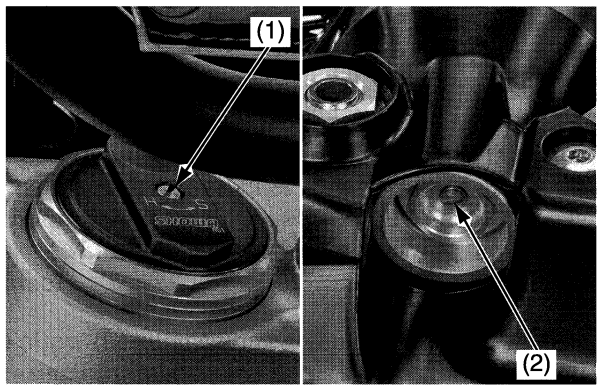
Front Suspension Adjustments

The front suspension can be adjusted for the rider's weight and riding conditions by using one or more of the following methods:

- **Compression damping** — Turning the compression damping adjuster (1) adjusts how quickly the fork compresses.
- **Rebound damping** — Turning the rebound damping adjuster (2) adjusts how quickly the fork extends.

The inverted fork on your motorcycle features sealed damper cartridges with dual (separate air and oil) chambers to prevent aeration. The design also isolates the oil in each fork/damper, which may contain air bubbles and/or metal particles, from the sealed cartridge to provide more consistent damping.



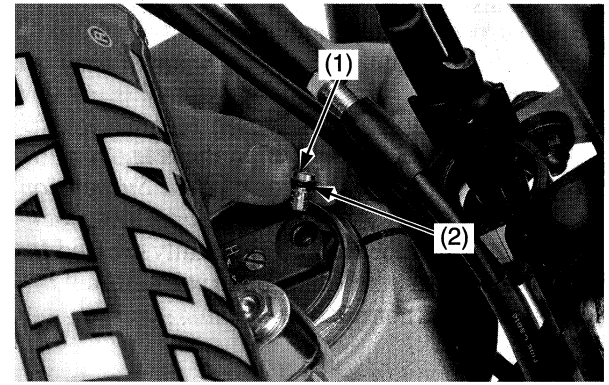
(1) compression damping adjuster
(2) rebound damping adjuster

Front Suspension Air Pressure

Air is an unstable gas which builds up pressure as it is worked (such as in a fork). Air pressure acts as a progressive spring and affects the entire range of fork travel. This means the fork action on your motorcycle will get stiffer during a race. For this reason, release built-up air pressure in the fork legs between race. Be sure the fork is fully extended with the front tire off the ground when you release the pressure.

The standard air pressure is 0 psi (0 kPa, 0 kgf/cm^2). You may relieve accumulated air pressure in the fork legs by using the pressure release screws. The front wheel should be off the ground before you release the pressure. The air pressure should be adjusted according to the altitude and outside temperature.

1. Place an optional workstand under the engine, so that the front wheel is off the ground. Do not adjust air pressure with the front wheel on the ground as this will give false pressure readings.
2. Remove the pressure release screw (1).
3. Apply recommended fork oil to a new O-ring (2), and then install a new O-rings.
4. Install and tighten the pressure release screw to the specified torque:
   1.0 lbf·ft (1.3 N·m, 0.1 kgf·m)



(1) pressure release screw (2) O-ring (new)

Front Suspension Damping

Compression Damping Adjustment
This adjustment affects how quickly the fork compresses. The fork compression damping adjuster has 16 clicks or more. Turning the compression damping adjuster screw (1) one full turn changes the adjuster 4 clicks. To adjust the adjuster to the standard position, proceed as follows:
Turn the adjuster clockwise (harder) until it will no longer turn (lightly seats). Turn the adjuster counterclockwise (softer) until it clicks. This click is position 1.

The standard position is 7 clicks.

Make sure that both fork legs are adjusted to the same position.

