

**US ATK**

*Quality American Motorcycles*



# OWNERS MANUAL

125 LQ / 250 LQ / 260 LQ  
TWO-STROKE

**1999/2000**

Updated 02/2015



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**Congratulations on your purchase of an American-made ATK motorcycle. This manual explains operation, inspection, basic maintenance and tuning of your machine. All information in this manual is based on the latest product information available at the time of publication. If you have any questions about this manual or your machine, please contact your ATK dealer.**

**We recommend that you read this manual carefully and thoroughly before operating your new motorcycle. You should also adhere to the recommended safety checks and maintenance schedules described within this manual.**

#### **IMPORTANT NOTICE**

This machine is designed strictly for competition use, on a closed course. It is illegal for this machine to be operated on any public street, road or highway. Off-road use on public lands may also be illegal. Please check local regulations before riding.

Please read this manual carefully and completely before operating this machine. Do not attempt to operate this machine until you have attained a satisfactory knowledge of its controls and operating features, and until you have been trained in safe and proper riding techniques. Regular inspections and careful maintenance, along with good riding skills, will ensure that you safely enjoy the capabilities and the reliability of this machine.

More detailed service and parts manuals may be obtained from your local ATK dealer.

#### **SAFETY INFORMATION**

1. This machine is to be operated by an experienced rider only. Do not attempt to operate this machine at maximum power until you are totally familiar with its characteristics.
2. This machine is designed to be ridden by the operator only. Do not carry passengers on this machine.
3. Always wear protective apparel. When operating this machine, always wear an approved helmet with goggles or a face shield. Also, wear heavy boots, gloves, and protective clothing. Always wear proper fitting clothing that will not be caught in any moving parts or controls of the machine.
4. For safety and reliability, the machine must be properly maintained. Always perform the pre-ride inspection indicated in this manual. Correcting a mechanical problem before you ride may prevent an accident.
5. Gasoline is highly flammable and can cause injury or death. Always turn off the engine while refueling. Take care not to spill any gasoline on the engine or exhaust system. Never refuel in the vicinity of an open flame, or while smoking. If you should swallow gasoline, inhale excess gasoline vapors or allow gasoline to get into your eyes, contact a doctor immediately.
6. Operate the machine in an area with adequate ventilation. Exhaust fumes are poisonous. The fumes contain carbon monoxide, which by itself is odorless and colorless. Carbon monoxide is a dangerous gas which can cause unconsciousness or can be lethal.
7. Park the machine carefully.
8. Properly secure the machine before transporting it. When transporting the machine in another vehicle, always be sure it is properly secured in an upright position. Otherwise, fuel may leak out of the carburetor or fuel tank.

**CAUTION: INDICATES A POSSIBILITY OF PERSONAL INJURY IF INSTRUCTIONS ARE NOT FOLLOWED.**

*Note: Helpful Information*



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**INCLUDED SUPPLEMENT:  
ATK 125 MODEL  
SPECIFIC DETAILS**



# ATK 125 SUPPLEMENT

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THIS IS A SUPPLEMENT TO THE ATK 125 / 250 / 260 OWNER'S MANUAL TO BE USED EXCLUSIVELY FOR THE ATK 125. THIS SUPPLEMENT ONLY DISCUSSES THE ITEMS THAT ARE DIFFERENT FROM THE 125 / 250 / 260 MANUAL. FOR ANY INFORMATION NOT COVERED IN THIS SUPPLEMENT, PLEASE CONSULT THE OWNER'S MANUAL.

## Engine Specifications

Engine Type	Liquid cooled, counterbalancer, exhaust controlled power valve, two stroke single
Displacement	124.9 cc
Compression Ratio	7.0:1
Carburetion	35 mm Mikuni TMX
Ignition Output	100 W
Spark Plug	NGK BR10EG
Transmission	6 speed wide ratio
Starting System	Kick
Fuel Capacity	3.1 gallon (11.7 liters)
Fuel Requirement	90 + octane unleaded
Fuel/Oil Mixing Ratio	32:1 - 50:1
Cylinder Bore	54 mm
Standard Piston Size	53.98 mm
Stroke	54.5 mm
Cylinder to Piston Skirt Clearance	0.02 - 0.0035 mm (0.0008 - 0.0014 inches)
Transmission Oil Capacity	600 cc (6/10 qt)
Transmission Oil Weight	Premium 80w gear oil

## Motorcycle Specifications

Wheelbase	1461 mm (57.5 inches)
Rake / Trail	26°/ 4.1 inches
Seat Height	876 mm (34.5 inches)
Ground Clearance	279 mm (11.0 inches)
Weight (Wet, no fuel)	227 lb.
Front Tire	80 / 100 - 21
Rear Tire	100 / 100 - 18
Tire Pressure	15 psi front and rear

## Front Suspension Specifications

Type	WP 40 mm Upside Down forks with internal cartridge system
Travel	241 mm (9.5 inches)
External Adjustments	Compression and rebound
Standard Compression Setting	18 'clicks' from closed
Standard Rebound Setting	14 'clicks' from closed
Fork Springs	0.40 kg/mm
Oil Level	130 mm
Optional Fork Springs	0.38, 0.42 kg/mm

# ATK 125 SUPPLEMENT



## Rear Suspension Specifications

Type	WP piggyback damper with a 102 mm stroke
Travel	279 mm (11.0 inches)
External Adjustments	Compression and rebound
Standard Compression Setting	3
Standard Rebound Setting	5
Shock Spring	5.6 N/mm
Standard Spring Preload	15 mm
Optional Shock Springs	5.9, 6.0, 6.2 N/mm

## Brake Specifications

Front Brake	Brembo dual piston
Front Rotor	260 mm (10.4 inches) stainless steel
Rear Brake	Brembo single piston
Rear Rotor	220 mm (8.8 inches) stainless steel
Brake Fluid	Golden Spectro supreme DOT 4 (DOT 5.1 non-silicone specifications)
Optional Parts	Solid rotors

## Driveline Specifications

Final Drive Ratio	14 - 50
Optional Sprockets, Front	13, 15, 16
Optional Sprockets, Rear	40, 42, 44, 46, 48, 52
Drive Chain	D.I.D. 520 VX 120 o-ring, 112 links

## Transmission Ratios

Primary Drive	63 / 19	3.316
1st	30 / 10	3.000
2nd	29 / 14	2.071
3rd	27 / 17	1.588
4th	25 / 19	1.316
5th	23 / 21	1.095
6th	21 / 22	0.955

## Kill Button:

The kill switch is attached to the throttle assembly. When the red lever at the bottom of the switch is moved to the right, the engine is 'off' and will stop running. When the lever is moved to the left, the engine can be turned 'on', and will continue running. This is a bit confusing because the small pictures on the back plate of the switch indicate that the switch works in the opposite manner (right - on, left - off). However, the switch only works in the above described manner. Note: the button at the top of the switch has no function.

Carburetor Specifications	
Type	Mikuni TMX
Size	35 mm
Pilot Air Screw	1.5 turns out
Pilot Jet	17.5
Jet Needle	6ENU - 54
'E' Clip Position	5th slot from bottom
Throttle Valve (Slide)	4.0
Main Jet	310



# ATK 125 SUPPLEMENT

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## **Suspension:**

The WP suspension on your new ATK 125 has been lowered at the factory to provide optimum performance while providing a lower seat height. If for any reason you would like the suspension to have longer travel in both the front and the rear, your dealer has access to all of the parts required to make this transformation.

## **Fork Compression and Rebound adjustments:**

Your new ATK 125 uses WP forks that have both the compression and rebound adjustments on the top of the fork legs. The left leg controls compression adjustment, and the right leg controls rebound adjustment.

The compression is adjusted by the slot head screw at the top of the left fork leg. 22 adjustment positions are available, and the stock setting is 18 'clicks' counterclockwise from fully closed (turn all of the way clockwise until the screw bottoms and cannot be turned any more. Higher numbers (19, 20, etc.) provide a softer ride, but will also make the suspension bottom on the harder hits. Lower numbers (15, 14, etc.) provide a stiffer ride and make the forks less prone to bottom.

The rebound is adjusted by the slot head screw at the top of the right fork leg. 22 adjustment positions are available, and the stock setting is 14 'clicks' counterclockwise from fully closed (turn all of the way clockwise until the screw bottoms and cannot be turned any more. Higher numbers (15, 16, etc.) provide a faster rebound. Lower numbers (15, 14, etc.) provide a slower rebound.

## **Shock Compression, Rebound, and Preload Adjustments:**

The WP shock on your ATK has the compression, rebound, and preload adjustments in the same place as the Ohlins shock described on page 7 of the 250 owner's manual. Unlike the WP forks, the shock adjusters will never 'bottom out' when turned clockwise.

The compression adjustment has 8 positions that are numbered on the adjuster knob. The stock setting is '3'. Turning to a higher number will make the damping action stiffer, and a lower number will make the damping softer.

The rebound adjustment has 11 positions that are numbered on the adjuster knob. The stock setting is '5'. Turning to a higher number will make the rebound slower, and a lower number will make the rebound faster.

Refer to the 250 manual for specific instructions on how adjusting your suspension will affect performance.

## **Draining Coolant:**

A bolt near the front left side of the engine has the word 'out' printed next to it on the engine case. Loosen this screw to drain the radiator coolant. This bolt contains a copper washer; be careful not to lose it.

## **Draining Oil:**

A bolt near the rear bottom left of the engine has the words 'oil out' printed next to it on the engine case. Remove this bolt to drain the transmission oil. This bolt contains a copper washer; be careful not to lose it. Tilt the bike to the left a bit to keep oil from draining onto the skidplate.

## **Ignition Timing:**

The ignition timing on the ATK 125 is not adjustable.



## SUSPENSION INFORMATION

### Fork oil rating:

Your new ATK is delivered with premium 5w WP fork oil from the factory. The WP fork is designed and valved to use 5 weight oil, although 7.5w fork oil may be used if a firmer overall ride is desired.

### Fork oil level:

Minimum oil level 6.77 inches (172mm)

Maximum oil level 4.72 inches (120mm)

Stock oil level 5.10 inches (130mm)

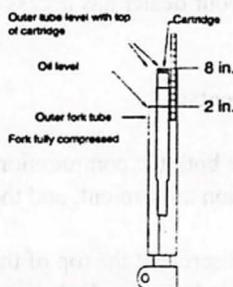
### Effects of oil level:

Raising the fork oil level increases the forks' resistance to bottoming and generally makes the fork feel firmer during the last half of its travel. Lowering the oil level softens the overall feel of the suspension.

### Setting the fork oil level:

The fork legs must be removed from the motorcycle to accurately set the oil level. Prior to fork removal, the fork caps should be loosened a couple of turns (after loosening the top triple clamp's pinch bolts). When setting the fork's oil level, cleanliness is imperative.

- 1) Place the bike on a bike stand or crate that raises the front tire off the ground.
- 2) Loosen the axle pinch bolts on the right fork leg.
- 3) Remove the axle pinch bolts and hydraulic brake hose clamp from the left fork leg.
- 4) Remove the plastic fork guards from both fork legs.
- 5) Remove the front axle and front wheel from the bike.
- 6) Remove the front brake caliper's mounting bolts.
- 7) Remove the front brake caliper from the fork leg. Leave the hydraulic hose attached to the caliper and let the caliper hang.
- 8) Loosen the top triple clamp's pinch bolts.
- 9) Loosen the fork caps a couple of turns.
- 10) Loosen the lower triple clamp's pinch bolts.



- 11) Remove the fork legs from the motorcycle and lean them against a corner of a wall.
- 12) Remove the fork cap from one of the fork legs.
- 13) Push the outer tube down a couple of inches and remove the spring-retainer clips and the plastic spring-preload spacers.
- 14) Slowly remove the fork spring from the fork leg.
- 15) Slowly pull the fork cartridge (the part the fork spring clips fit into) to its full extension, then to its fully bottomed position. Repeat this procedure three times to insure the damper is filled with oil.
- 16) Push the damper cartridge and the outer tube to the bottom of their travel.
- 17) Holding the fork leg perpendicular, insert a narrow steel ruler into the fork between the cartridge tube and the wall of the outer tube, stopping the ruler at its 8-inch mark.
- 18) Carefully remove the ruler and note the oil height on it. Subtracting the oil level mark on the ruler from 8 gives the oil level within the fork.
- 19) If a higher oil level is desired, add a small amount of oil (1 ounce or so), then remeasure the level.
- 20) If a lower oil level is needed, remove a small amount of oil from the fork, then remeasure the level.
- 21) Install the fork spring, spring preload spacers (after checking the spring preload—see Fork spring preload:) and spring retainer clips.

22) Replace the fork cap (do not over tighten!).

23) Repeat steps 11 through 21 on the second fork leg.

24) Install forks onto bike and torque the triple clamp's pinch bolts to 20 foot pounds.

