

**SERVICE MANUAL**  
**SPYDER 300**

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## **Preface**

This manual introduces you to the basic operations and methods of maintenance for your motorcycle. Please read this manual carefully before driving your motorcycle. Proper operation and maintenance of your motorcycle will ensure less troubles and optimum performance and service life. Johnny Pag Motorcycles authorized service dealers in various locations will provide you with more technical consultation and after-sales services.

The data, instructions, specifications, and pictures demonstrated in the manual are based on the latest design information available at the time of approval for printing. Johnny Pag Motorcycles reserves the right to make changes at any time without notice of changed parameters and other information.

Thank you for purchasing your Johnny Pag Motorcycle. We wish you a comfortable, pleasant, and safe ride in the future.

## **Special Attention**

If you operate your Johnny Pag Motorcycle without following traffic laws and instructions in the manual, under abnormal conditions such as driving on off road terrain or overloaded weight capacity, safety or equipment damage may occur.

This service manual should be considered a permanent part of the motorcycle and should remain with the motorcycle when resold.

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## IMPORTANT NOTICE

The engine for your Johnny Pag Motorcycle rotates at a high rate of speed. In order to make sure that the engine can run normally, and to prolong its service life, please operate your motorcycle according to the following regulations:

1. During the first 600 miles, avoid full throttle and never labor the engine. The rotating speed of the engine should be restricted to no more than 4000 rpm's.
2. Your Johnny Pag Motorcycle must have its first service after 100 miles (please refer to maintenance schedule page??) to ensure validity of your warranty.

## General Safety

### WARNING

When riding your Johnny Pag Motorcycle, you must always pay close attention to your local traffic safety laws. You should always inspect your motorcycle before riding.

### Warning

If the engine must be running to do some work, make sure the area is well-ventilated. Never run the engine in a closed area. The exhaust contains poisonous carbon monoxide gas that may cause loss of consciousness and lead to death.

### Warning

Gasoline is extremely flammable and is explosive under certain conditions. Do not smoke or allow flames or sparks in your working area

### Warning

The battery electrolyte contains sulfuric acid. Protect your eyes, skin and clothing. In case of contact, flush eyes thoroughly with water and call a doctor if electrolytes get in your eyes.

### Warning

The battery generates hydrogen gas which can be highly explosive. Do not smoke or allow flames or sparks near the battery while charging it.

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## **Service rules**

1. Use genuine Johnny Pag Motorcycles or JPM recommended parts and lubricants or their equivalents. Parts that don't meet Johnny Pag Motorcycles design specifications may damage the motorcycle.
2. Use the special tools designed for this product.
3. Install new gaskets, O-rings, cotter pins, lock plates, etc. When reassembling.
4. When torquing a series of bolts or nuts, begin with larger-diameter or inner bolt first, and tighten to the specified torque diagonally in 2-3 steps, unless a particular sequence is specified.
5. Clean parts in non-flammable or high flash point solvent upon disassembly. Lubricate any sliding surfaces before reassembly.
6. After reassembly, check all parts for proper installation and operation.
7. Use only metric tools when servicing this motorcycle. Metric bolts, nuts, and screws are not interchangeable with English fasteners. The use of incorrect tools and fasteners may damage the motorcycle.

## **WARNING**

When riding your Johnny Pag Motorcycle, you must always pay attention to traffic safety laws.

## **SAFE RIDING RULES**

Before you start your engine, you must always check your motorcycle to prevent accidents or equipment damage.

## **PROTECTIVE APPAREL**

A motorcycle rider usually has his/her head injured in an accident. In order to ensure personal safety, the rider should always wear a helmet, goggles, boots, gloves etc. The passenger should always wear the same safety gear as the driver.

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## **CAUTION**

The temperature of your motorcycles exhaust is very hot! When ridden. The passenger should always wear boots or shoes high enough to cover his/her ankles to prevent burn related injuries. The rider should wear close-fitting clothes to prevent loose clothing from being caught on the handlebars, kick starter, foot pegs, and tires.

## **MODIFICATIONS**

### **WARNING**

Modification to your motorcycle or any changes to its original equipment may render your motorcycle unsafe or illegal. Modifications to your motorcycle may also void your warranty. Please refer to JPM warranty policy for more information.

## **LOADING**

### **WARNING**

Motorcycles are sensitive to changes in weight distribution. Improper loading of cargo can impair your motorcycles performance and stability.

Keep cargo low and close to the center of the motor cycle. Load weight equally on both sides of your motorcycle to minimize imbalance. The further weight is located from your motorcycles center of gravity, handling can be greatly affected.

You should always properly adjust the tire pressure and the spring rate of the rear shock absorber according to the load weight and road conditions.

Firmly mount all cargo on your motorcycle in order to ensure stable handling. Also avoid fastening large or heavy loads to the handlebars, front forks or dashboard; otherwise it can adversely affect your stability and handling. NEVER exceed the maximum weight limit of 350lbs.

