

Compression Damping Adjustment

The standard setting for the compression damping is 3 (out of a total of 8). The following is a basic guide to adjusting the compression damping:

Too Little: Bottoming ; Dive braking into a corner; Low ride height; Easy turning in; Fork is unstable.

Too Much: Harsh feeling; Fork rarely bottoms; High ride height despite a soft spring and/or little preload; Difficult turning in.

Rebound Damping Adjustment

The standard position of the rebound adjustment knob is 3 (out of 7). The following is a basic guide to adjusting the rebound damping:

Too Little: Fork extends too quickly and wheel springs up from the ground after landing from a large jump; Difficulty in maintaining a straight path through rocks; Front-end attempts to climb the berm while cornering; High ride height; Difficult turning in.

Too Much: Harsh feeling; Fails to rebound after landing from a large jump or on brake bumps; Low ride height; Easy turning in; Bottoming sometimes occurs even though compression damping, spring rate, and oil level are all correct.

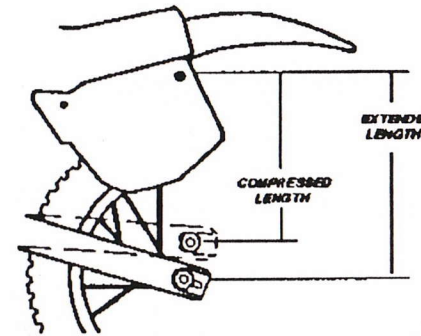
REAR SUSPENSION

Rear Suspension Sag

The rear suspension should sag 2" - 3" (51 - 76 mm) when sitting on the bike in normal riding position. This small sag requirement is due to the A-Track Chain Torque Eliminator, which increases the useable rear suspension. From our experience, we recommend that for motocross racing, 2" to 2-1/2" (51-64 mm) of sag is best; for trail riding use up to 3" (76 mm) .

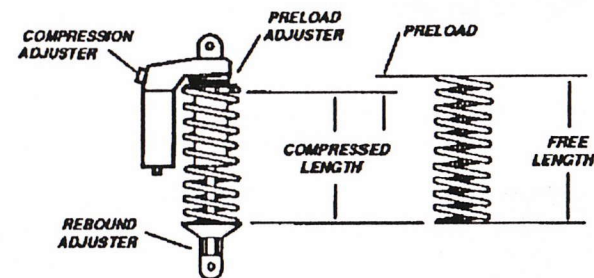
Prop the bike up on a center stand so that rear wheel is off the ground, thus unloading the rear spring of the bike's weight. Measure the distance between the center of the rear axle to the center of the seat bolt. This is the *extended length*.

Take the bike off the stand and sit on it in your normal riding position. Measure the new distance between the center of the rear axle and the center of the seat bolt. This is the *compressed length*. The difference between the extended length and the compressed length equals the sag.



$$\text{Extended Length} - \text{Compressed Length} = \text{Sag}$$

To achieve your desired suspension sag it will be necessary to adjust the rear shock's preload. The preload is equal to the free length of the rear spring minus the compressed length of the spring.



$$\text{Free Length} - \text{Compressed Length} = \text{Preload}$$

Rear Spring

The following table shows the rear springs available (Kg/mm):

10.2	
9.7	
9.2	(Stock)
8.7	
8.2	

Installing Fork Springs and Measuring Preload

- Pull the cartridge piston rod upwards.
- Slide the correct spring over the spindle; Hold the black plastic sleeve with your fingers between the spring coils to prevent the sleeve from slipping down. Push a steel pin with a maximum diameter of 5 mm into one of the two small holes on the side of the black sleeve. Turn the spring so that the piston rod rises. Continue turning until the piston rod is at the highest position and there is no more preload on the spring.
- If the upper end of the spring is level with the upper end of the cartridge piston rod, then the spring will have a preload of 5 mm after fitting the two half spring retainers.
- Measure the distance by which the spring protrudes, using a vernier caliper (see Fig. 5).