25) Install the fork guards, front wheel, caliper, hydraulic brake hose clamp and axle pinch bolts but DO NOT tighten the axle pinch bolts yet.

26) Remove the motorcycle from the bike stand or crate. Apply the front brake and push the forks as far into their travel as possible several times to align the fork tubes, then tighten the axle pinch bolts.

27) Recheck the tightness of all bolts and the routing of the front brake's hydraulic hose.

### Changing fork oil:

- 1) Follow steps 1 through 14 in the Fork oil level: section.
- 2) Invert the fork over an oil drain pan.
- 3) Compress the fork's outer tube completely.
- 4) Pump the fork cartridge until all of the oil is removed.
- 5) Place the fork vertically on the floor and extend its outer tube and damper cartridge to full extension.
- 6) Pour 16 ounces of a HIGH QUALITY suspension fluid (WP, Bel Ray HVI, Spectro, etc.) 5 weight or its equivalent, into the fork.
- 7) Compress the outer fork tube, then pump the damper cartridge until heavy resistance is noticed, indicating that the damper cartridge is full of oil.



# ATK 125 SUPPLEMENT

8) Refer to the Setting the fork oil level: chapter and follow steps 16 through 27.

### Fork oil level:

- Minimum oil level 6.77 inches (172mm)
- Maximum oil level 4.72 inches (120mm)
- Stock oil level 5.10 inches (130mm)

### Fork spring preload:

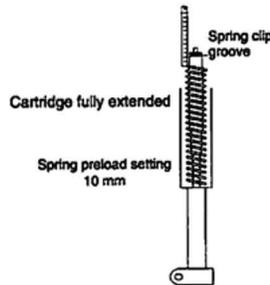
Fork spring preload refers to the distance the fork spring is compressed when it is installed in the fork with the fork fully extended.

### Effects of fork-spring preload:

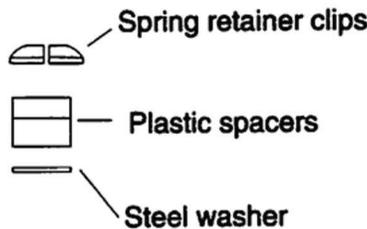
Fork spring preload effects the motorcycle's ride height and the bikes suspension compliance to bumps. Increasing the spring preload raises the front of the bike and makes the fork feel stiffer. Decreasing the spring preload softens the fork and lowers the ride height. Fork spring preload between 5mm and 20mm is acceptable, but our testing has determined 10mm of preload to be ideal for most situations. The factory-set spring preload on all models of ATK motorcycles is 10mm. Note: The fork spring preload should be same for both forks.

### Setting the fork spring preload:

1) Follow steps 1 through 13 in the section titled Setting the fork oil level:



2) Holding the damper cartridge fully extended, measure the distance from the bottom spring clip groove on the damper cartridge to the top of the spring. Record that measurement on a note book.



3) Add the amount of fork spring preload desired to the figure derived in 2 above to determine the length of preload spacer that is needed.

**NOTE:** Spring preload spacers are available from ATK dealers or White Bros. Or they can be made cheaply by cutting measured lengths of Schedule 40 PVC sprinkler pipe. A tubing cutter makes nice square cuts. If making your own preload spacers, always debur the inside and outside ends of the plastic pipe, then wash the finished product to get rid of chips that could foul the damper shims.

4) Follow steps 22 through 27 in the Setting the fork oil: section of this manual.



260 LQ



250 LQ



## ATK 250/260

### Engine Specifications

Engine Type	Liquid cooled, counterbalancer, exhaust controlled power valve, two stroke single
Displacement	250/ 251 cc
Compression Ratio	7.04:1
Carburetion	38 mm Mikuni TMX
Ignition (Output)	SEM (160 W)
Spark Plug	NGK B8ES/ NGK BR8ES
Transmission	6 speed wide ratio
Starting System	Kick
Fuel Capacity	3.1 gal (11.7 liters)
Fuel Requirement	90 + octane unleaded
Fuel/ Oil Mixing Ratio	32:1 - 50:1
Cylinder Bore	67.50/ 67.75 mm
Standard Piston Size	67.45/ 67.70 mm
Stroke	69.80/ 69.80 mm
Cylinder to Piston Skirt Clearance	0.05 - 0.06 mm (0.0020 - 0.0024 inches)
Transmission Oil Capacity	800 cc (8/10 qt)
Oil Weight	Premium 80w gear oil

### Motorcycle Specifications

Wheelbase	1486 mm (58.5 inches)
Rake (Degrees)/ Trail	26/ 4.1 inches
Seat Height	945 mm (37.2 inches)
Ground Clearance	343 mm (13.5 inches)
Weight(Wet no fuel)	230/ 235 lbs.
Front Tire	80 / 100 - 21
Rear Tire	110 / 100 - 18
Tire Pressure	15 psi front and rear

### Front Suspension Specifications

Type	Paioli 46 mm conventional forks with internal cartridge system
Travel	284 mm (11.2 inches)
External Adjustments	Compression and rebound
Standard Compression Setting	7 'clicks' from closed
Standard Rebound Setting	4 'clicks' from closed

Fork Springs	0.44 kg/mm
Oil Level	180 mm
Optional Fork Springs	0.42, 0.46 kg/ mm

### Rear Suspension Specifications

Type	Ohlins piggyback damper with a 118 mm stroke
Travel	330 mm (13.0 inches)
External Adjustments	Compression, rebound and spring preload
Standard Compression Setting	15 'clicks' from closed
Standard Rebound Setting	21 'clicks' from closed
Standard Spring Preload	10 mm
Race Sag	95 mm (3.75 inches)
Shock Spring	6.2 N/ mm
Optional Springs	6.0, 6.4, 6.6, 6.8 N/ mm

### Brake Specifications

Front Brake	Brembo dual piston
Front Rotor	260 mm (10.4 inches) stainless steel
Rear Brake	Brembo single piston
Rear Rotor	220 mm (8.8 inches) stainless steel
Brake Fluid	Golden Spectro supreme DOT 4 (DOT 5.1 non-silicone specifications)
Optional Parts	Solid rotors

### Driveline Specifications

Final Drive Ratio	14 - 50
Optional Sprockets, Front	13, 15, 16
Optional Sprockets, Rear	40, 42, 44, 46, 48, 52
Drive Chain	D.I.D. 520 VX 120 o-ring, 114 links

### Transmission Ratios

Primary Drive	25 / 69	2.760
1st	10 / 30	3.000
2nd	14 / 29	2.071
3rd	14 / 23	1.643
4th	15 / 21	1.400
5th	18 / 22	1.222
6th	19 / 21	1.105



## SPECIFICATIONS

### Torque Specifications

**Fastener**                      **Torque - foot pounds (ft\*lbs)**

#### General Specifications(Bolt thread size, not head size)

10 mm Bolts                      19 - 25

8 mm Bolts                        10 - 13.5

6 mm Bolts                        4.5 - 5.5

Triple Clamp Pinch Bolts      17

Steering Stem Nut               70

Handlebar Clamp Bolts        14

Front Axle                        36

Front Axle Fork Pinch  
Bolts                                9

Rear Axle Nut                    70

Top and Bottom Shock  
Mounting Bolts                30

Front Caliper Bolts            17

Front Brake Rotor Bolts       9

Rear Brake Rotor Bolts       14

Rear Sprocket Bolts            20

Brake Pedal Pivot Bolt        15

#### Engine Specifications

Head bolts                        15

Cylinder                         15

Exhaust Flange Bolts         15

Clutch Nut                        80

Balance Shaft Nut              50

Primary Drive Crank Nut      50

Magneto Nut                    50

#### Basic Tool List

**Sockets, 3/8 inch Drive**      6, 8, 10, 12, 14, 17, 19 mm  
2 inch, 4 inch extensions  
Universal joint  
21 mm spark plug

**Screwdrivers**                      Flat blade - long, short  
Phillips - #1, #2

#### Wrench, Large Adjustable

**Wrenches, Open/Box**          6, 8, 10, 11, 12, 14, 17, 19, 21,  
End                                  22, 24, 30, 34 mm

**Wrenches, Allen(Hex)**        3, 4, 5, 6, 8

Wrench, Spoke

Wrench, Spanner - 45-50 mm

Wrench, Torque - Click style

**Pliers**                                Standard  
Needle - Nose  
Channel - Lock

Hammer, Soft - Plastic Head

Drift Punch

Tire Pressure Gauge

Feeler Gauge Set

Vernier Caliper

Steel Ruler

Tape Measure

Chain Breaker

Cable Lubricator

#### Basic Supply List

Green Locktite

Blue Locktite

Duct Tape

Assembly Grease

Bearing Grease

WD40

Contact Cleaner

Cable Lubricant

Shop Rags



Figure 1.1

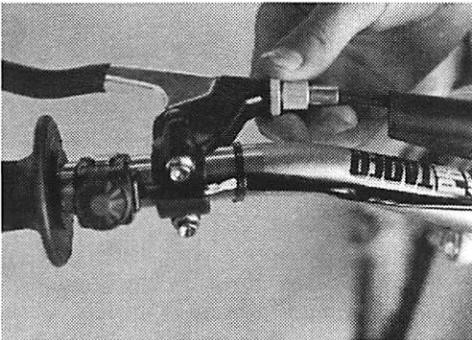


Figure 1.2

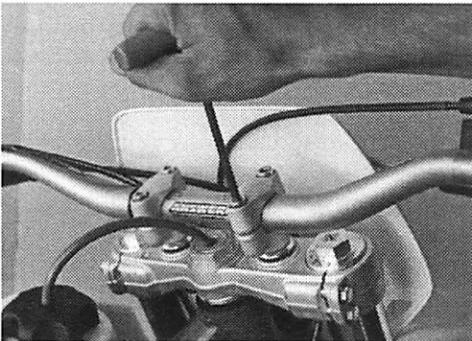


Figure 1.3

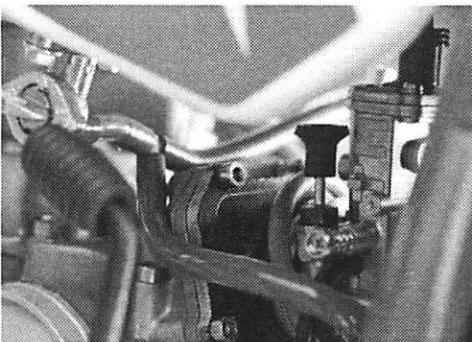


Figure 1.4

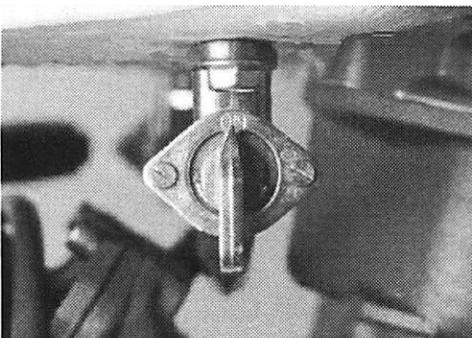


Figure 1.5

It is important to take the time to become familiar with the various controls and their adjustments prior to riding the motorcycle.

### Throttle (Figure 1.1)

The throttle should have a small amount of freeplay in the cable. If the throttle is adjusted too tight, the machine may not idle correctly and could be very dangerous to ride. To adjust the throttle freeplay, slide boot back, loosen the lock nut by hand, and turn the adjuster screw by hand. The throttle should have a few degrees of freeplay so the throttle cable is not stretched taut. After adjustment is complete, tighten the lock nut against the throttle housing.

*Note: If the adjuster at the throttle is at its limits, a similar adjuster exists on the carburetor itself, and can be used to control the free play.*

### Clutch Lever (Figure 1.2)

The clutch lever should be adjusted to provide about 3 to 6 mm (1/8 to 1/4 inch) of freeplay at its ball end. To adjust the clutch freeplay, slide boot back, loosen the lock nut by hand, and turn the adjuster screw by hand. After adjustment is complete, tighten the lock nut against the clutch perch.

### Front Brake Lever (Figure 1.1)

The front brake lever has a screw type adjuster knob on its rear side that allows adjustment of the lever's engagement point. Adjust the engagement point to your preference.

### Kill Switch (Figure 1.2)

This button is depressed to stop the engine. Hold the button down until the engine has stopped.

### Handlebar Adjustment (Figure 1.3)

The Answer ProTaper handlebar can be adjusted for height and reach. To adjust the handlebar, loosen the handlebar clamp screws using a 5 mm Allen wrench. Rotate the handlebar rearward to lower its height and reduce the reach. To raise the handlebar and increase the reach, rotate the handlebar forward. The handlebar has a scale for a reference. After adjustment is complete, tighten the screws and torque them to 14 foot pounds.

### Choke

The choke is turned on by pulling the choke into the up position. It is turned off by pressing the choke into the down position. Figure 1.4 shows the choke in the "on" position.