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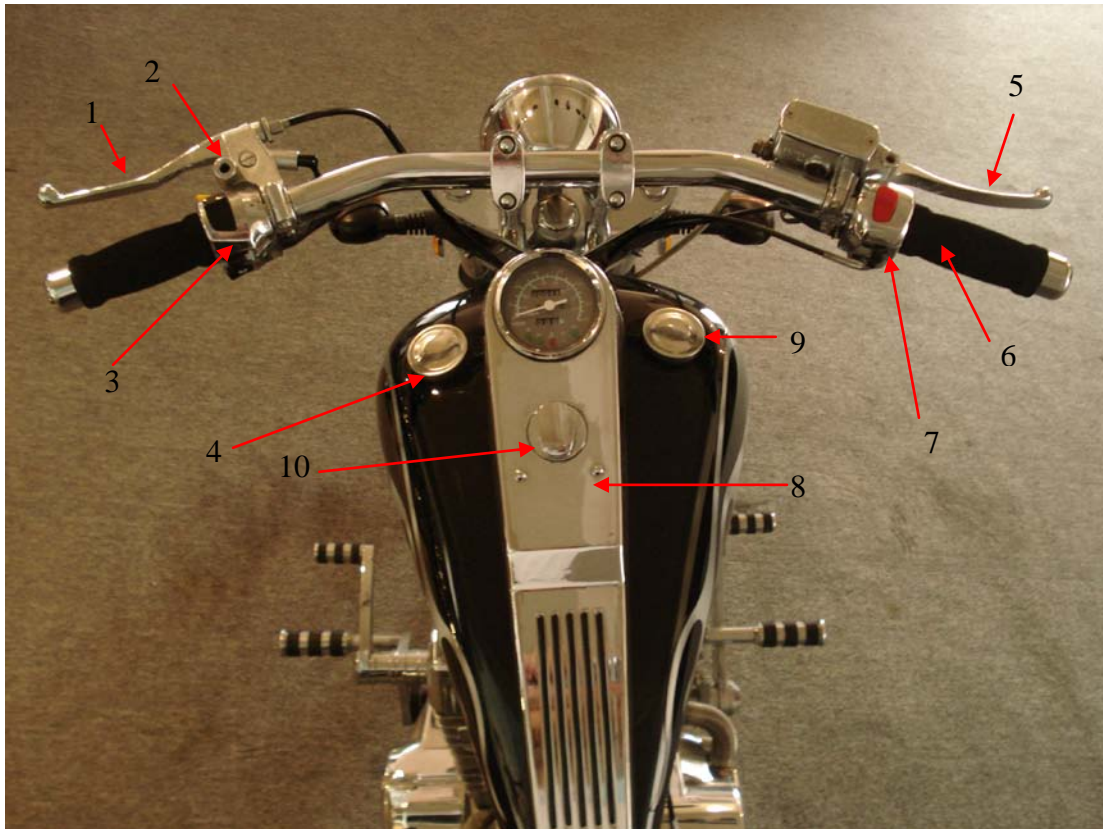
Accessories produced by our company have undergone special design and testing. Users will take responsibility for their selection, installation and use of accessories not produced by our company. Please obey safe riding rules and follow the next points:

- Carefully check your accessories, make them out of sight line, reduce distance between them and the ground and side dip angle, and keep suspension or steering devices from moving or affecting handling.
- Avoid attaching any electrical equipment. Otherwise it can bring trouble to the electrical system.
- Accessories not installed by an authorized JPM dealer will void the warranty.