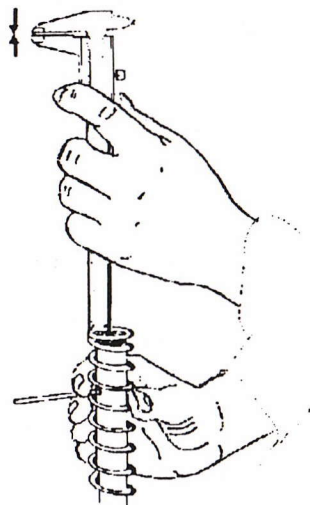


Figure 5.
measuring the preload

- If the spring protrudes 4 mm above the piston rod, then the preload is $4 + 5 = 9$ mm. Set the correct preload (between 5 and 10 mm) by adding plastic preload spacers. These spacers are available in thicknesses of 2.5, 5, and 10 mm.

DRIVE CHAIN

Chain Tension

Shift the transmission into neutral. Check the slack in the upper drive chain midway between the A-trak's top roller and the rear sprocket. The slack should be 1-1/4" to 1-3/4" (32-45 mm) vertical movement by hand as shown in figure 6. The minimal slack requirement is due to the design characteristics of the A-Trak Chain Torque Eliminator, which keeps the chain at a near constant tension throughout the suspension travel.

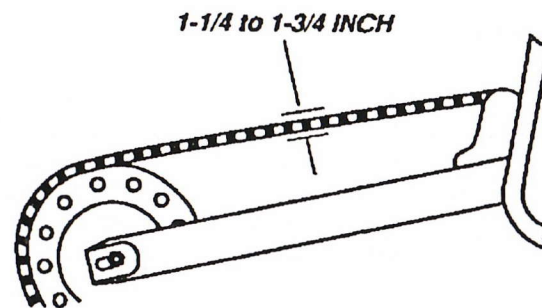


Figure 6.

There are two ways the chain tension can be adjusted, the eccentric cams or at the rear axle. The cams can be adjusted quickly without affecting the chain alignment. Adjusting the chain using the rear axle plates requires that both sides be adjusted equally. This should be verified every time the chain is adjusted by measuring the distance from the center of the rear axle to the center of the swingarm pivot bolt on both sides of the bike. The two sides should be identical.

Chain Maintenance

The drive chain should be checked, cleaned, and lubricated after every ride. Never use an engine degreaser or solvent on the chain to clean it! This may damage the rubber "O-rings". When lubricating the chain, always use a lube designed for "O-ring" chains. A helpful hint; before you wash your motorcycle, spray your chain with WD40 or equivalent so that water does not penetrate the "O-rings".

- Invert the fork leg over an oil-catching tray and move the piston rod up and down, so that the oil is pumped out of the cartridge.
- Allow the fork leg to drip for a time to ensure that no old oil remains in the fork.

Replacing the Oil and Measuring Oil Level

- Fill the fully compressed fork leg with 7.5 wt (half 5 wt. and half 10 wt.) fork oil to approximately 130 mm (5 1/8") below the top edge of the outer fork tube. Continue to fill until no more air bubbles appear in the oil.
- Place the axle clamp on the ground and pull the outer fork tube upwards as far as possible.
- With the palm of your hand gently push the outer fork tube downwards, to the axle clamp. Allow the air to escape slowly from the fork by occasionally raising the palm of your hand slightly. Air pressure will force the oil between the inner and outer fork tubes, which is very important in determining correct oil levels. Do this only one time.
- Add more oil if necessary, filling to approx. 130 mm (5 1/8") below the top edge of outer fork tube, when fully compressed.
- Move the piston rod gently up and down, until no further air bubbles escape from the two small holes on the side of the black plastic sleeve when fully stroked (see Fig. 3). Attention! Oil should only come out of these two small holes when the piston rod is moved upwards. If oil also comes out when the piston rod is pushed downwards, the one-way internal valve system is not functioning properly; consult your ATK dealer.
- After bleeding all of the air from the fork, fully compress the outer fork leg and piston rod to the axle clamp.
- Set the correct oil level by removing excess oil with a syphon, or if necessary by adding extra oil. The standard oil level is 130 mm (5 1/8") (see Fig. 4).

adjustment between the master cylinder piston and the actuating rod should always exist, from 1/16" to 1/8".