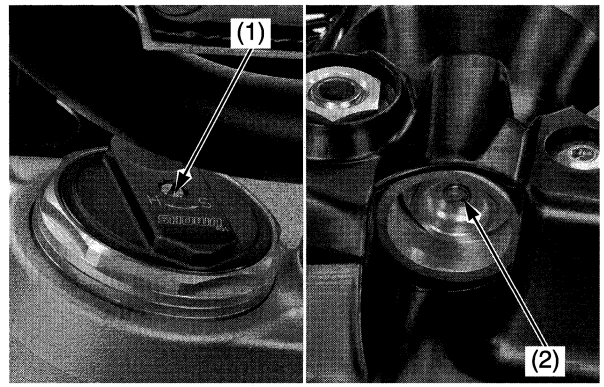
Rebound Damping Adjustment
The fork rebound damping adjuster has 16 clicks or more. Turning the rebound damping adjuster screw (2) one full turn clockwise advances the adjuster 4 clicks. To adjust the rebound damping to the standard setting, proceed as follows:
Turn the adjuster clockwise (harder) until it will no longer turn (lightly seats). Turn the adjuster counterclockwise (softer) until it clicks. This click is position 1.

The standard position is 12 clicks.

Make sure that both fork legs are adjusted to the same position.

NOTICE

Always start with full hard when adjusting damping.
Do not turn the adjuster screw more than the given positions or the adjuster may be damaged.
Be sure that the compression and rebound adjusters are firmly located in a detent, and not between positions.
Both compression and rebound damping can be increased by turning the adjuster clockwise.



(1) compression damping adjuster screw
(2) rebound damping adjuster screw

Rear Suspension Adjustments

On-Road Use only
The rear suspension can be adjusted for the rider's weight and riding conditions by changing the rebound and compression damping.

Off-Road Use only
The rear suspension can be adjusted for the rider's weight and riding conditions by changing the spring pre-load and the rebound and compression damping.

The rear suspension assembly includes a damper unit that contains high pressure nitrogen gas. Do not attempt to disassemble, service, or dispose of the damper; see your dealer. The instructions found in this owner's manual are limited to adjustments of the shock assembly only.

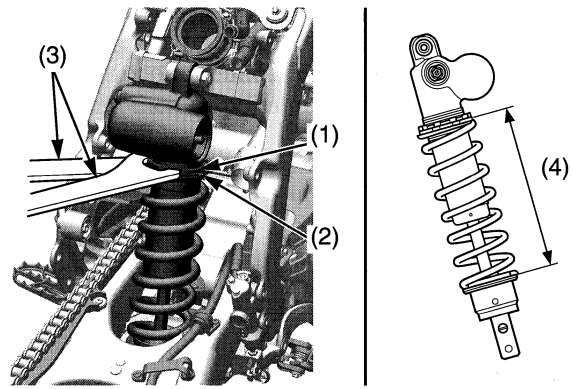
Puncture or exposure to flame may also result in an explosion, causing serious injury.
Service or disposal should only be done by your dealer or a qualified mechanic, equipped with the proper tools, safety equipment and an official Honda Service Manual.

Off-Road Use only
If your motorcycle is new, put enough part-throttle break-in time (about 1 hour) on it to ensure that the suspension has worked in.

Rear Suspension Spring Pre-Load (Off-Road Use Only)

Pre-load should be adjusted when the engine is cold because it is necessary to remove the muffler. An optional pin spanner is available for turning the shock spring lock nut and adjusting nut to adjust spring pre-load.

1. Place your motorcycle on an optional workstand or equivalent support with the rear wheel off the ground.
2. Remove the subframe (page 52).
3. Check that the spring pre-load is adjusted to the standard length. Adjust as necessary by loosening the shock spring lock nut (1) and turning the adjusting nut (2).
   Each complete turn of the adjusting nut changes the spring length by 0.06 in (1.5 mm).
   After adjustment, hold the adjusting nut and tighten the shock spring lock nut to the specified torque:
   32 lbf·ft (44 N·m, 4.5 kgf·m)



(1) shock spring lock nut
(2) adjusting nut
(3) pin spanners
(4) spring length

Refer to the following pages for the installation procedure of the removed parts:
- air cleaner housing and air cleaner connecting tube: page 58 (Cylinder Head Installation)
- subframe: page 55

To increase spring pre-load
Loosen the shock spring lock nut with the optional pin spanners (3) and turn the adjusting nut to shorten the spring length (4). Do not shorten to less than:
8.88 in (225.5 mm)

To decrease spring pre-load
Loosen the shock spring lock nut with the optional pin spanners (3) and turn the adjusting nut to increase the spring length (4). Do not increase to more than:
9.41 in (239.0 mm)

Each turn of the adjusting nut changes spring length and spring pre-load. One turn equals: spring length/spring pre-load:
Standard: 0.06 in (1.5 mm)/18 lbf (78 N)

Pin spanners should be used for turning the shock spring lock nut and adjusting nut. See page 190 for optional pin spanners.