**\*\* ALL SERVICE WORK**  
**MUST BE PERFORMED BY**  
**AN AUTHORIZED JPM**  
**DEALER\*\***

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## Parts Locations



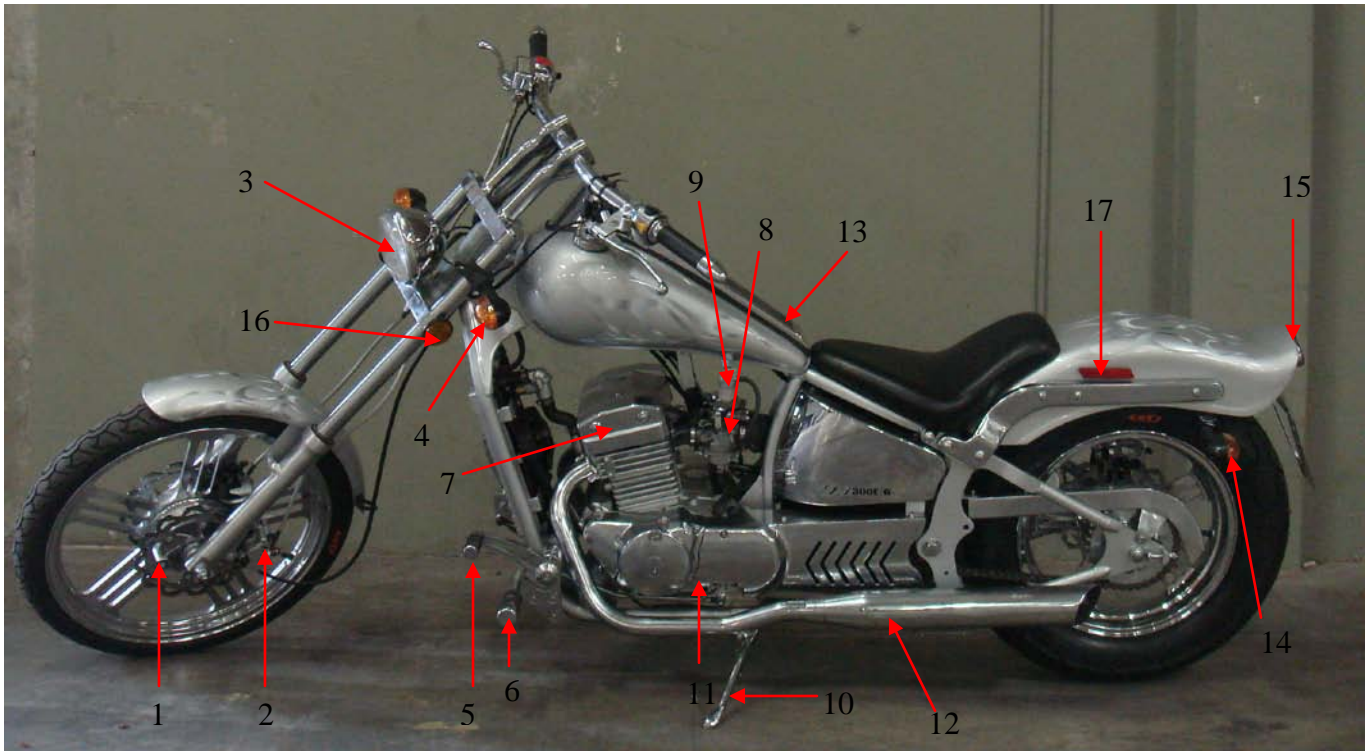
1. Mirrors (mounting location )
2. Clutch lever
3. Left handlebar control (horn button, Headlight high beam switch, turn signal switch)
4. Left fuel cap (non functional)
5. Front brake lever

6. Throttle grip
7. Right handlebar control (starter button, headlight switch, engine cut-off switch)
8. Dash
9. Right fuel cap (functional)
10. Ignition switch



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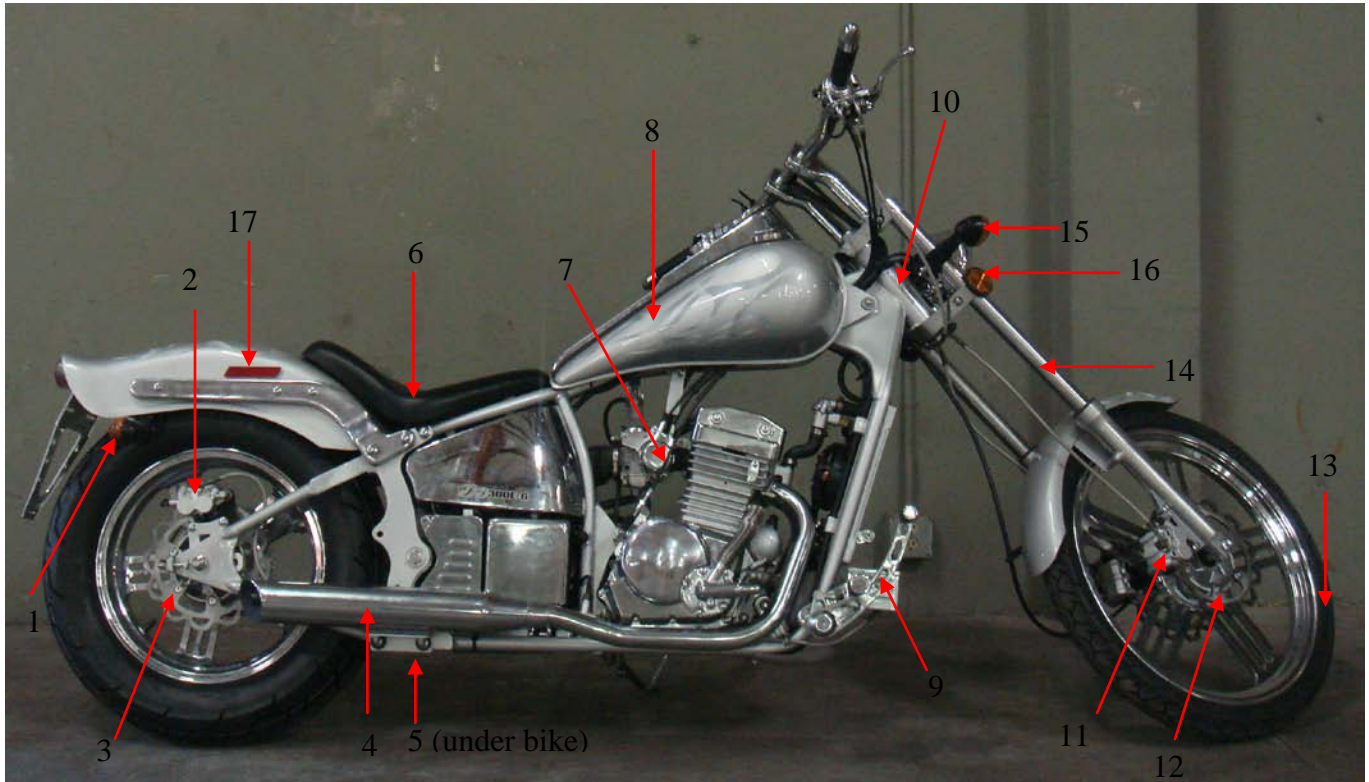
## Left Side Spyder