### Fuel Petcocks

This motorcycle has two fuel petcocks, one on each side of the fuel tank. Both petcocks should be turned on before riding. Each fuel petcock has three positions: ON / OFF / RESERVE. For normal use the bike should be ridden with the petcock in the ON position. This leaves the reserve position for emergency use only. It is good practice to turn the petcock to its OFF position when the motorcycle is not in use. Figure 1.5 shows the petcock in the ON position.

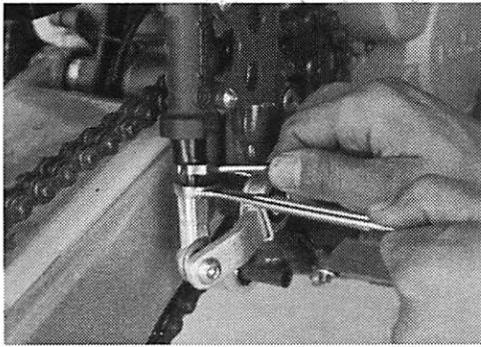


Figure 1.6



Figure 1.7

#### Fuel Level

When filling your motorcycle up with fuel, do not top off the fuel tank. Leave about two inches of space below the top of the fuel filler. This allows the fuel gasses to expand during temperature increases without the risk of fuel overflowing.

#### Gear Shifter

The gear shifter has the following gear pattern: DOWN 1-N-2-3-4-5-6 UP

#### Rear Brake Pedal (Figure 1.6)

The static height of the rear brake pedal should be adjusted to rider preference while wearing your boots. To adjust the pedal's height, loosen the 12 mm lock nut above the heim joint, then turn the adjuster screw using an 10 mm end wrench. Check the position by sitting on the motorcycle before resetting the lock nut.

#### Exhaust Valve (Figure 1.7)

The exhaust control valve on the LQ engines is operated by exhaust pressure and a spring. A small hole in the roof of the exhaust port leads to a high temperature rubber diaphragm that raises the exhaust valve for increased power at higher engine revolutions; a coil spring on the outside front of the diaphragm closes the valve, and it also effects when the exhaust valve opens. The engine speed at which the exhaust valve opens can be varied by adjusting the preload on the spring with the red plastic screw located in the middle of the exhaust valve cover. For initial testing, turn the red screw two full turns in either direction from its standard position (the top of the adjuster screw flush with the cover). Turning the screw adjuster clockwise (into the cover), increases the spring pressure and results in the valve opening at a higher rpm. Turning the screw counterclockwise (out of the cover), lets the valve open at a lower engine speed. After the initial experiment with valve adjustments, take the time to fine-tune the adjuster to your riding style and riding conditions.

*Note: Do not exceed two turns in either direction from a flush starting point.*

Gearing Chart		
Countershaft Sprocket	Rear Sprocket	Sprocket Gear Ratio
14-T	44-T	3.14:1
14-T	46-T	3.29:1
14-T	48-T	3.43:1
14-T	50-T	3.57:1
14-T	52-T	3.71:1
15-T	40-T	2.67:1
15-T	42-T	2.80:1
15-T	44-T	2.93:1
15-T	46-T	3.07:1
15-T	48-T	3.20:1
16-T	40-T	2.50:1
16-T	42-T	2.63:1
16-T	44-T	2.75:1
16-T	46-T	2.88:1
16-T	48-T	3.00:1

Figure 1.8

### Gearing (Figure 1.8)

The final drive gearing was carefully chosen for your ATK 250/260 to provide maximum performance in a variety of riding conditions. Should your personal preference or riding conditions require a gearing change, use the GEARING CHART as a guide. All of the gearing combinations can be purchased from your local ATK Dealer. The lower the sprocket gear ratio, the higher the speed of the motorcycle. For example, if you feel as if you are shifting the motorcycle too often, it may be advisable to go smaller on the rear sprocket by two teeth (50 → 48). If the gearing seems too 'tall' and you would prefer a bit more acceleration, try increasing the number of teeth on the rear sprocket (50 → 52).

*Note: Changing the sprocket size may require a longer or shorter chain, depending on how drastic the change in gearing.*

### Forks (Figure 1.9)

The Paioli forks, on your ATK, have been thoroughly tested to perform exceptionally in a variety of riding conditions. There are only two external adjustments that can be made to the forks. On the bottom of each fork leg, underneath the rubber cap, is the compression adjuster. It can be adjusted with a flat blade screwdriver. To ensure the best performance of the forks, each fork should be adjusted to the same setting. From the factory, the forks should be set to 7 'clicks' from closed (turn adjuster all of the way clockwise until resistance is felt, then turn back 7 'clicks'). Turning this adjuster clockwise increases the compression damping, and turn it counterclockwise decreases the compression damping. Make sure to replace the rubber plug in the bottom of the fork leg.

The rebound adjusters are on the top of the fork legs. They must also be adjusted to the same setting for each leg. From the factory, the rebound adjusters are set to 4 'clicks' from closed. Turning the adjuster clockwise increases the rebound damping, and turning it counterclockwise decreases the rebound damping. (Figure 1.10)

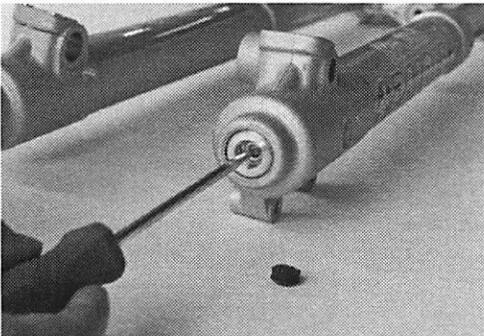
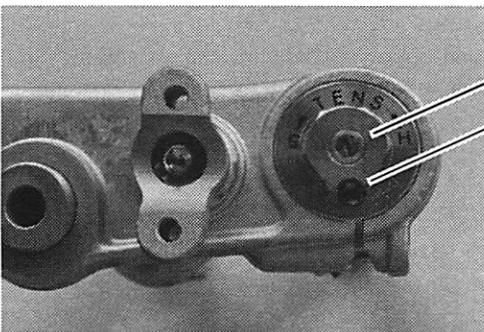
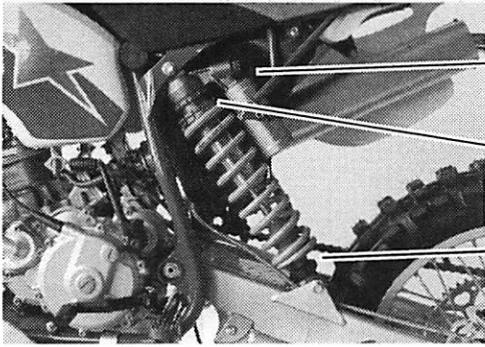


Figure 1.9



Rebound  
Pressure  
Release

Figure 1.10



**Compression**

**Preload**

**Rebound**

**Figure 1.11**

There is also a pressure release valve on the top of each fork leg. With the motorcycle on a stand unscrew this valve after each ride to allow the built up air in each fork leg to escape. (Figure 1.10)

For specific information about suspension set up and maintenance, please refer to chapter 5 "Suspension setup".

### **Shock**

The Ohlins shock was designed and tested specifically for the ATK two stroke line of motorcycles. It is an extremely high performance shock absorber designed to provide the best combination of low speed compliance and high speed bottoming resistance. This Ohlins shock absorber has three external adjustments.

#### **Compression (Figure 1.11)**

The compression adjuster is located on the top of the shock between the shock reservoir and the main shock body. To adjust the compression, the left side panel of the motorcycle must be removed. The stock setting for the compression is 15 'clicks' from closed (full clockwise). Adjusting the compression clockwise increases the compression damping, while adjusting it counterclockwise decreases the compression damping.

#### **Rebound (Figure 1.11)**

The rebound adjuster is located on the shaft of the shock near the bottom shock mount. The stock setting for the rebound is 21 'clicks' from closed (full clockwise). Adjusting the rebound clockwise increases the compression damping, while adjusting it counterclockwise decreases the rebound damping.

#### **Preload (Figure 1.11)**

With the side panel removed, it is possible to adjust the shock spring preload by using a spanner wrench, or a hammer with a punch. Place the motorcycle on a stand to raise the rear wheel off of the ground. Loosen the jam nut (the top ring of the two rings that are touching). Increase or decrease the preload by rotating the spanner nut. Tighten the jam nut

For specific information about suspension set up and maintenance, please refer to chapter 5 "Suspension setup".

## PRE-RIDE

The following inspection **MUST** be performed prior to each riding session:

- A thorough “walk around” of the motorcycle for visible signs of loose, broken or worn parts, nuts and bolts, tires, wheel hubs, spokes etc.
- An in-depth check of the following components using the proper tools, equipment and knowledge to perform the job.
- Engine oil level.
- Engine for oil leaks and/or case damage.
- The smooth and effective operation of the throttle, clutch, front brake, rear brake, and kill button.
- Steering smoothness and steering head bearings for proper adjustment.
- Handlebars for proper adjustment and tightness.
- Control cable routings for binding or interference with the bike’s steering and operation.
- Brake pads and brake rotors for damage or wear.
- Brake fluid levels and the hydraulic hoses for damage and their attachment bolts for tightness.
- Tire condition and inflation.
- Spoke condition and tightness.
- Wheel hubs and rims for cracks or damage.
- Suspension components (shock, forks, triple clamps) for signs of oil leakage, crash damage, and general integrity.
- Exhaust system for cracks, damage and mounting hardware tightness and condition.
- Front and rear axles tightness.
- Swingarm pivot nuts for proper tightness.
- Drive chain, sprockets, chain rollers and chain rub pad for wear and/or damage.
- Check the condition of the front and rear wheel bearings by trying to rock the wheel assembly. There should be no noticeable looseness or rocking when the bearings are in good condition.
- Fuel tank, fuel cap, fuel petcock and fuel lines for leaks and/or damage.
- Carburetor clamps for tightness and the carburetor for leakage.

**NOTE:** *If any of the above checks show a need for attention, perform the necessary repair/replacement/adjustment prior to riding the motorcycle.*

## BREAK IN

Taking the time to properly break in your new ATK two stroke motorcycle will reward you with a bike that provides maximum performance and life. It is important that the motorcycle is not ridden in any extreme circumstances during this break in period. Riding gently for the first few hundred miles will provide less maintenance worries over the motorcycles’ lifetime.

### Engine and Transmission

ATK’s two stroke engines require a 150 mile break in period. The most important thing to remember when breaking in your new ATK two stroke motorcycle is to stay away from deep sand, high speed straights, and any riding situation where the engine is required to run at full power or a steady rpm for an extended amount of time. During the break in period vary the throttle setting often and shift the transmission carefully. Let the engine cool for 5 minutes after every hour of use during the first 50 miles of break in. The engine can be used more aggressively after the first 50 miles of break in, but the most aggressive riding should be avoided during the first 100 miles of use. Change the transmission oil after the first ride.

### Brakes

The Brembo brakes on your new ATK will provide superior stopping power and longevity if you apply the brakes lightly, allowing for a cooling period, during the first hour of operation. This ensures the brake pads and stainless steel brake rotors seat properly without glazing. Your reward for taking the time to properly break in the motorcycle’s brakes will be stronger, longer lasting brake components.

### Suspension

Referring to the suspension setup section, take the time to set the rear suspension’s sag to 95 mm (3.75 inches) and the shock and fork damper adjustments prior to riding your new motorcycle. It will require one or two rides before the suspension seals and sliding surfaces break in enough to allow the user to adjust the suspension to their preferences. After two rides, reset the shock preload (the shock spring actually breaks in and needs adjustment to achieve the same sag), and experiment with the fork and shock compression and rebound adjuster until the desired ride settings are achieved.



# FUEL/STARTING PROCEDURE

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## Fuel

Recommended fuel: Premium unleaded, 90+ octane

Recommended pre-mix oil: Golden Spectro 2-cycle engine oil

Recommended ratio: 32:1 to 50:1

Pre-mixing your fuel to the proper ratio is essential for durability and long life for your ATK engine. ATK's R&D department has used Golden Spectro oil mixed at a ratio of 53:1 for the past five years with excellent results. The easiest way to mix the oil to the proper ratio is to empty a 12 ounce bottle of Golden Spectro into a five gallon fuel can, and then fill the can. This ensures a 53:1 ratio in every can.

Make sure the gasoline pre-mix is mixed thoroughly before using in your motorcycle. Do not use any pre-mix fuel older than about six weeks.

On long rides where filling the motorcycle at a gas station may be necessary, fill the fuel tank first with fuel, and then add the oil second. This prevents the oil from going directly to the carburetor and causing a fouled spark plug.

## STARTING PROCEDURE

### Cold Engine

1. Turn the fuel petcocks to their ON (vertical) position.
2. Position the choke control to its ON (up) position.
3. Kick over engine quickly with throttle closed.
4. If the engine does not start, repeat step 3 with throttle slightly open..
5. After the engine warms up, return the choke control to its OFF (down) position.