Brake Pads

The brake pads should be checked before every race or ride. To check, pry off the plastic cover of the rear brake caliper to expose the pads and pin. If the pad lining thickness is less than 1/16", replace the pads. To replace the pads, remove the hitch clip from the retainer pin and remove the pin and spacer. When removing the pads, slide each pad up to about half way out and use them to pressure the caliper piston back inside the caliper before removing them all the way (see Fig. 7). This will allow you to slide in a new set of pads without disrupting the ceramic spacers located in the pistons of the caliper. Once the new pads are in place, be sure to reinstall the spacer between the pads as you slide in the retainer pin. Also, be sure to operate the brake several times until the brake returns to normal pressure.

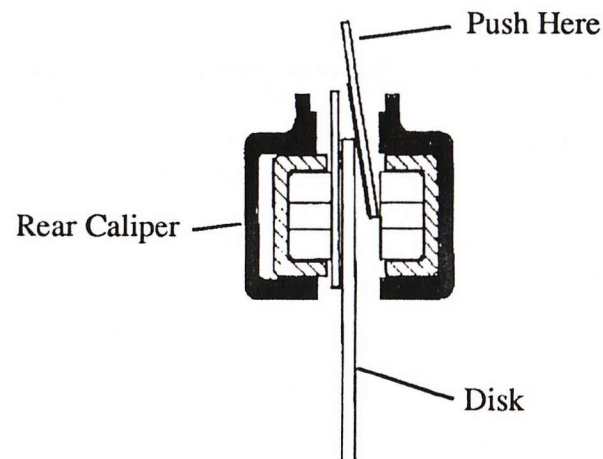


Figure 7.
removing rear brake pads

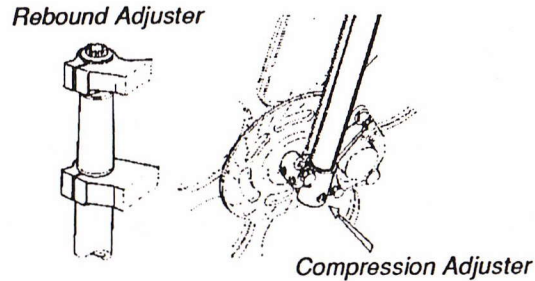
Fluid and Level

DOT 3-4 brake fluid is used stock from the factory. The brake fluid should be changed after every 40 hours of operation and sooner if operated in damp, humid conditions or be allowed to get extremely hot. The fluid level should be approximately 1/8" below the top edge of the reservoir. Never let the fluid level get below the visual indicator.

FRONT SUSPENSION

Determining The Correct Fork Spring

Thanks to the possibility of carrying out external compression damping adjustments and spring preload adjustments, and of varying the oil level height, the standard fork springs fitted to your White Power fork will cover a wide range of rider weights and terrain conditions.



The standard setting for the external rebound and compression adjuster is position no. 3. If, after correctly adjusting the preload, you experience hard bottoming at many points around the race track, which is not corrected when you increase the compression damping, then the oil level must be raised. Altering the oil level greatly influences the force in the last third of the fork stroke, as illustrated in figure 1.

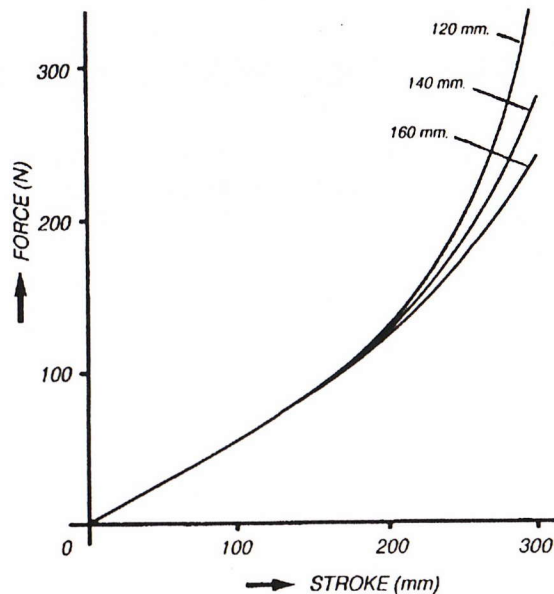
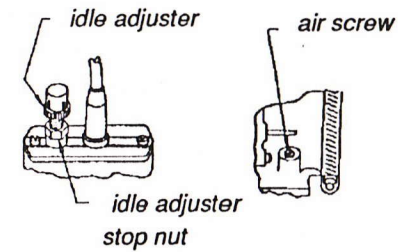