**1.** Front rotor (left) **2.** Front brake caliper (left) **3.** Front Headlight **4.** Front left turn signal **5.** Gearshift lever **6.** Foot peg **7.** Engine **8.** Choke valve **9.** Petcock **10.** Kickstand **11.** Engine serial number **12.** Left side exhaust **13.** Dash **14.** Rear left turn signal **15.** Taillight **16.** Front Reflector **17.** Rear Reflector

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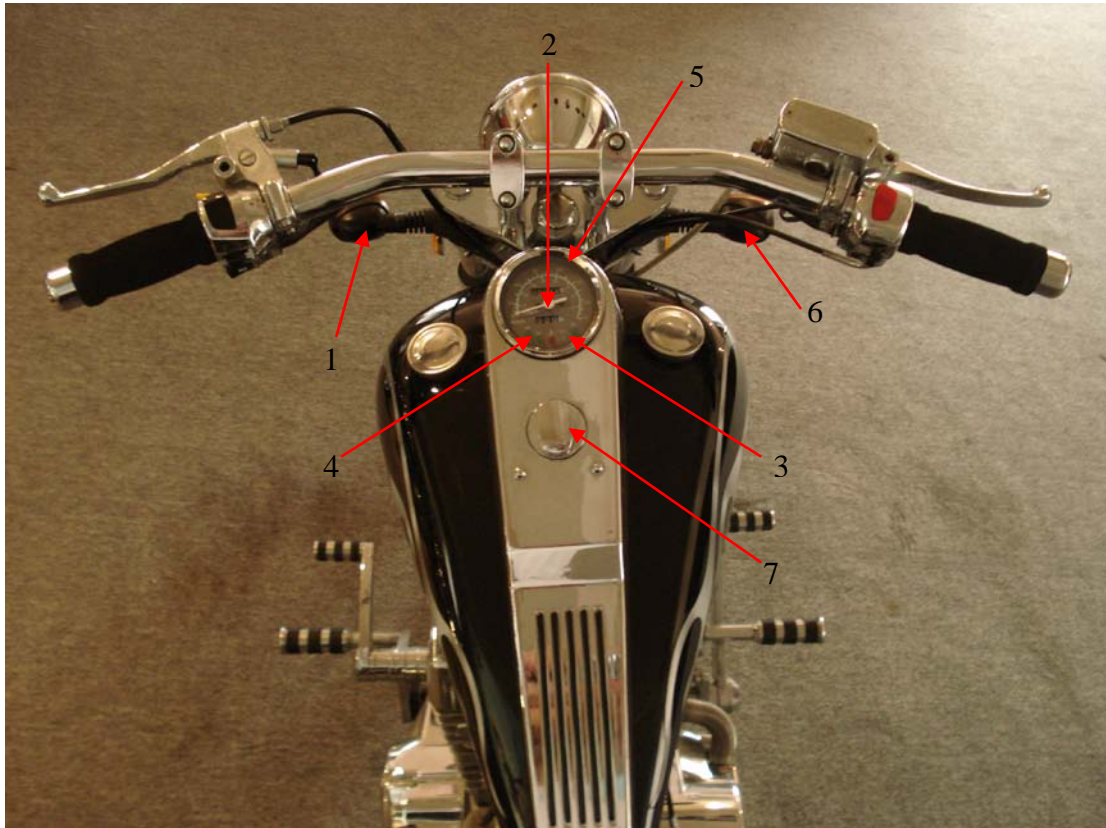
## Right Side Spyder



**1.** Rear right turn signal **2.** Rear brake caliper **3.** Rear rotor **4.** Right side exhaust **5.** Rear shock **6.** Seat **7.** Carburator **8.** Fuel tank **9.** Rear brake pedal **10.** Vin number **11.** Front brake caliper (right) **12.** Front rotor (right) **13.** front wheel **14.** Front fork **15.** Front right turn signal **16.** Front Reflector **17.** Rear Reflector

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## Parts Function



1. Left turn signal indicator
2. Odometer
3. High indicator
4. Neutral gear indicator
5. Speedometer
6. Right turn signal indicator
7. Ignition switch

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## Ignition Switch



The ignition switch (7) is in the middle of the fuel tank.

