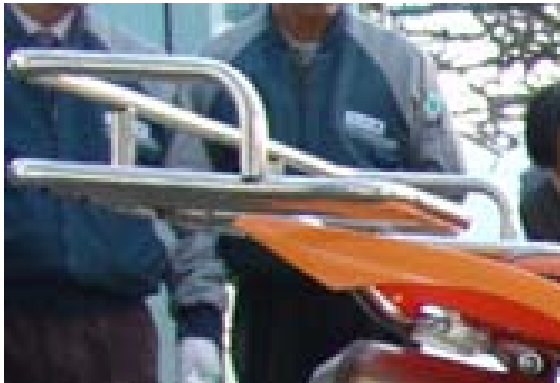
**Material: Aluminum**



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# Accessories

## Rear Carrier



**Material: Stainless Steel**



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# Accessories

## Footrest Set( Nerf Bars )



**Material: Aluminum**



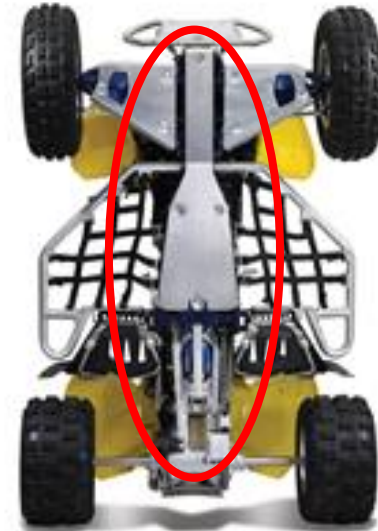
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# Accessories

## Sub Frame Protection



**Material: Aluminum**



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# Specifications - Engine

Engine	Spec.
Engine Type	Water-Cooled, 4-stroke single cylinder
Displacement(cm <sup>3</sup> )	449cm <sup>3</sup>
Bore & Stroke (mm)	96.0 x 62 mm
Compression Ratio	11.8:1
Valve System	DOHC, 4 Valves
Fuel System	BSR 42 (Diaphragm Type)
Ignition	Full Transistor
Starter	Electric
Lubrication	Semi Dry Sump



# Specifications - Transmission

<b>Transmission</b>	<b>Spec.</b>
<b>Transmission</b>	<b>Five speed with reverse</b>
<b>Final drive</b>	<b>Chain</b>
<b>Primary reduction ratio</b>	<b>2.500 (75/30)</b>
<b>Gear ratios: 1st</b>	<b>2.538 (33/13)</b>
2nd	<b>1.684 (32/19)</b>
3rd	<b>1.261 (29/23)</b>
4th	<b>1.040 (26/25)</b>
5th	<b>0.885 (23/26)</b>
Reverse	<b>0.231 (29/13)</b>
<b>Final reduction ratio</b>	<b>3.143 (44/14)</b>
<b>Clutch</b>	<b>Wet multi-disc, manual</b>

# Specifications – Frame & Suspension

Frame	Spec.
Type	Double cradle and separate type
Wheel travel : front	200mm
rear	200mm
Tyre: front	AT 21 X 7-10 ( 10 x 5.5 inches)
rear	AT 20 X 11-9 (9 x 8.0 inches)
Toe-in	0~ -5mm
Suspension	Spec.
Front Type	Independent double A-arm Fully adjustable preload, compression & rebound damping
Rear Type	Linkage Type, Gas/oil damping Fully adjustable spring preload, compression & rebound damping

# Specifications – Brake & Dimension

<b>Brake</b>	<b>Spec.</b>
<b>Front : Type</b>	<b>Dual Hydraulic 170 mm disk</b>
<b>Caliper</b>	<b>1 piston x <math>\phi</math>32</b>
<b>Rear : Type</b>	<b>Hydraulic 240 mm disk</b>
<b>Caliper</b>	<b>1 piston x <math>\phi</math>34</b>
<b>Parking brake</b>	<b>Mechanical</b>
<b>Performance</b>	<b>Spec.</b>
<b>Maximum power</b>	<b>52.34PS/8500rpm</b>
<b>Maximum torque</b>	<b>4.86kg-m/7000rpm</b>

\* Above power and torque data are not official, only for your reference.



# Specifications – Dimension

Dimension	Spec.
Overall length	1,835 mm
Overall width	1,170 mm
Overall height	1,155 mm
Wheelbase	1,250 mm
Ground clearance	260 mm
Dry weight	192 kg
Fuel capacity	11 ℓ

The specifications mentioned here can be changed by production models under standard operation conditions.