### Warm Engine:

Kick over engine quickly with throttle opened about 1/8 to 1/4 turn.

## Cleanliness

When doing maintenance on your ATK two stroke, it is very important to work on the motorcycle when it is completely clean. This makes the work more enjoyable and prevents dirt and other debris from contaminating the various motorcycle components. Refer to WASHING/STORAGE for motorcycle washing instructions.

## Periodic Maintenance Chart

Key: I - Inspect L - Lubricate R - Replace C - Clean A - Adjust

Item	After each ride	Every Year
Spark plug	I	R
Drive chain and sprockets	I-L	
Chain rollers	I	
Swingarm rub pad	I	
Chain guide block	I	
Transmission oil	R, 20 hrs	
Air filter	I-C-L	R
Coolant	I	R
Control cables and levers	I-L-A	
Throttle		I-C-L-A
Brake fluid	I	R
Brake pads	I	
Brake rotors, calipers, and hoses	I	
Brake system operation	I	I-A
Forks	I	
Fork oil		R, 20 hrs
Shock	I	
Shock oil		R
Frame	I	
Swingarm	I	
Swingarm lubrication	Not Required	
Steering head adjustment	I	I-L-A
All nuts and bolts	I-A	
Tire condition and inflation	I-A	
Spokes, hubs, and rims	I	
Piston and rings		I-R
Piston pin, rod top bearing		I-R
Exhaust power valve		I-C
Exhaust system	I	
Silencer packing		R
Carburetor		I-C

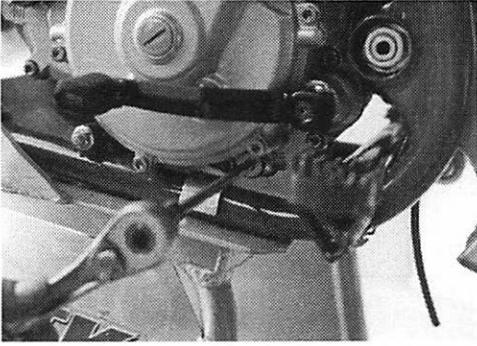


Figure 4.1

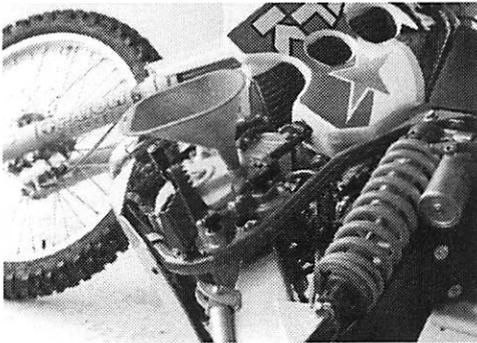


Figure 4.2

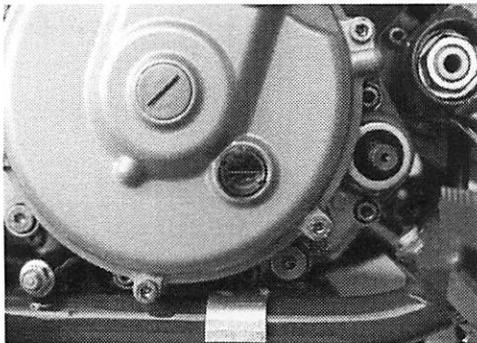


Figure 4.3

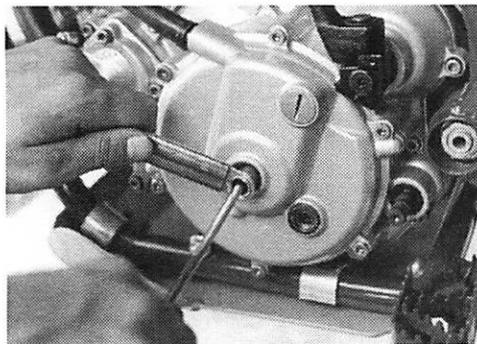


Figure 4.4

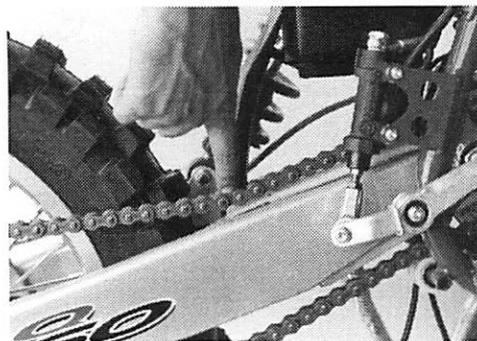


Figure 4.5

### Engine Oil Change

After the engine break in period, engine oil should be changed every 2 rides.

Oil type: Any high quality transmission lubricant.

Capacity: 0.80 quarts

Oil Change: 100 miles

1. Remove the oil drain plug under the lower rear of the clutch cover (under the shift lever) using a 6 mm Allen wrench. (Figure 4.1)
2. Drain the oil into a container.
3. Clean any debris from the magnet on the drain plug.
4. Inspect the fiber washer on the drain plug, replace if damaged
5. Replace drain plug.
6. Turn fuel petcocks to OFF
7. Lay motorcycle on left side.
8. Remove top clutch cover plug.
9. Pour about 8/10 of a quart into hole in cover. (Figure 4.2)
10. Replace plug and stand motorcycle vertical.
11. Oil should cover approximately 1/2 of sight glass on clutch cover. (Figure 4.3)

### Clutch Adjustment

If the clutch can no longer be adjusted at the clutch lever, it can be adjusted at the clutch in the engine case.

*Note: It is very important that the clutch is adjusted properly at the engine. If the clutch is adjusted improperly, the life of the clutch will be severely limited.*

1. Adjust lever to loosest position by turning the adjustment screw completely clockwise.
2. Remove the center adjustment cover on the engine.
3. Using the clutch adjustment tool included in the tool kit and a flat blade screwdriver, loosen the 11 mm adjustment screw. (Figure 4.4)
4. Turn the adjustment screw fully inwards (clockwise) until a slight resistance is felt, then counterclockwise by 1/2 turn.
5. Adjust the clutch lever to the specifications in the Controls section.
6. Replace the adjustment cover.

### Ignition

There are two different ignitions included with the 250/260. The ignition advance depends on the serial number marked on the coil/CDI.

*Note: The ignition advance is preset at the factory and should require no addition adjustments.*

Coil # 10-4 : 2.05 mm BTDC

Coil # 6-4 : .05 mm ATDC

### Drive Chain Tension Check (Figure 4.5)

To check or adjust the drive chain, place the motorcycle on a stand with its rear wheel off the ground. Push down on the chain in the area near the end of the chain slider pad. When properly adjusted the chain should become taught and just

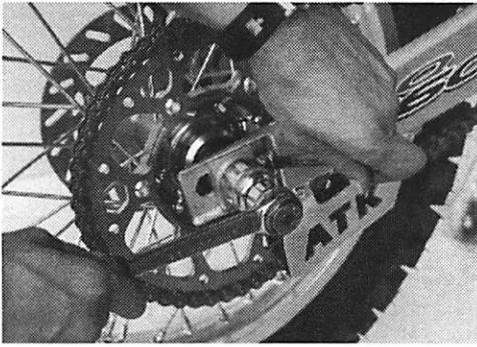


Figure 4.6

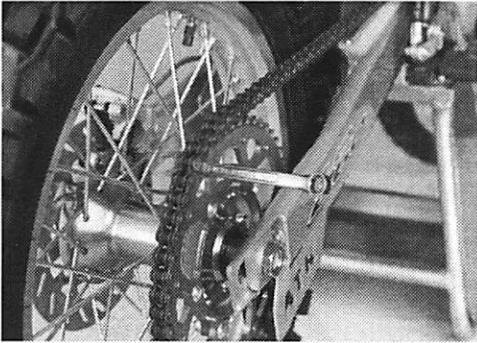


Figure 4.7

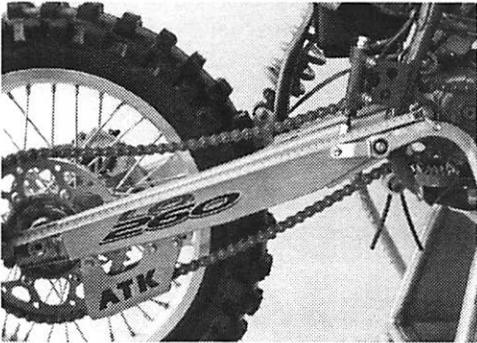


Figure 4.8

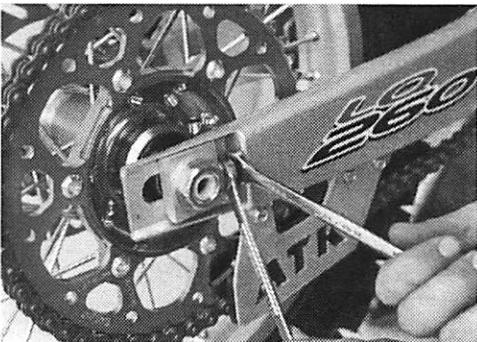


Figure 4.9

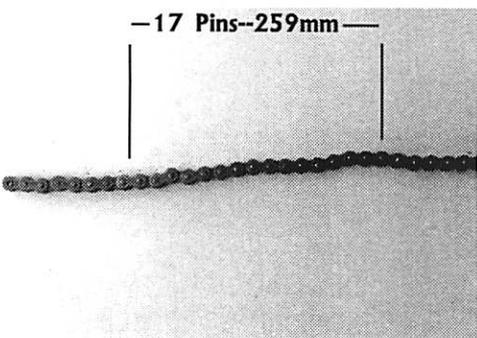


Figure 4.10

barely touch the end of the chain slider pad. A premium quality D.I.D. o-ring chain is stock and should stretch very little after the break in period.

### Drive Chain Tension Adjustment

1. Loosen the 30 mm axle nut and the 12 mm locknut on each adjuster screw. (Figure 4.6)
2. Turn each adjuster screw an equal amount by counting the number of turns on each side and then recheck the chain play.
3. Place an end wrench between the top of the rear sprocket and the chain, rotate the rear wheel backward until the chain becomes taught. This pulls the rear wheel axle block tight against the adjuster screws. (Figure 4.7)
4. The best method for checking the rear wheel alignment is to measure the distance from the center of the swingarm pivot to the center of the axle using a tape measure. The rear wheel is aligned when the distance from the swingarm pivot to the rear axle is identical on both sides of the motorcycle. Fine tune the alignment of the rear wheel by turning the adjuster screws. (Figure 4.8)
5. Recheck and adjust the chain play a final time, then, with the end wrench still holding tension on the chain, torque the rear axle to 70 foot pounds. Rotate the wheel forward to remove the wrench from the chain/sprocket.
6. Ensure that the adjuster screws are tight against the adjuster blocks, then tighten the lock nut with a 12 mm wrench while holding the adjuster screw with a second 12 mm wrench. (Figure 4.9)

### Drive Chain

The o-ring chain on your ATK two stroke is lubricated at the factory and does not require initial lubrication. However, a light coat of WD40 after every ride and after each washing will assist in removing water from the chain. Also, an o-ring approved chain lubricant can be used occasionally to keep the chain lubricated. Excess chain lubricating should be avoided because it does not help extend the life of the chain and the motorcycle becomes very messy from the excess chain lubricant.

Measuring the distance between pins on the chain provides the easiest method for determining the wear on the chain. If the distance between 17 pins on the chain is greater than 259.0 mm (10.20 inches), the chain should be replaced. (Figure 4.10)

**Caution:** When replacing the drive chain, point the open end of the master link towards the rear of the motorcycle when viewing the chain on top of the swingarm. This will ensure that the masterlink will not be unfastened if it touches part of the motorcycle or some terrain. (Figure 4.11)

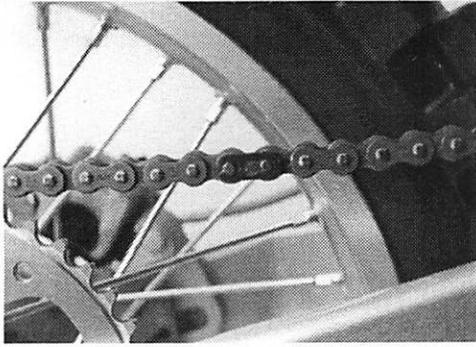


Figure 4.11

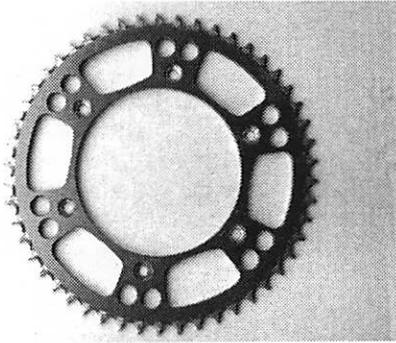


Figure 4.12

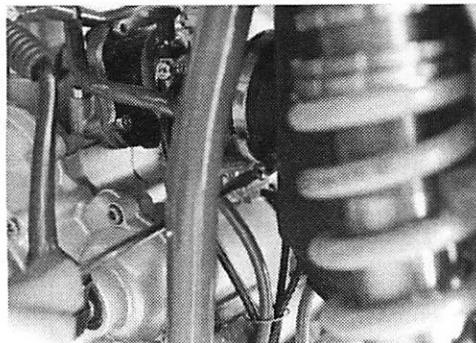


Figure 4.13

### Drive Sprockets

When the sprocket teeth start looking thin, bent or curved, replace the sprockets. (Figure 4.12)

*Note: Replace the sprockets and chain at the same time. One worn component will make the other components wear much quicker. This ensures the longest possible life out of the new parts.*

### Throttle and Control Levers

The throttle should be disassembled, all of its components cleaned and wiped dry. Lubricate the components with a light coating of WD40 or other light oil.

