



Technical Bulletin

KTM AMERICA, INC.

East 1906 Broadway, Lorain, Ohio 44052
West 435 "B" W. Bradley, El Cajon, California 92020

Date 3-27-89

No. 89/17-T

Subject: ADJUSTING FORK SPRING PRELOAD

Reference: 1989 KTM/WP 4054 MULTI ADJUSTER FORKS

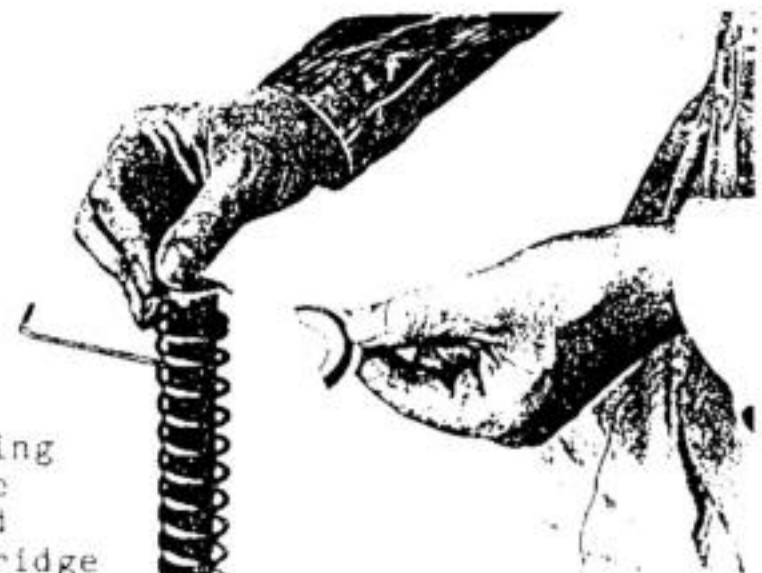
1. Remove forks from triple clamp.
2. Clamp fork in vise with soft jaws.
3. Turn top red rebound adjuster to "fast" position. (Full counterclockwise)
4. Place flat blade screwdriver under rebound adjuster knob (at "fast or slow" position) and pry up and remove knob.



5. Unscrew top fork cap with 22mm box end wrench or socket.



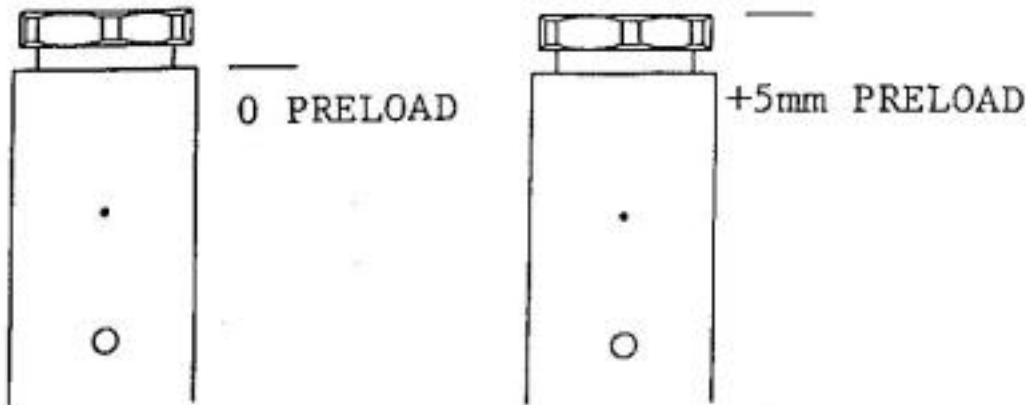
6. Remove fork from vise.
7. Allow outer (upper) tube to fall and compress fully.
8. Insert small rod (no larger than 4mm or .157 inch) into hole of the black plastic bottoming tube inside of the spring.
9. Turn spring counterclockwise like a screw until preload tension is removed then remove spring clips.
10. Carefully hold upward pressure on the inserted 4mm pin so the cartridge assembly will stay fully extended while you slowly "unscrew" (clockwise) the spring pressure from the 4mm pin.
11. Closely watch the contact point of the 4mm pin and the spring and stop turning the spring immediately at the point of no contact. The preload of the fork spring can be determined at this point. (*Remember to keep the cartridge fully extended.)



(Continued next page)

The fork spring preload is determined by the distance from the spring clip groove of the fully extended cartridge to the end of the (free standing) fork spring.

STANDARD SPRING PRELOAD = 7 - 12MM
MAXIMUM SPRING PRELOAD = 20MM



Note that the clip groove is 5mm below the end of the cartridge assembly, so you will have 5mm of preload if the free standing spring is parallel with the cartridge end. Zero preload is with the free standing spring parallel to the base of the clip groove. (See Illustration)

Preload spacers are available in various thicknesses and an assortment has been included with the motorcycles tool kit. Additional spacers are available through your KTM Dealer under these part numbers:

P/N	#564.01.022.200	2.5mm
	#564.01.022.000	5.0mm
	#564.01.022.100	10.0mm

White Power fork spring dimensions (rate) are determined by:

1. Wire diameter.
2. Number of coils.
3. Overall length.

KEY NOTES:

Standard overall length of all White Power 4054 Multi-Adjuster fork springs is 534mm + 3mm.