Figure 1.

Idle Adjustment

Remove the seat. Turn the air screw (clockwise) until it lightly seats. Turn it back out 1 - 1/2 turns. Start the engine and let it warm up. To raise the idle, turn the idle adjuster clockwise; to lower the idle, turn it counter-clockwise. Once you have reached the desired idle speed, tighten down the idle adjuster stop nut.



Engine Maintenance

Oil Level

Never overfill the oil tank. Severe engine damage can occur. Check the oil level after the engine is warmed up and has been running for at least 15 minutes. There should never be pressure in the oil tank. When the filler cap is removed, oil should not run out of the filler cap while the engine is running. If so, take the drain plug out of the engine and drain the oil from the sump. The engine's oiling system is a dry sump design. As the motorcycle sits for a while, oil runs from the oil tank through the oil pump into the crankcase and empties the oil tank. No oil may show in the check hose. After the engine has been running, oil gets pumped back into the oil tank. This is when the oil level should be checked (see Fig. 9).

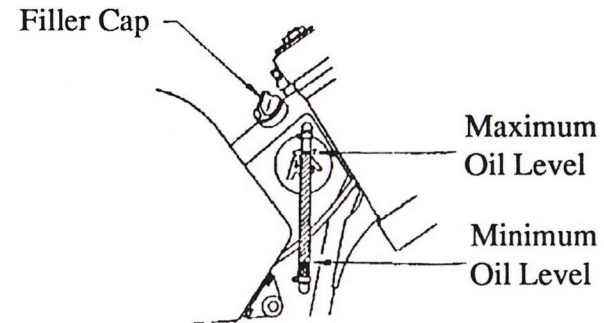


Figure 9.
engine oil level

Fuel

Operate your ATK with the best fuel you can obtain. We recommend unleaded premium (92 octane).

Never experiment with methanol, naphtha, or similar products. Avoid octane boosters completely.

Oil Filter Replacement

To replace the oil filter, remove the countershaft disc and caliper mount, unscrew the three allen head socket screws and remove the filter cover, as shown in *Figure 10*. After oil filter replacement, fill the oil tank with 2 to 2 - 1/2 quarts of 20W-50 motor oil. If temperatures are below 50 F (10 C) use 10W-40 motor oil.

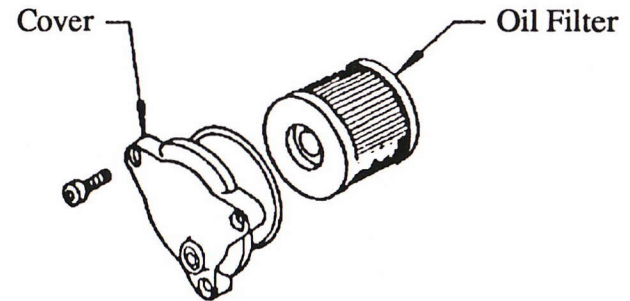


Figure 10.
changing oil filter

Oil Sump Screen Cleaning

Clean the engine's oil screen every third oil change. After you have drained the oil out of the engine, unscrew the six allen head socket screws and remove the oil sump cover as shown in *Figure 11*. Before cleaning the screen in solvent, clean the cover and screen thoroughly. When remounting the oil sump cover, make sure you have the proper O-ring alignment.