**Caution: Do not use any type of grease in the throttle components. Grease can attract dirt and become thick in cold weather. This can cause loss of control of the motorcycle.**

The clutch, and front brake levers should be lubricated at their pivot points and where the cable barrels rotate in the levers. A light weight grease or other lubricant may be used. The maintenance schedule for these items should be determined by the amount and severity of the motorcycle's use.

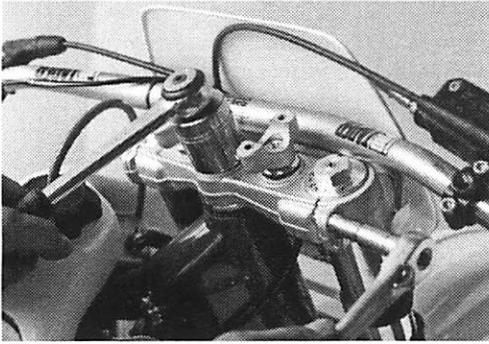
### Control Cables

All control cables should be lubricated with cable lubricant to keep them working smoothly and easily. Lubricating the cable ends where they pivot in the control levers reduces the effort required to operate the levers. This is easily accomplished by using a cable lubricating tool.

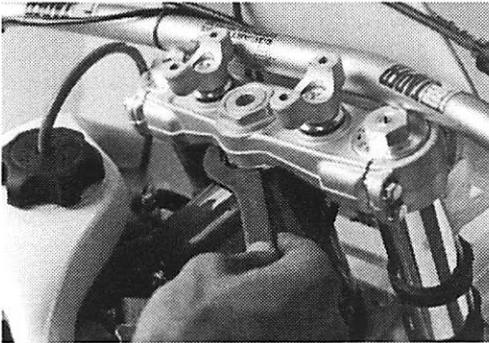
### Air Filter

A foam air filter is standard equipment on your ATK two stroke. The filter should be checked, cleaned and oiled after every ride. Follow the procedure below:

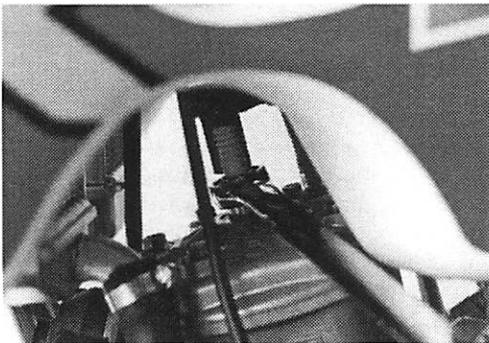
1. Remove the motorcycle seat.
2. Loosen the air filter hose clamp located at the rear of the carburetor. (Figure 4.13)
3. Pull the air filter from the airbox.
4. Place a clean rag in the motorcycle intake.
5. Clean the filter in cleaning solvent and let it air dry.
6. Lubricate the filter with foam filter oil.
7. Squeeze the filter gently so that its excess oil can drain off.
8. Clean the inside of the airbox thoroughly.
9. Install the air filter unit into the airbox and slide the filter nose over the back of the carburetor.
10. Tighten the air filter hose clamp.
11. Check to make sure that the filter nose is properly installed over the carburetor inlet and that the hose clamp is centered and positioned properly.



**Figure 4.14**



**Figure 4.15**



**Figure 4.16**

## Steering Head

To check the steering head adjustment:

1. Place the motorcycle on a bike stand so that its front tire is off the ground.
2. Push gently on one end of the handlebar.
3. When the steering head is adjusted properly, the handlebar should move all of the way to the steering stop, and not rebound from that position.
4. If the handlebar moves all of the way to the steering stop and begins to bounce back towards the center position, the steering head bearings are too loose.
5. If the handlebar never reaches the steering stop, the steering head bearings are too tight.

To adjust the steering head bearings:

1. Loosen the top triple clamp 10 mm hex head fork pinch bolts. (Figure 4.14)
2. Loosen the 34 mm hex fork stem nut. (Figure 4.14)
3. To tighten the steering head bearings, tighten the spanner nut under the top triple clamp using a 45 - 50 mm spanner wrench. (Figure 4.15)
4. To loosen the steering head bearings, loosen the spanner nut under the top triple clamp using a 45 - 50 mm spanner wrench.
5. Tighten the fork stem nut to 70 foot pounds.

**Caution: Do not over tighten this nut.**

6. Torque the top triple clamp 10 mm hex head fork pinch bolts to 17 foot pounds. Recheck the steering head as above, then make sure that the steering moves freely and smoothly from right to left.

## Spark Plug

**Gap: 0.020 inches**

To remove the spark plug with the fuel tank off, simply use a 21 mm spark plug socket. To remove the spark plug with the fuel tank on, use a 21 mm box end wrench. (Figure 4.16)

**Suspension Adjustment**

Spending the time to properly understand how your motorcycle's suspension works, and to set it up to your own personal riding preferences will benefit you with greater performance and increased satisfaction.

**Rear Suspension Sag**

Setting the rear suspension sag is the first and most important step in adjusting your new ATK's suspension for you. Setting the sag involves measuring two important, and different settings on the motorcycle: Free sag and Race sag. Free sag is the distance the rear suspensions sags under the weight of the motorcycle, and Race sag is the amount of distance the rear suspension sags under the weight of the motorcycle and the rider in full riding gear. Both of these measurements are important to getting your ATK's suspension set up correctly.

*Note: Set only the race sag when the motorcycle is new. After riding for a few hours, the suspension will be properly broken in, and the full suspension set up, including free sag, can be performed.*

To set the sag, place the motorcycle on a stand that raises the rear tire completely off the floor. Measure the distance from the center of the rear axle to the center of the seat bolt, or the edge of the rear fender where it meets the side number panel. Record this unweighted distance, because it will be the reference for all of your sag calculations. (Figure 5.1)



Figure 5.1

**Race Sag: Standard 95 mm (Figure 5.2)**

Remove the motorcycle from the stand and place on a flat surface. It is important to set the race sag wearing all of the appropriate riding gear. Sit on the seat in a normal riding position and bounce on the motorcycle a few times to allow the motorcycle to settle to its natural position. Use the motorcycle stand to balance yourself vertically. Remain seated in your normal riding position and have an assistant remeasure the distance between the axle and top measuring point (Figure 5.2). The difference between this value and the unweighted distance is the Race sag.

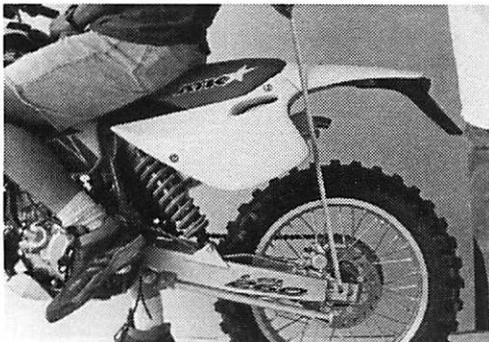


Figure 5.2

If adjustment is needed, replace the motorcycle on a stand, remove the left side panel, and loosen the shock spring locking ring (the top ring of the two touching rings) with a spanner wrench or drift punch and hammer. Rotate the lower spring retainer ring using a spanner wrench to change the spring preload. If less sag is needed, turn the adjuster ring toward the spring, if more sag is desired, turn the ring away from the spring. Leave the top locking ring loose, remove the bike from its stand and remeasure the distance while the rider is sitting on the motorcycle. Repeat these steps until the race sag is correct, then tighten the top locking ring against the adjuster ring securely to keep it from moving during motorcycle operation.

**Free Sag: Acceptable Range: 18 - 25 mm (Figure 5.3)**

Once again remove the motorcycle from the stand. With the motorcycle on flat ground compress the rear suspension a few times to allow the suspension to settle to its natural position, then repeat the previous measurement from axle to seat bolt (Figure 5.3). The difference between this value and the unweighted distance is the Free sag.

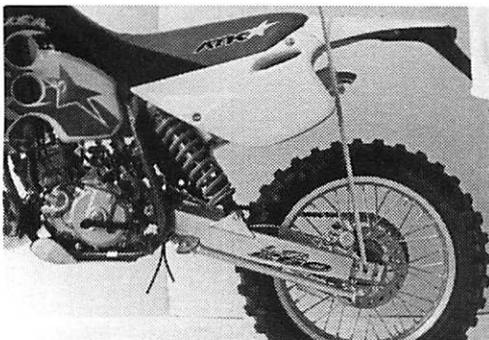


Figure 5.3

It is very important to understand what these measurements mean and how they affect the performance of the motorcycle.

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If after setting the Race sag, the Free sag is greater than 25 mm, the spring is **too stiff** for your weight. If the Free sag is less than 17 mm, the spring is **too soft** for your weight.

It seems a bit backwards, but these rules are correct. Fortunately, the spring on your ATK allows for a variety of different weight riders, and only a few riders will need to change springs. The stock spring on your motorcycles is a 6.2 N/mm. Your dealer has softer and stiffer springs.

Additionally, the Race sag on the motorcycle can be adjusted slightly to suit the different types of riding conditions. The acceptable range for the Race sag is 90 - 100 mm. If you are anticipating very muddy riding conditions, the Race sag may need to be decreased 1-2 mm (93-94 mm Race sag) to compensate for the additional weight added by the mud. In general, running more Race sag will result in a motorcycle that is more stable, which could be helpful for higher speed desert type riding. Less Race sag will provide quicker steering which may be better for tighter, woods type riding.

### **Shock Compression Damping: 30 Positions - Standard setting 15 'clicks' from closed (clockwise)**

Compression damping controls the speed at which the shock compresses. The compression adjuster knob is located at the top of the shock reservoir. Each adjustment position is provided with a spring detent that can be felt and heard. To adjust the compression, turn the adjuster clockwise until it stops, counting the number of 'clicks'. This provides a zero point for all further adjustments. Next turn the adjuster counterclockwise to the desired setting by counting the number of 'clicks'. Once you are sure of the starting position of the adjuster, you can adjust the knob from its starting position without having to return the knob to its zero position. Try adjusting the knob only one position at a time. The effects of adjustment are very noticeable from about 12 to 18 'clicks'. Moving the adjuster knob to a lower setting stiffens the ride. Increasing the setting number will soften the ride and make the suspension more compliant over smaller obstacles.

### **Shock Rebound Damping: 30 Positions - Standard setting 21 'clicks' from closed (clockwise)**

Shock rebound damping controls the speed at which the shock returns to its extended length after being compressed. Rebound damping is adjusted via a knurled rubber ring located just above the lower shock mount. The procedure for setting the rebound adjustment is similar to the compression adjustment. Close the rebound by rotating the adjuster completely clockwise (when viewed from the bottom of the shock) and count the 'clicks'. This provides a zero reference for the position of the current setting. Then rotate the knob counterclockwise to the desired position. Once the rebound setting is known the rebound can be adjusted one 'click' at a time instead of zeroing the rebound for every adjustment. A lower setting number slows the shock's rebound. A higher setting number quickens the rebound damping. The rebound adjuster should be adjusted one position at a time until the rebound is correct for your riding style and speed. If the rear wheel kicks after hitting a sharp bump, the rebound could be too fast. If the rear suspension tends to stay down after hitting a bump, the rebound could be too slow.



When riding terrain with small, closely spaced bumps at high speed (washboard roads, or closely spaced whoops), it is often advantageous to reduce rebound damping by one increasing the setting 'click'. This allows the suspension to follow the contours of the terrain better. The opposite is the case when riding terrain with numerous G-outs and bigger jumps to prevent rear wheel kicking (change setting from 16 to 15 for example).

### **Forks**

The ATK two stroke line uses premium quality Paioli forks that feature the ultimate in performance and reliability. These forks are adjustable for both compression and rebound damping. Taking the time to understand the fork adjustments will provide a good basis for properly adjusting the suspension.