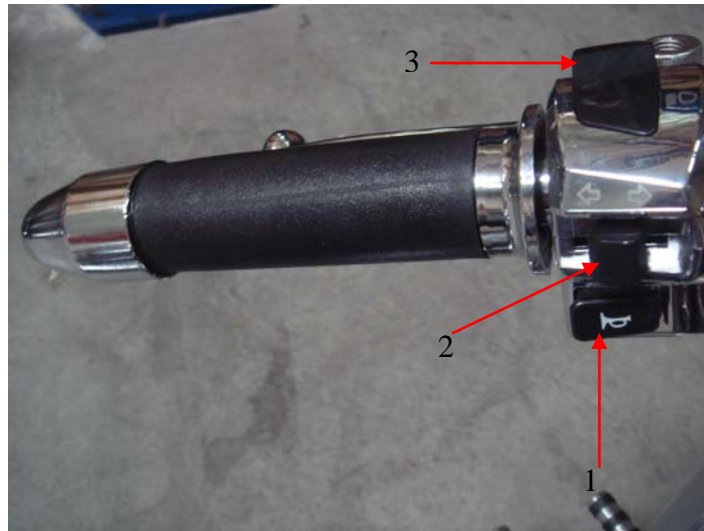
A. When the ignition switch is in the vertical position, the circuit is closed off; the engine can't be operated; Key can be removed.

B. Turn the ignition lock counterclockwise or clockwise. If the neutral gear indicator is on, and the odometer is on, the engine will start.

D. Move the ignition switch to the vertical position, the circuit is off and the engine is cut off; insert the key to lock it.

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## Left Handlebar Controls



- |   |
|---|
| <p>1. Horn button   2. Turn signal switch<br/>3. High beam switch</p> |
|---|

### 1. Horn Button

Press the horn button once to sound the horn if necessary.

### 2. Turn signal switch

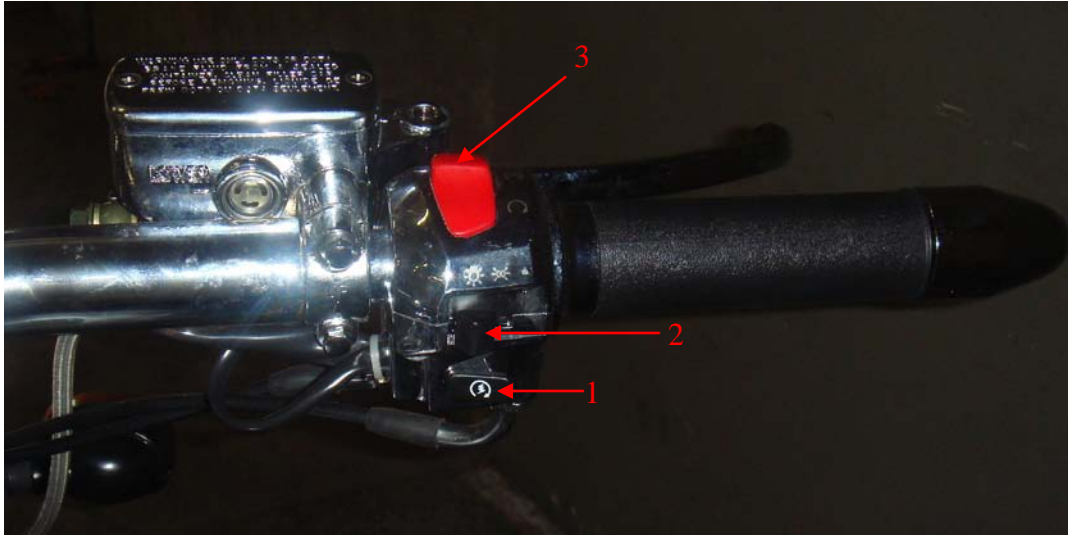
The turn signal switch has three positions. If turning right or left, move the turn signal switch (2) to the corresponding direction. The front and rear turn signal will flash until the turn signal switch is pushed in. Pushing in the switch will disengage the turn signal, and the lights will stop flashing.

### 3. High Beam Switch

The high beam switch is located on the left handle bar. When the high beam switch is in the on position both high and low beam lights should be on. When the high beam switch is in on the off position only the dimmer low beam light should remain on.

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## Right Handlebar Controls



1.Electric start button 2. Headlight switch 3.Engine cut-off switch

### 1.Electric Start Button

The start button is located on the right handlebar controls.

1. make sure the gear is shifted to neutral and the fuel switch is on position.
2. Open the cover of the ignition switch lock, insert the key into the switch and turn 90 degrees counter clockwise or clockwise, remove the key and close lock cover.
3. Turn the engine cut off switch to the on position and press the electric start button, at this time, slightly apply some throttle.