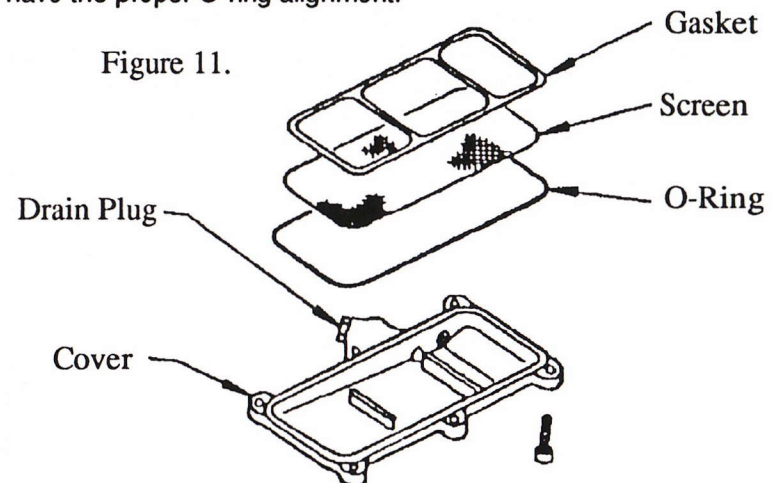


Figure 11.

Technical Data

Engine:	Rotax 4 stroke	
Bore and Stroke:	94mm x 81mm/604	79mm x 70mm/350
Displacement:	562 cc/604	348 cc/350
Compression Ratio:	9.8:1	
Induction:	Carburetor: Mikuni TM 38 mm Flat Slide EFI: ATK 38 mm Throttlebody	
Air Filtration:	K & N High Flow	
Lubrication:	Dry Sump System	
Oil Capacity:	2.5 Quarts - <i>2 3/4 Champion 25/50</i>	
Ignition:	CDI Electric Advancing System	
Electric:	3 Phase Generator, 12 V, 190 W	
Transmission:	5 speed	
Primary Ratio:	76/32, 1:2.375 31/13, 1:2.384 23/13, 1:1.769 21/15, 1:1.400 19/17, 1:1.118 21/23, 1:0.913	
C/S Sprocket:	15 T	
Rear Sprocket:	48 T/604	50 T/350
Gas Tank Capacity:	4.6 Gal/CC	2.3 Gal/MX
Chain:	520 RK O-Ring, 110 Links/604-112/350	
Wheelbase:	58 inches (1473 mm)	
Ground Clearance:	13.5 inches (343 mm)	
Seat Height:	37 inches (950 mm)	
Dry Weight (Lbs):	<u>MX</u>	<u>STND</u> <u>CC</u>
350 KickStart.....	242.....243.....	252
350 Electric.....	254.....255.....	259
350 EFI KickStart...	250.....255.....	260
350 EFI Electric.....	262.....263.....	267
604 KickStart.....	248.....249.....	258
604 Electric.....	260.....261.....	263
604 EFI KickStart...	264.....261.....	265
604 EFI Electric.....	268.....269.....	271
Suspension, Front:	WhitePower Adjustable USD	
Travel:	11.8 inches (300mm)	
Suspension, Rear:	WhitePower Multi-Adjuster Shock	
Travel:	13.0" (330mm)	
Frame:	Nickel Plated Chromoly	
Swingarm:	Nickel Plated, Heat treated Chromoly	
Sparkplug:	NGK D8EA, Autolite 4153	

TABLE OF CONTENTS

Before You Ride

	Page
Pre-Ride Inspection	3
Break-In Period	3
Fuel	4

Starting Procedure

Cold Start	5
Warm Start	5
Electric Start	5
Downhill Start	5

Front Suspension

Determining Correct Fork Springs	6
Dismantling the Fork	7
Replacing the Oil and Measuring Oil Level	8
Installing Springs and Measuring Preload	10
Compression Damping Adjustment	12
Rebound Damping Adjustment	12

Rear Suspension

Rear Suspension Sag	12
Rear Spring	13
Compression Damping Adjustment	14
Rebound Damping Adjustment	14

Drive Chain

Chain Tension	15
Chain Maintenance	15
Chain Torque Eliminator Sprocket Maint.	16

Air Filter

Air Filter Cleaning	16
---------------------	----