Fork springs which are 525mm or less in overall length are considered sacked and should be replaced. See your KTM Dealer for replacement spring details.

SPRING RATES WILL:

INCREASE WITH INCREASE OF WIRE DIAMETER
INCREASE WITH DECREASE OF NUMBER OF COILS
DECREASE WITH DECREASE OF WIRE DIAMETER
DECREASE WITH INCREASE OF NUMBER OF COILS

WITH ALL POINTS ABOVE OVERALL LENGTH REMAINS THE SAME (534MM ± 3MM).

After adjusting preload, reassemble fork if no further work is necessary.

REFER TO BULLETIN #89/18-T FOR "OIL CHANGE & LEVEL SETTING PROCEDURE"



Technical Bulletin

KTM AMERICA, INC.

East 1906 Broadway, Lorain, Ohio 44052

West 435 "B" W. Bradley, El Cajon, California 92020

Date 4-7-89

No. 89/18-T

Subject: OIL CHANGE & LEVEL SETTING PROCEDURE

Reference: 89 KTM/WP 4054 MULTI ADJUSTER FORKS

TO CHANGE FORK OIL



1. Remove forks from triple clamp.
2. Clamp fork in vise with soft jaws.
3. Turn top red rebound adjuster to "fast" position. (Full counterclockwise)
4. Place flat blade screwdriver under rebound adjuster knob (at "fast or slow" position) pry up, and remove knob.
5. Unscrew top fork cap with 22mm box end wrench or socket.
6. Remove fork from vise.
7. Allow outer (upper) tube to fall and compress fully.
8. Insert small rod, no larger than 4mm or .157 inch into hole of the black plastic bottoming tube inside of the spring.
9. Turn spring counterclockwise like a screw until preload tension is removed, then remove spring clips.
10. Turn fork upside down over a drain pan and remove spring.
11. Stroke cartridge assembly rod up and down until all oil has been pumped out.
12. Stroke outer tube and remove oil from tube overlap area.

Check the condition of the oil, if the oil is extremely dirty, the condition of the fork seals should be inspected and a complete disassembly and service should be considered. See your KTM Dealer for details.

TO FILL WITH OIL AND BLEED AIR, (STANDARD OIL VISCOSITY SAE 10)

- 1A. Extend upper tube completely and fill fork with approximately 550cc/ml of SAE 10 wt. White Power cartridge fork oil.
- 2A. Push the upper tube slowly downwards while holding the palm of your hand over the end of the tube to create air pressure. This air pressure will help to force oil between the inner and outer tubes which is very important for setting oil levels correctly. Occasionally, raise the palm of your hand slowly to relieve some excess pressure. DO THIS JUST ONCE AND DO NOT RAISE OUTER TUBE AGAIN.



(Continued next page)

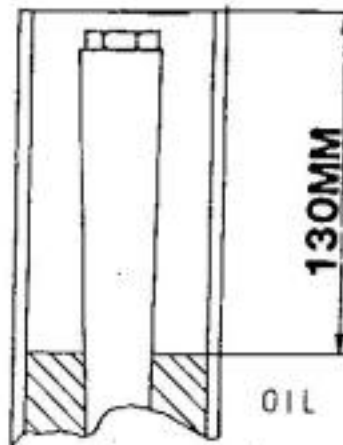
"VERY IMPORTANT"

After the outer fork tube has been compressed just once using the method described (2A). **DO NOT MOVE THE OUTER TUBE FROM THE BOTTOMED POSITION!** Oil can only be forced between the inner and outer tubes when the oil level is above the inner chrome tube or when a minimum of 550cc to 650cc of oil is initially added and the fork is compressed quickly and only ONCE using procedure described in 2A.

NOTE: If the outer fork tube is raised after the initial compression, the overlap oil will be forced out from in between the inner and outer tubes and a false oil level will result. REMEMBER, it is only possible to properly bleed the air from the overlap area when first filling the fork or by overfilling the fork with oil and compressing the upper tube only once as described.

3. With the outer tube completely compressed to the axle carrier, stroke the cartridge assembly rod up and down until a continuous flow of oil comes out of the two holes of the black plastic bottoming cone. NOTE: Oil must only flow out of the two holes on the upward stroke and stop flowing immediately when compressed. If this is not the case, the one way valve is not functioning properly and the fork must be disassembled and repaired. See your KTM Dealer for details.

STD. OIL LEVEL - 130MM



- Fork compressed!
- Spindle down!
- No air in oil!
- Before mounting spring!

TO SET OIL LEVEL:

1. Once the cartridge and the fork have been properly bled, completely compress the outer tube and the cartridge assembly.
2. With a siphon device which has a small pick-up tube or hose with an outside diameter of approx. 6mm or 1/4 inch. Mark off a distance of 120mm to 160mm and siphon off the desired oil level.



The oil level is measured from the top of the outer tube to the oil, with the fork and cartridge completely compressed and spring removed.

THE STANDARD 1989 KTM/WP MULTI-ADJUSTER OIL LEVEL = 130MM
THE STANDARD 1989 KTM/WP MULTI-ADJUSTER OIL VISCOSITY = SAE 10

FOR SETTING SPRING PRELOAD, SEE TECHNICAL BULLETIN #89/17-T

If no further work is necessary, reassemble fork.