*Note: Make sure to adjust both fork legs to the same setting for both compression and rebound.*

### **Compression Damping: 28 Positions - Standard setting 7 from closed (clockwise)**

Before performing any adjustment to the compression settings, it is important to know the starting position of the adjuster. While counting the number of 'clicks', turn the adjuster clockwise until it stops. This provides a zero reference for the adjustments. Next turn the adjuster counterclockwise until the desired number of 'clicks' are achieved. A lower setting adjustment provides a stiffer ride, while a higher setting number provides a softer ride.

### **Rebound Damping: 30 Positions - Standard setting 4 from closed (clockwise)**

The rebound adjustment is set exactly the same as the compression adjustment. The setting should be set from the zero position (adjuster turned completely clockwise). To slow down the rebound damping (the speed at which the fork returns to its extended position after being compressed), reduce the setting position (for example from 10 to 9). To quicken the rebound damping, increase the setting position. Like the shock, it is often advantageous to make minor rebound damping adjustments to precisely tune the suspension to the terrain you are riding.

### **Fork Oil Rating**

Your new ATK is delivered with premium KYB 01 fork oil from the factory. The Paioli fork is designed for maximum performance using KYB oil. However, BEL RAY HVI 10 has been tested and will also result in exceptional performance.

### **Fork Oil Level**

Stock: 180 mm

Range of adjustment: 190 mm - 140 mm

### **Effects of Fork Oil Level**

Raising the fork oil level increases the forks resistance to bottoming and generally makes the fork feel firmer during the last half of its travel. Lowering the oil level softens the overall feel of the suspension. It is best to make changes to the fork oil level in 10 mm increments.

**Caution: Keep the oil level the same in both fork legs.**

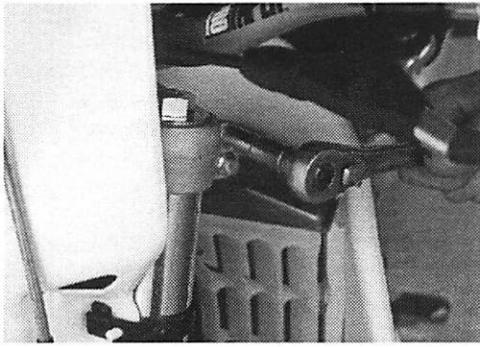


Figure 5.4

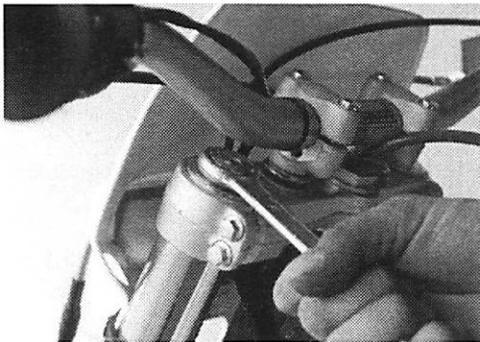


Figure 5.5

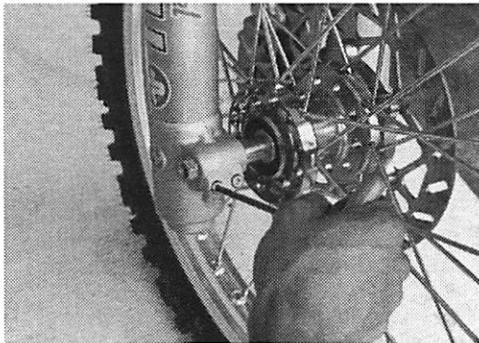


Figure 5.6

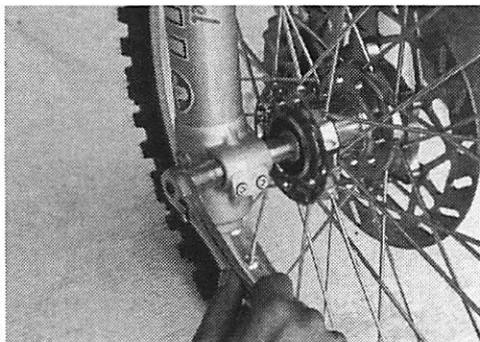


Figure 5.7

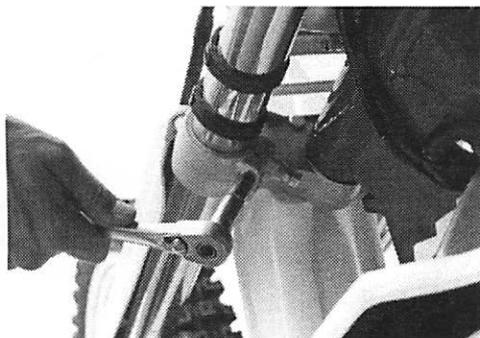


Figure 5.8

## Setting the Fork Oil Level

1. When performing any fork disassembly, cleanliness is very important. Any removed components should be placed on a clean table or a clean area.
2. Place the bike on a bike stand that raises the front tire off the ground
3. Loosen the 4 - 10 mm head top triple clamp pinch bolts. (Figure 5.4)
4. Loosen both fork caps with a 24 mm wrench. (Figure 5.5)
5. Loosen the 5 mm Allen head axle pinch bolts on the right fork leg. (Figure 5.6)
6. Remove the front axle using a 17 mm socket or wrench. (Figure 5.7)
7. Remove the front wheel.
8. Remove the plastic fork guards from both fork legs using a #2 Phillips head screwdriver.
9. Remove the two 12 mm head brake caliper bolts, remove the caliper and let it hang.
10. Loosen the 4 lower triple clamp 10 mm head pinch bolts. (Figure 5.8)
11. Remove the fork legs from the motorcycle and lean them against a corner of a wall.
12. Hold the fork cap with a 24 mm wrench, pull down the preload spacer against the spring, and insert a 17 mm open end wrench above the preload spacer on the lock nut. Loosen the 17 mm hex lock nut on the cartridge stem. Remove the fork cap. (Figure 5.9)
13. Remove the fork spring, being careful to let the oil run down the spring and back into the fork.
14. Push the inner fork leg down until it is bottomed. (Figure 5.10)
15. Pump the cartridge stem up and down a few times until the cartridge is filled with oil.

*Note: Keep your finger over the end of the cartridge stem to prevent the damper valve from being lost. (Figure 5.11)*

16. Holding the fork leg perpendicular to the ground, insert a narrow steel ruler into the fork until it just touches the top of the oil. Measure to the top of the inner fork tube. This is the fork oil level. (Figure 5.12)
17. If a higher oil level is desired, add a small amount of oil [about 30 cc (1 ounce)], then remeasure the level.
18. If a lower oil level is needed, remove a small amount of oil from the fork, then remeasure the level.
19. Install the fork spring, spring preload spacer, and reinstall the fork cap on the cartridge stem.
20. Replace the fork cap on the inner tube.
21. Repeat steps 12 through 20 on the second fork leg.
22. Install forks onto bike and torque the triple clamp pinch bolts to 17 ft\*lbs.
23. Install the fork guards, front wheel, front axle, brake caliper, and tighten the axle to 36 ft\*lbs.
24. Remove the motorcycle from the bike stand or crate. Apply the front brake and push the forks as far into their travel as possible several times to align the fork tubes, then tighten the right fork axle pinch bolts.
25. Recheck the tightness of all bolts and the routing of the front brake's hydraulic hose.

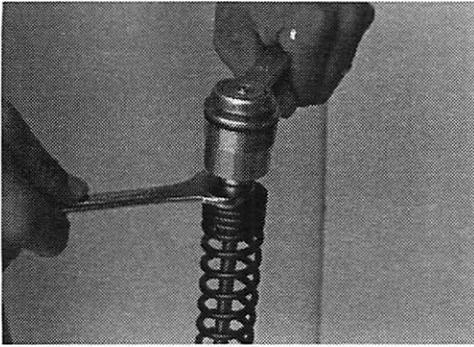


Figure 5.9

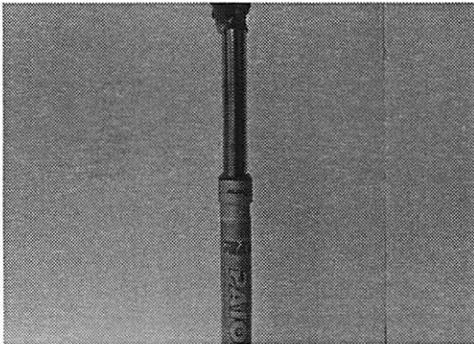


Figure 5.10

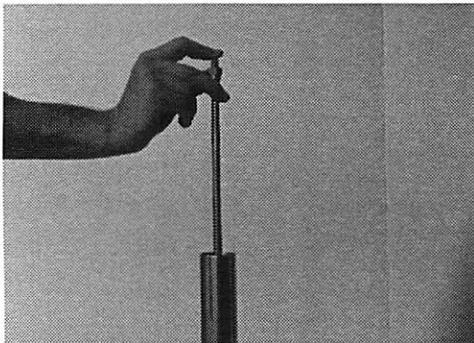


Figure 5.11

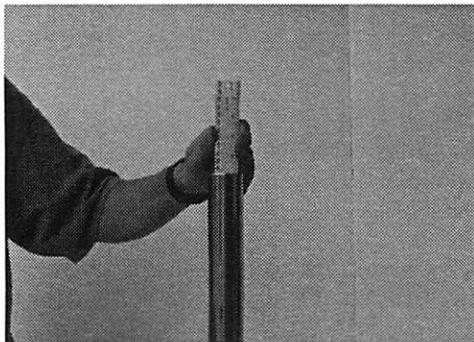


Figure 5.12

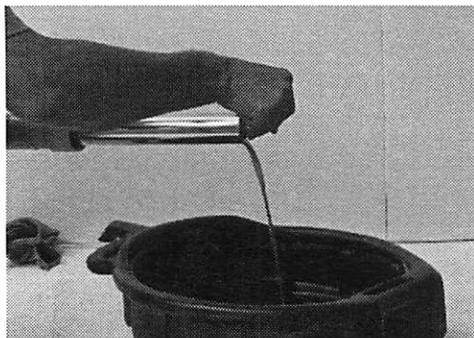


Figure 5.13

### Changing Fork Oil

Changing the oil in your Paioli forks is an important component to your motorcycle's maintenance. The fork oil should be changed after the first 3-4 hours of use, and then at approximately 20 hour intervals thereafter. If the riding conditions are extremely dusty or muddy, the oil change intervals may be lessened.

1. Follow steps 1 through 13 in the Fork Oil Level section.
2. Invert the fork over an oil drain pan. Keep your finger over the end of the cartridge stem, otherwise the cartridge valve may fall out. (Figure 5.13)
3. Compress the fork's inner tube completely. (Figure 5.10)
4. Pump the fork cartridge stem until all of the oil is removed. Keep finger on the end of the cartridge stem.
5. Place the fork vertically on the floor and compress its inner tube and cartridge stem to full compression.
6. Using the recommended fork oil, pour oil into the fork until the oil is approximately 100 mm (four inches) from the top of the fork inner tube.
7. Pump the cartridge by moving the cartridge stem up and down until the stem provides resistance indicating the cartridge is full of oil. If solid resistance is not felt, repeat this procedure one additional time.
8. Using step 16 of the Fork oil setting section as a guide, set the fork oil height.
9. Follow steps 17 through 25 of the Fork oil level section to reassemble the forks and front end of the motorcycle.

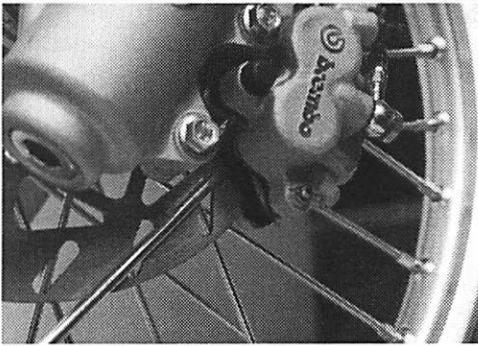


Figure 6.1

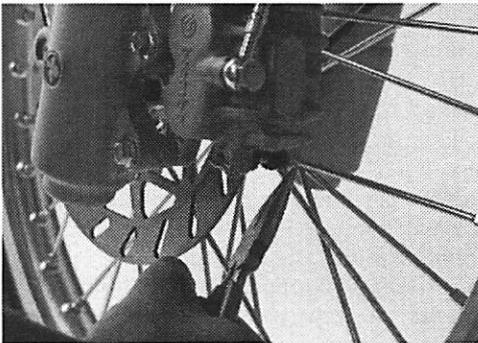


Figure 6.2

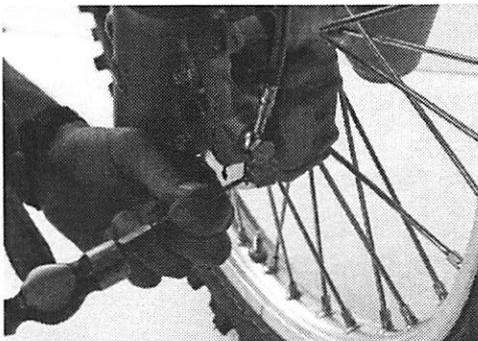


Figure 6.3

The latest model Brembo brake components are used on your new ATK. The front brake caliper is a 2-piston model, the rear caliper is a single-piston model. Both calipers feature quick-change brake pads. The brake rotors, a 260 mm front and 220 mm rear, are made of heat-treated stainless steel.