### 2.Head Light Switch

The head light switch has three positions; Low, high and high running.

### 3.Engine Cut-off Switch

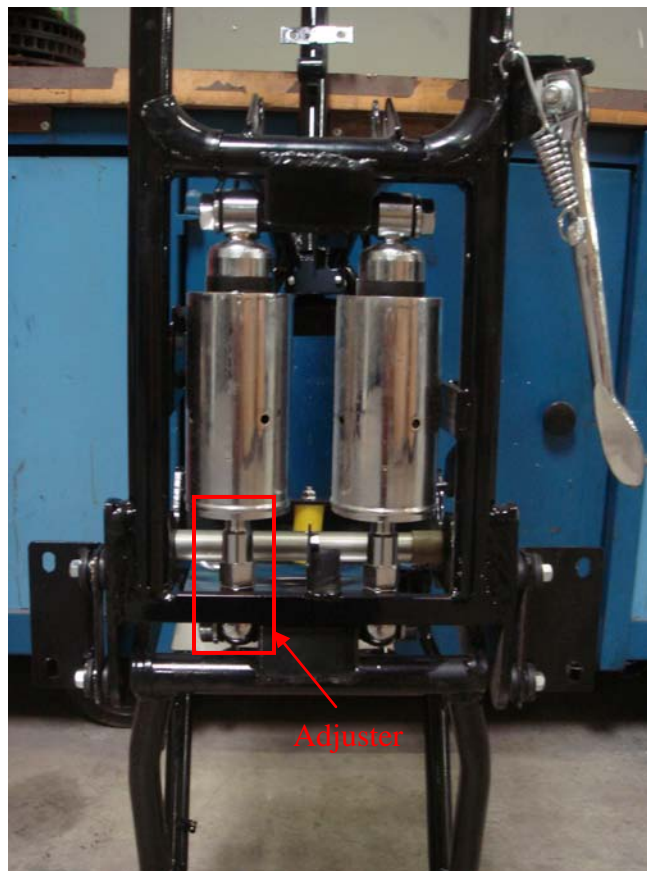
Engine cut-off switch is located on the right handlebar controls.

When the engine cut-off switch is in the off position the circuit is cut off, the engine can not be started. To start the engine, always make sure your engine cut-off switch is in the on position.

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## **Rear Shock Absorber**

Rear shock absorbers (there are two rear shock absorbers) are located under the middle of the frame. The rear shock absorbers can be adjusted for different ride heights by a Johnny Pag Motorcycle dealer.



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## Fuel Tank and Cap

Fuel tank capacity is 3.5 gallons with .75 gallons of reserve. We recommend you to use unleaded gasoline only.

## CAUTION

Don't over fill the tank. After refueling, make sure that the fuel cap is closed securely.

## How to Open a Fuel Cap

The right fuel cap is used for filling your fuel tank, turn it 90 degrees counter clockwise to open it. To close the cap, push the cap down and turn it 90 degrees clockwise. (The left cap is a fake and used for show only.)





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## **Petcock**

The petcock is located below the left side of the fuel tank. Turn the petcock handle to face the rear of the motorcycle to place the petcock in the (OFF) position “see petcock image #1”. Fuel supply is now stopped. Turn the petcock handle straight up facing the gas tank to place the petcock in the (ON) position “see petcock image #2”. Fuel is supplied normally (fuel flows into the carburetor). Turn the petcock until it faces straight down to place the petcock in the (Reserve) position “see petcock image #3”. The reserve fuel supply is only used when the normal fuel runs out.

Petcock image #1



Petcock image #2



Petcock image #3



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## **Tires**

Please refer to the tire manufactures specifications (located on the tire) for inflation specifications.

## **WARNING**

Operating a motorcycle with excessively worn tire will adversely affect traction, stability and handling. Always check tire pressure and tread before riding. Inspection should be made while the tires are cold. Check for embedded nails and sharp objects before every ride.

## **OPERATION**

### **Preride Inspection**

Inspecting your motorcycle before you ride it will help insure a safe ride. It will only take a few minutes, and can help detect problems before they progress to failure.

- Oil level – check level and add oil if necessary.
- Front and Rear brakes – check operation and adjust if necessary.
- Tires – check condition and pressure.
- Throttle – check for smooth operation all the way through open to close in all steering positions.
- Lights and signals – check that the headlight, taillight, turn signals and horn function properly.
- Chain – be sure that it is lubricated and check for 1/8” play up and down. Adjust if necessary. Be sure that the chain and sprockets are not worn.
- Steering – be sure that the front end moves smoothly from left to right.

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## **Break In**

During the first 250 miles, avoid full throttle use. Keep the engine under 6000 rpm, the maximum speed should not exceed 50 MPH. Breaking in the engine correctly will ensure long engine life.