#### Brake Fluid

ATK uses premium Golden Spectro Supreme DOT 4 (DOT 5.1 non-silicone specifications), in every motorcycle built. To maintain the superior brake performance of your new ATK, continue to use premium brake fluid such as Golden Spectro Supreme DOT 4.

#### Brake Pads

Replace the brake pads when the friction material is worn to 3.0 mm (1/8 inch) thickness (not including the steel baseplate). Replacement pads in a variety of friction compounds are available from your ATK dealer. If the motorcycle will be ridden primarily in muddy conditions, and premature brake pad wear is a problem, solid (no lightening holes) front and rear rotors are available from your dealer.

#### Front Brake Pad Replacement

*Note: This procedure can be performed without removing the front wheel.*

1. Gently place a screwdriver between each brake pad and the rotor. Then using a twisting motion, force each pad away from the rotor. This pushes the caliper pistons back into the caliper and makes room for the new, thicker pads. (Figure 6.1)
2. Remove the two spring clips from the brake pad pin located in the lower rear of the caliper. (Figure 6.2)
3. Push the brake pad pin toward the wheel using a drift punch and small hammer. Pull the pin from the caliper. (Figure 6.3)
4. Remove the brake pads by hand.

#### Front Brake Pad Installation

1. Place each brake pad in position in the caliper and hold them in place while the brake pin is inserted.
2. Set the brake pad pin firmly in place by using a drift punch and a small hammer.
3. Install the two spring clips onto the brake pad pin.
4. Pull the front brake lever until the brake pads contact the rotor.

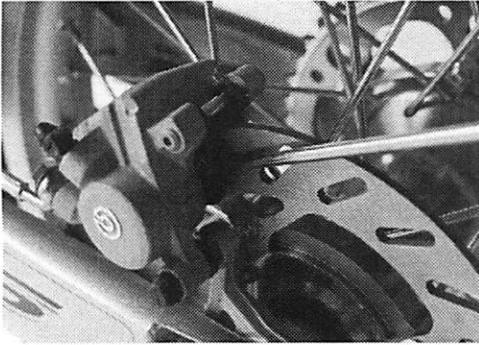


Figure 6.4

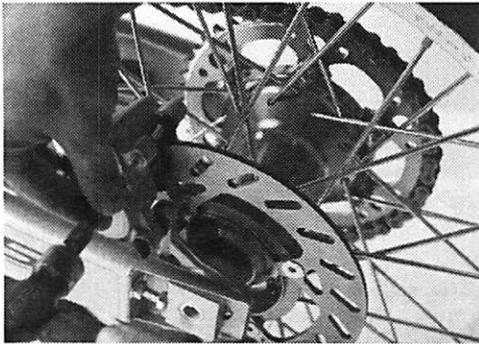


Figure 6.5

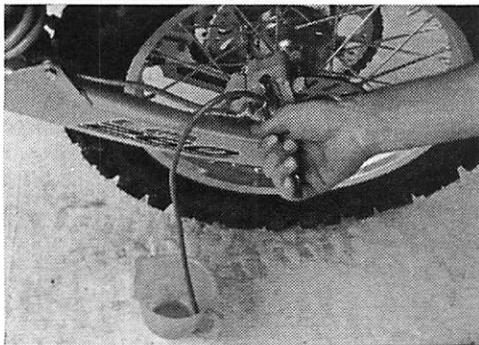


Figure 6.6

### Rear Brake Pad Removal

*Note: The procedure may be accomplished without removing the rear wheel.*

1. Gently place a screwdriver between each brake pad and the rotor. Then using a twisting motion, force each pad away from the rotor. This pushes the caliper pistons back into the caliper and makes room for the new, thicker pads. (Figure 6.4)
2. Remove the spring clip from the brake pad pin located at the top right rear of the brake caliper.
3. Push the brake pad pin toward the wheel using a drift punch and small hammer. Pull the pin from the caliper. (Figure 6.5)
4. Remove the brake pads by hand.

### Rear Brake Pad Installation

1. Place each pad in its proper position and replace the brake pad pin.
2. Set the brake pad pin firmly in place by using a drift punch and a small hammer.
3. Install the spring clip into the brake pad pin.
4. Push the rear brake pedal repeatedly until a firm brake pedal is felt.

### Brake Bleeding (Figure 6.6)

Periodic brake bleeding to remove trapped air in a brake system is good practice. A brake pedal or lever that feels spongy or inconsistent is an indication of air in the brake system. Bleeding is a necessity after replacing a brake line, rebuilding a brake cylinder or master cylinder, and after brake fluid replacement. Brake bleeding is similar for both the front and rear brake systems.

### CAUTION: DO NOT MIX DIFFERENT RATINGS OF BRAKE FLUID.

1. Place an 11 mm box end wrench over the caliper bleed valve in a position where the wrench can be turned in both directions.
2. Slide one end of a clear plastic hose over the bleed valve nipple, and place the other end of the hose into a plastic container.
3. Pour new brake fluid into the plastic container until it reaches a height that is adequate to keep the end of the plastic hose covered.
4. Remove the master cylinder cover. Access to the rear master cylinder requires the removal of the right sidepanel (2-10 mm head bolts), and one 10 mm head bolt to release the reservoir. Then unscrew the lid. Access the front cover by removing the two screws with a #2 Phillips head screwdriver.
5. Open the caliper bleed valve and slowly operate the master cylinder as you would during braking. Refill the master cylinder as needed, being careful not to let the master cylinder run out of fluid.
6. When air bubbles stop being released into the fluid in the plastic container, close the bleed valve.
7. Use contact cleaner to clean the brake fluid that was expelled onto the caliper, rotor and/or brake pads.

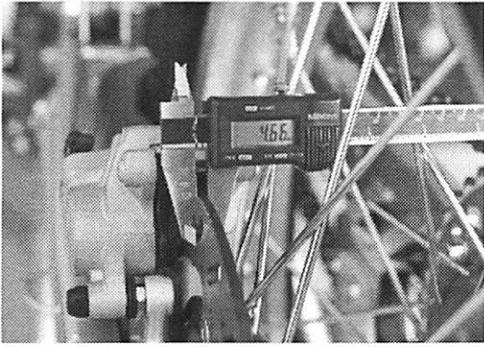


Figure 6.7

8. When refilling the front reservoir, the fluid level should be topped off. When the lid is replaced the fluid will spill over the edges. Wipe up with a clean cloth. The rear reservoir can be filled to the level indicated on the reservoir.

#### Brake Rotor Condition (Figure 6.7)

The brake rotors should be inspected carefully every time the brake pads are replaced. If a rotor is bent, warped, heavily grooved, or beyond its wear limit, it should be replaced. The brake rotor thickness should be checked with a micrometer at least once a year.

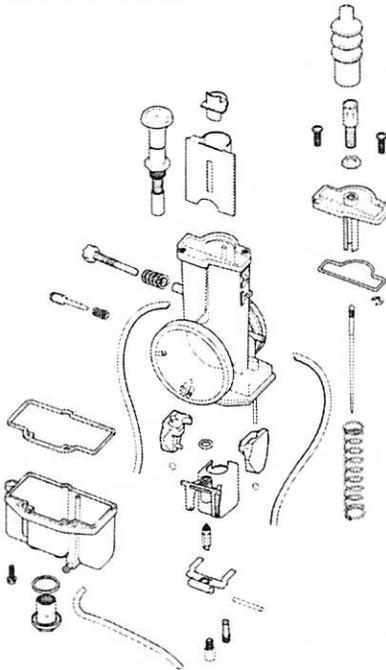
#### Brake Rotor Thickness

	New	Service Limit
Front	3.18 mm (0.125 inch)	2.75 mm (0.108 inch)
Rear	4.45 mm (0.175 inch)	4.00 mm (0.157 inch)

#### Brake Pad and Rotor Deglazing

Glazed brake pads and rotors can decrease braking performance significantly. If the brakes are performing poorly even though the pads are within serviceable limits, the pads and rotors are probably glazed. Glazed brake pads and rotors result from a too rapid break in of new pads and rotors, or a severe overheating of these parts. A good buffing of the brake rotor with Scotch Brite or similar abrasive should remove the rotor glaze. It may also be necessary to remove the pads and also buff them with a slight abrasive to remove the glaze.

250 Carburetor Specifications	
Type	Mikuni TMX
Size	38 mm
Pilot Air Screw	1 1/2 turns out
Pilot Jet	40
Jet Needle	58
'E' Clip Position	#3
Throttle Valve (Slide)	6.0
Main Jet	350



Your new ATK's carburetion is set at our Utah factory which has an elevation of about 4000 feet. To obtain optimum performance in your riding area, we suggest spending a couple of hours fine tuning the carburetion to your local elevation and weather conditions.

If the motorcycle seems to accelerate properly throughout different throttle positions and RPM ranges, the stock carburetor jetting will probably work well. However, if you notice some hesitation, or rough sounds, you should probably try to fine tune the jetting. Sometimes it is hard to tell if the motorcycle is running rich or lean. You may have to change the jets more than once to figure out which jetting direction is helping (richer or leaner). Also, only tune one jet system (pilot, main, etc.) at a time. Even though the effect of the jet systems do overlap, it is easier to understand changes if you tune one jet system at a time. (Figure 7.1)

*Note: Typically, it is better to start tuning with a jet that is richer instead to leaner. This will help prevent a situation where you could be running the engine so lean you could have a piston seizure. This is especially true when tuning the main jet.*

It is easy to perform adjustments on the carburetor by loosening the hose clamps of the front and rear of the carburetor with a #2 Phillips head screwdriver, and then tilting either the top or the bottom of the carburetor toward you, depending on what jet system you will be adjusting. (Figure 7.2)

The Pilot Jet and the Main Jet are changed by removing the float bowl with a 17 mm end wrench and removing the jet with a small Phillips head screwdriver.

The Jet Needle, 'E'-Clip position, and Throttle Valve are changed by removing the top of the carburetor. Two #2 Phillips head screws retain the carburetor top.

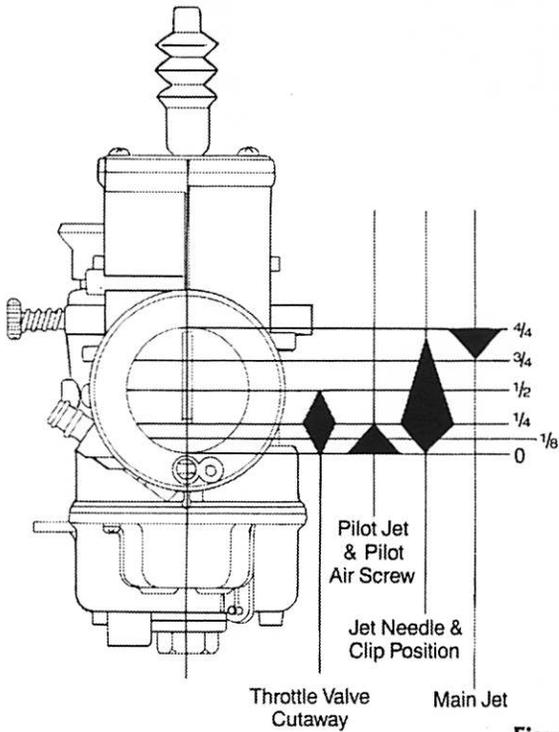


Figure 7.1

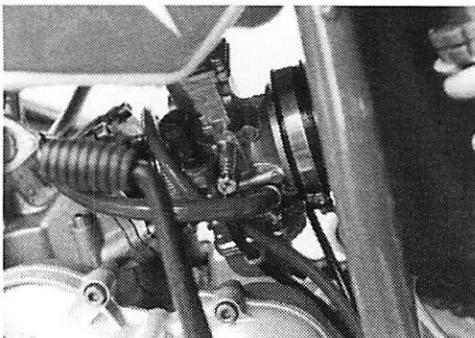


Figure 7.2

## Explanation of the Different Jet Systems

### Pilot System

The Pilot System is comprised of two adjustable components:

#### Pilot Air Screw (Figure 7.3)

When turned in, the pilot air screw richens the fuel mixture by reducing the air flow into the Pilot System which operates from idle to approximately 1/4th open throttle. The effective adjustment range of the Pilot Air Screw is between 1/2 to 2 turns out. If the Pilot Air Screw needs to be set more than 2 turns out to achieve the best idle, the next smaller size Pilot Jet is required. If less than 1/2 turn is required, then a larger Pilot Jet should be used. The Pilot Air Screw should be adjusted to provide the highest engine RPM while the engine is at idle.