**NOTE:** Motorcycle must be serviced between 100-105 miles by an authorized Johnny Pag Motorcycles dealer to keep warranty valid.

## **MAINTENANCE**

### **ENGINE OIL**

Engine oil quality is the chief factor affecting engine performance and service life. The motorcycle uses engine oil SAE 10w/40 API SG when being sold. Use 10w-30 after the first 150 mile break in period. There is no external oil filter. Recommended cleaning of the oil screen is every 1000 miles.

### **OIL LEVEL**

Check the oil level before each ride. To do this, remove the dipstick (1) and wipe it clean. Reinsert the dipstick into the crankcase but do not screw it in. Remove the dipstick and check that the fluid is between the upper (2) and lower (3) level marks. **DO NOT OVERFILL.**



### **CAUTION:**

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Running the engine with insufficient oil can cause serious damage to your engine.

## CHANGING ENGINE OIL

To drain the engine oil, remove the engine drain bolt (1). Let the oil drain completely before refilling the case with oil. If cleaning the oil screen, be sure to wait until all the oil has drained before removing the right side crankcase cover (2). Once the oil is drained, remove the right side crankcase cover (2) and remove the oil pump (3). With the oil pump removed, you can easily remove the oil screen (4) and wash thoroughly with carburetor cleaner. Reinstall oil screen onto the oil pump and reinstall the oil pump onto the engine. Replace the crankcase gasket and install the right side crankcase cover. Refill the oil to the correct level.

Please call your local JPM dealer to get replacement gaskets and oil screens, if necessary. Part numbers can be found on in your parts book or by visiting [JohnnyPag.com](http://JohnnyPag.com).

## SPARK PLUG REPLACEMENT

### CAUTION:

Be sure the ignition is off and the engine run switch is in the off position before you replace the spark plugs.

First remove the side head covers (1). This will expose the coil wire (2). Pull the coil wire off the spark plug. This will expose the spark plug (3). Use a spark plug socket to remove the spark plug.

Cross reference plugs:

Winter (colder riding) NGK CR5HSA

Summer (warmer riding) NGK CR7HSA

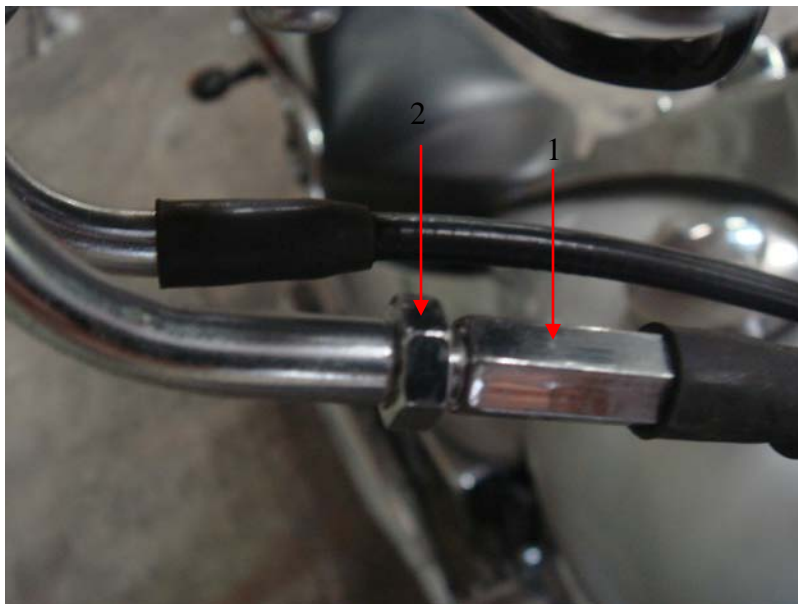
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## AIR CLEANER REPLACEMENT

- Remove seat
- Remove right side cover
- Remove air filter cover
- Slide out filter element and replace with new element
- Inspect the screen, clean if needed
- Install air box cover
- Install right side cover
- Install seat

## THROTTLE INSPECTION AND ADJUSTMENT

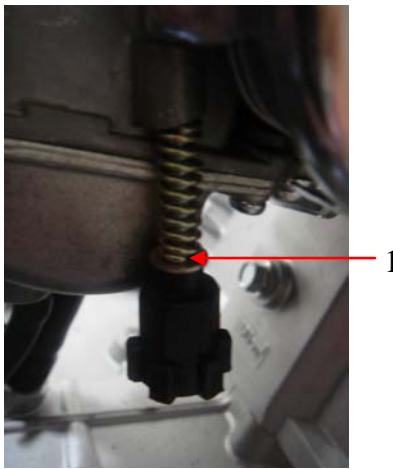
Roll on the throttle from a closed position. Be sure that the throttle is smooth all the way through from close to open. Check that the cables are in the correct position all the way to the carburetor. Check that the cables are not frayed. Check the play in the throttle cable. Adjust the play by turning the upper adjusting nut (1) until the throttle play is at the desired setup. Lock the adjusting nut into position with the jam nut (2).



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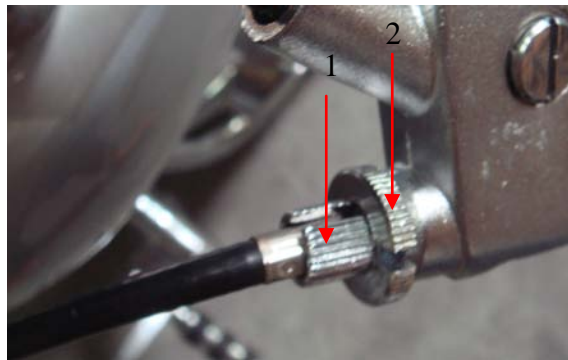
## **IDLE SPEED AND ADJUSTMENT**

First warm up the engine. Adjust the idle by turning the adjustment screw (1) counterclockwise and clockwise. The correct idle speed is  $1500 \pm 150$  RPM.



## **CLUTCH ADJUSTMENT**

To adjust the clutch, be sure the front wheel is in the forward riding position. Adjust the play in the clutch by tightening and loosening the adjuster bolt on the clutch perch (1). Once the desired play is been obtained, tighten the jam nut (2).



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## VALVES

Valve clearance for the 300cc motors are .06-.10 intake and exhaust

## BRAKES

### WARNING:

Brake fluid is very dangerous. Avoid contact with mouth and eyes. If ingested or in contact with eyes, call 911.

### FRONT BRAKE

Start by checking the fluid level. This can be done visually via the fluid check window (1). If necessary, add brake fluid ( DOT 4 ).

To remove the pads:

- Remove two bolts (1) from caliper to fork leg mounting bracket
- Slide caliper off rotor
- Remove allen head pins (2)
- Discard old pads
- Make sure spring stays facing the same direction, install brake pads
- Install both allen head pins (2)
- If needed, pry apart pads, slide on a disk and install mounting bolts (1) to fork leg

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## REAR BRAKE

Start by checking the fluid level. This can be done visually by removing the master cylinder reservoir cap (1). Check that the master cylinder is at  $\frac{3}{4}$  full. If necessary, add brake fluid ( DOT 4 ).

To remove the pads:

- Remove bolts (1) from caliper
- Slide caliper off disk
- Remove allen head pins (2)
- Discard old pads
- Make sure spring is facing the same direction, install new pads (pad with arm on the side closest to the wheel)
- Install allen head pins (2)
- If needed, pry apart pads, slide on a disk and install mounting bolts (1) to fork leg



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## STORAGE GUIDE

Extended storage, such as for winter, requires that you take certain steps to reduce the effects of deterioration. In addition, these steps should be taken before storing the motorcycle.

- Clean and dry the motorcycle
- Wax all painted surfaces
- Drain the fuel from the tank and carburetor.
- Spray the inside of the gas tank with an anti-rust inhibitor

### WARNING:

Wear safety goggles while working on the engine. With the spark plugs out, oil may come out of the plug holes.

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	ODOMETER READING (MILES/ KM)
--	------------------------------

- Remove spark plugs and pour a tea spoon of clean engine oil in each cylinder. Hit the starter button a few times to coat the inside of the cylinder with oil.
- Remove battery. Negative side first (be sure the ignition is in the off position)
- Inflate the tires to their recommended pressure.
- Store the motorcycle with both wheels off the ground
- Store the motorcycle covered, out of direct sunlight or rain
- Keep the temperature variation to a minimum
- Spray all rubber fittings with a rubber preserver

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ITEM	NOTES	100-150/ 160-241	1000 / 1610	4000 / 6437	6500 /10,460	9000 /14,484
Fuel line		I	I	I	I	I
Throttle operation		I	I	I	I	I
Carburetor	1	C	C	C	C	C
Air filter	2	I	I	I	I	I
Spark plug		I	I	I	I	I
Engine oil		I	I	I	I	I
Oil filter		I	I	I	I	I
Timing chain tension	1	A	A	A	A	A
Valve clearance	1	I	I	I	I	I
Chain	2	L	L	L	L	L
Rear brake system		I	I	I	I	I
Rear brake pad wear		I	I	I	I	I
Brake line		I	I	I	I	I
Front brake system		I	I	I	I	I
Front brake pad wear		I	I	I	I	I
Lighting		I	I	I	I	I
Clutch	2	I	I	I	I	I
Suspension	2	I	I	I	I	I
Nuts / bolts		I	I	I	I	I
Tires		I	I	I	I	I
Steering head bearings	2	I	I	I	I	I

## SERVICE SCHEDULE

### Key:

1 = Inspect, clean, adjust, lubricate or replace if necessary.

C = clean

R = Replace

A = Adjust

L = Lubricate

I = Inspect

### Notes key:

1. Service needs to be preformed by an authorized JPM dealer.
2. Service more frequently when riding in dusty areas.