#### Pilot Jet (Figure 7.4)

The Pilot Jet is the component supplying the majority of fuel from idle to 1/4th throttle position. For selecting the correct Pilot Jet at idle, read the previous tuning directions for the Pilot Air Screw. If the engine appears to run too lean or too rich off of idle, the carburetor may require a size smaller or larger Pilot Jet and/or the Pilot Air Screw may require adjustment.

#### Jet Needle (Figure 7.5)

The Jet Needle is the tapered rod that is positioned in the throttle valve by the 'E'-Clip. The taper of the needle increases the clearance between the Jet Needle and the fixed Needle Jet outlet as the throttle is opened. As the air flow volume increases past the throttle slide, the fuel volume is also increased to maintain the correct air/fuel ratio.

#### Needle 'E'-Clip Position (Figure 7.6)

The position of the 'E'-Clip in the Jet Needle is used to correct or change the air/fuel ratio between 1/4th and 3/4th throttle valve position. The 'E'-Clip can be raised or lowered on the Jet Needle. To richen the fuel mixture the 'E'-Clip is lowered on the Jet Needle, raising the Jet Needle's position in the throttle slide. To lean the fuel mixture the 'E'-Clip is raised on the Jet Needle, lowering the Jet Needle's position in the throttle slide.

#### Optional Jet Needles

To correct the fuel mixture at 1/8th to 1/4th throttle slide position it may be necessary to change the Jet Needle. The Jet Needle will have a series of numbers stamped on it. Example: 6EJ12-55. The numbers 55 indicate that the outside diameter (O.D.) of the Jet Needle is 2.55mm. The smaller the O.D. the richer the mixture. The larger the number the leaner the mixture.

#### Throttle Valve (Slide) (Figure 7.5)

The Throttle Valve cutaway affects engine/carburetor response between 1/8th to 1/4th throttle slide position. The smaller the slide number, the richer the mixture. Available range 3.0, 3.5, 4.0, 5.0, 6.0 (richer → leaner).

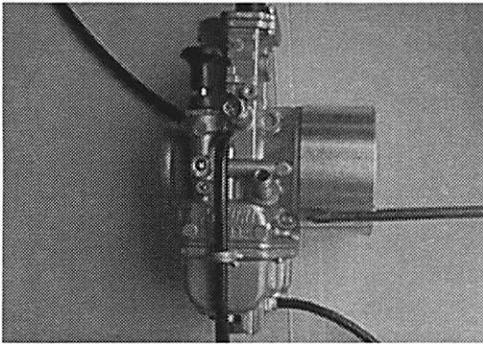


Figure 7.3

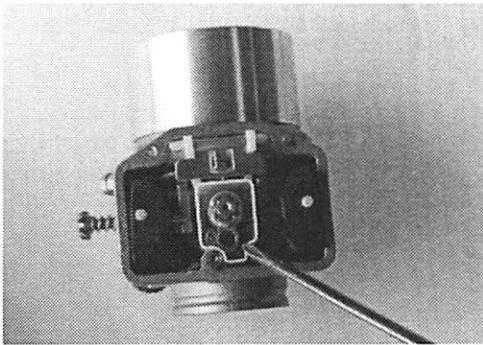


Figure 7.4

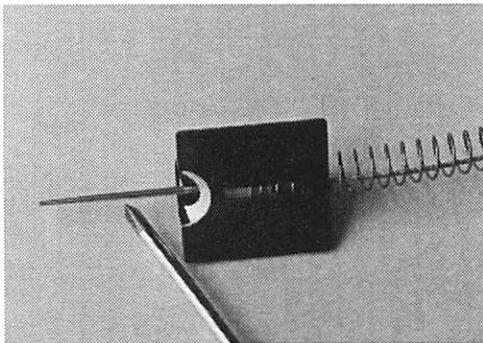


Figure 7.5

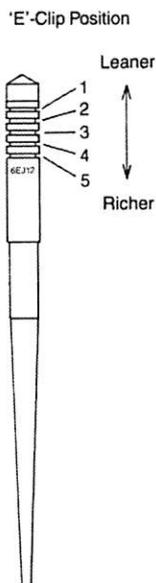


Figure 7.6

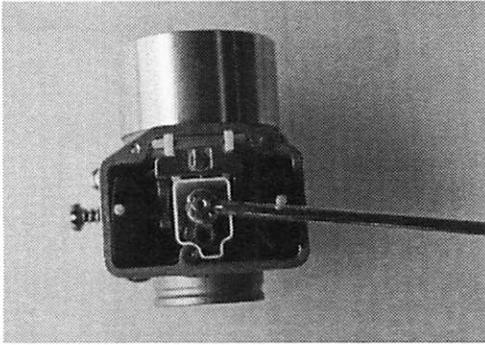


Figure 7.7

**Main Jet (Figure 7.7)**

The Main Jet is located in the float bowl and can be removed or changed through the float bowl drain plug hole. The Main Jet controls the air/fuel mixture ratio from 3/4ths to wide open throttle position. The larger the number stamped on the Main Jet, the richer the mixture.

When tuning the carburetor the tuning components being used are relative to the throttle slide position, not engine RPM or actual vehicle speed. Most tuning can be accomplished at relatively low speeds by making note of the approximate throttle position at which there appears to be a tuning problem. Make tuning adjustments by adjusting or changing the tuning component controlling the fuel mixture at that throttle slide position.

**Float Level Adjustment (Figure 7.8)**

Invert carburetor and remove float bowl. The Float assembly's actuator tab should just begin contact with the Needle Valve Assembly when the bottom of the Float Assembly is 20mm from carburetor bottom as shown. Make required adjustments by bending actuator tab.

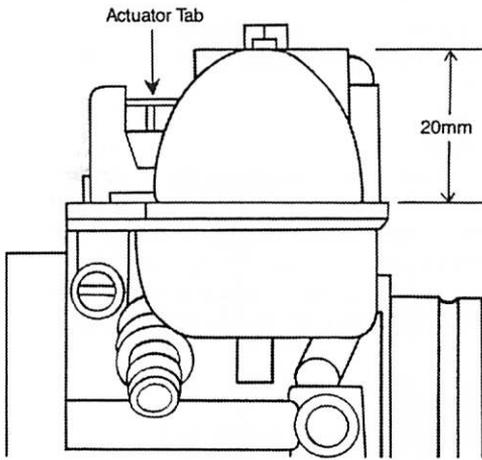
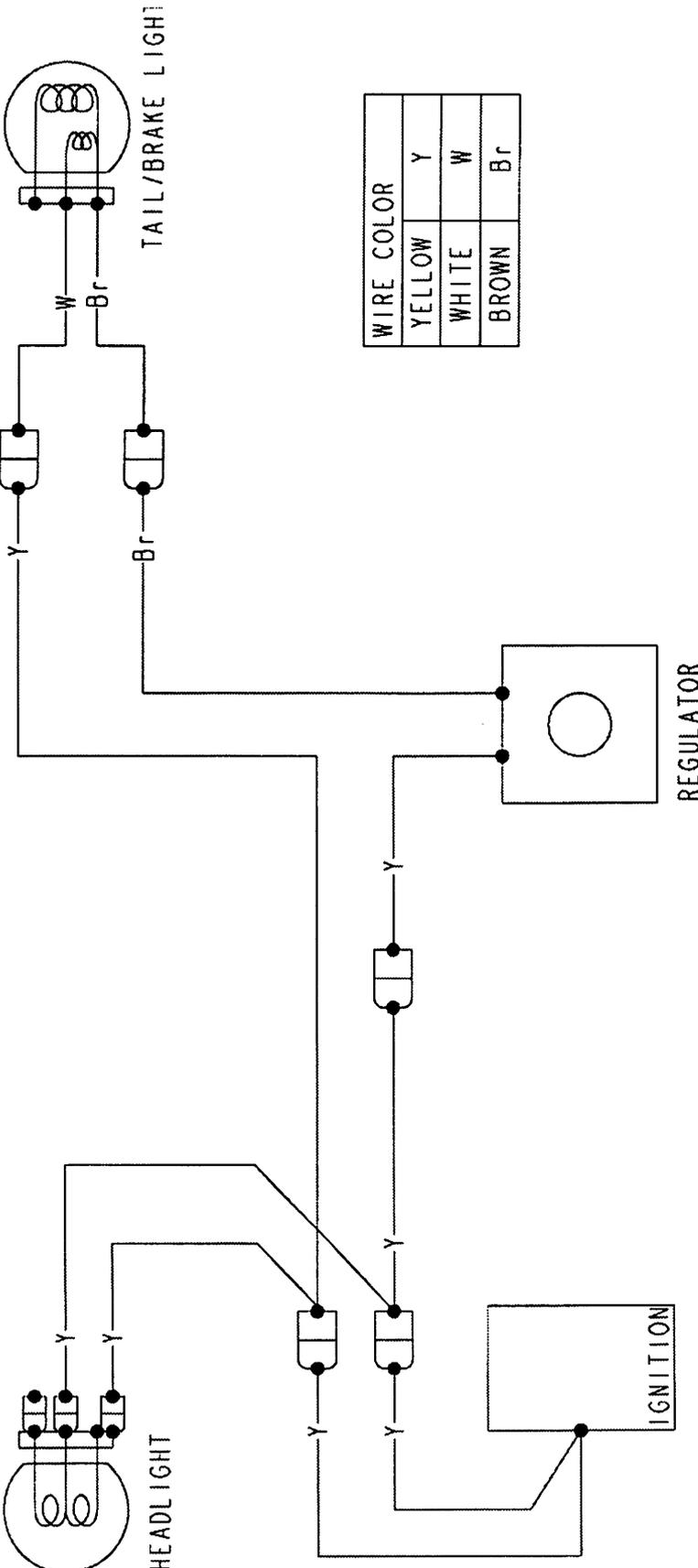


Figure 7.8



260 LQ



## WASHING/STORAGE

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### Washing Your Motorcycle

- It is good practice to thoroughly wash your ATK motorcycle after each ride. An exhaust plug or plastic bag should be placed in the end of the silencer before washing to keep water from entering the exhaust system and engine. Wash the bike using water and liquid dish soap, or if preferred, use a high-pressure washer. Avoid spraying the pressure washure at the steering head and all engine mating surfaces. Use the pressure washer to remove big pieces of dirt and mud. Next spray Simple Green or a similar cleaning product on the motorcycle. This assist in breaking down the dirt. Let the cleaning solution sit for a few minutes, and then spray off.
- After washing and drying the bike, spray a light coat of WD40 to all of the frame parts where the paint has worn off to prevent rusting. Also, after washing the machine, carefully ride the bike slowly and apply both brakes gently to dry them of condensation.
- Lubricate the chain with WD40 or chain lube to prevent rust.
- A light coat of plastic polish will restore the shine to plastic components and make the bike easier to wash after the next ride.

**CAUTION: Do not use protective conditioners on the seat cover, however, as they make the seat cover very slippery.**

- Lubricate the footpeg pivots, shift lever folding tip and kickstarter folding joint with WD40 or a light weight oil.

**CAUTION: Never use a plastic or rubber conditioner on the tires. Doing so makes them look great. It also makes them dangerously slippery!**

### Motorcycle Storage

If your ATK is going to be stored for an entended period of time, the following preparation should be performed:

- Wash the bike following the procedures outlined above.
- Clean and oil the air filter.
- Change the oil.
- Drain ALL of the fuel from the fuel tank, fuel lines and carburetor.
- Place the motorcycle on a stand that raises both wheels off the ground.
- Put a plastic bag over the end of the silencer to keep foreign objects and moisture from entering.
- Inflate the tires to 20 psi (they will lose pressure while sitting).
- Lubricate all control cables using a cable oiler and appropriate lube.
- Cover the motorcycle with a motorcycle cover.

### Removing a Motorcycle from Storage

If you have properly followed the instructions for storing your motorcycle, you can prepare your motorcycle to ride by following these steps.

- Remove the motorcycle cover.
- Remove the plastic bag from the exhaust silencer.
- If the motorcycle has been stored for more than three months, change the oil.
- Inflate the tires to 15 psi.
- Fill the fuel tank with fresh 90-plus octane unleaded fuel mixed at proper ratio.
- Turn on the fuel petcock and check the fuel lines, carburetor, fuel tank and fuel petcock for leakage. Correct any fuel leakage problems which may occur before proceeding further.
- Start the motorcycle and let it run for a few minutes.
- If the motorcycle has been stored for over one year, drain the brake fluid from both brake systems and replace it with fresh fluid. Bleed the brake systems carefully to remove all of the air.
- Perform the PRE-RIDE INSPECTION CHECK LIST in the Pre-Ride/ Break In section.
- Put on protective riding gear(helmet, boots, gloves, pants, jersey, chest protector, and goggles).
- Start the motorcycle and carefully and slowly ride the bike, checking for correct function of brakes, throttle, clutch, shifting, steering and kill button.
- Correct any problems that the test ride may have indicated.
- Go ride.



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