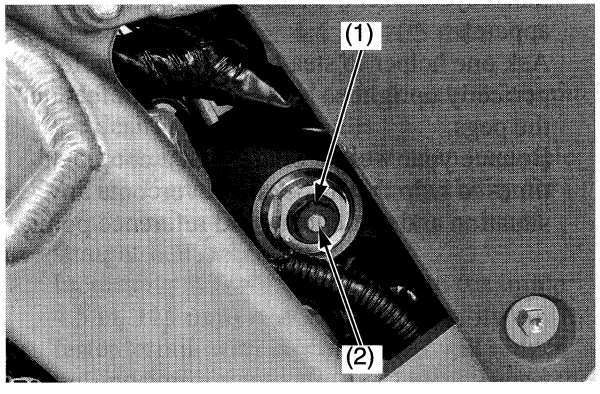
Spring pre-load length
Standard: 9.13 in (232.0 mm)
Max. : 9.41 in (239.0 mm)
Min. : 8.88 in (225.5 mm)

Rear Suspension Damping

Compression Damping
Compression damping may be adjusted in two stages with separate adjusters.

The high speed compression damping adjuster (1) is effective when damping adjustment is desired for high speed operation. The low speed compression damping adjuster (2) should be used when damping adjustment is desired at relatively low speeds.

- When adjusting the compression damping adjusters, make sure to use the proper size tool to avoid damage.
- Both the high and low speed compression damping can be increased by turning the appropriate adjuster clockwise.
- Adjust the high speed compression damping adjuster in 1/4 turn increments.
- Be sure the high speed compression adjuster is firmly located in a detent, and not between positions.

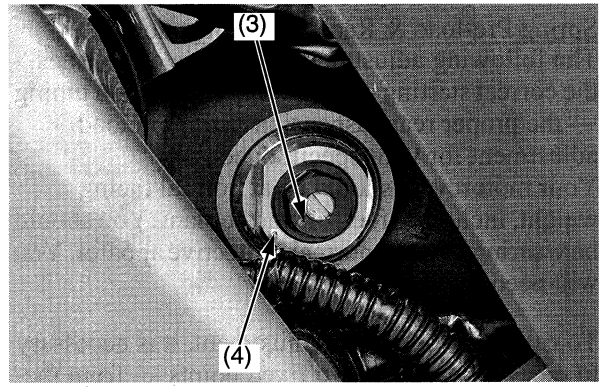


(1) high speed compression damping adjuster
(2) low speed compression damping adjuster

High Speed Damping:
The high speed damping can be adjusted by turning the hexagonal portion of the compression damping adjuster.

The high speed compression damping adjuster has 3 1/2 turns or more.

To adjust to the standard position:
1. Turn the adjuster clockwise (harder) until it will no longer turn (lightly seats).
2. Turn the adjuster counterclockwise (softer) 3 1/4 turns. Further turn it by ± 1/4, align the punch mark (3) on the adjuster and the punch mark (4) on the adjuster body.



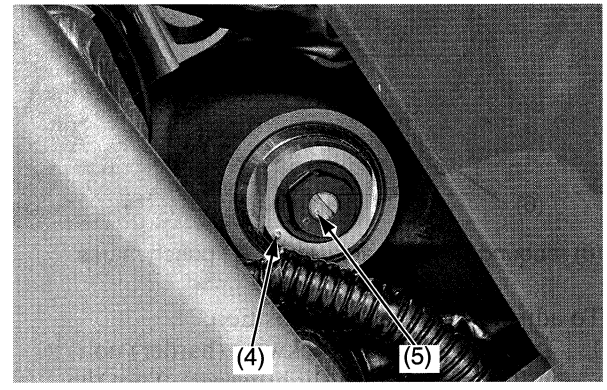
(3) high speed compression damping adjuster punch mark
(4) adjuster body punch mark

Low Speed Damping:
The low speed damping can be adjusted by turning the center screw of the compression damping adjuster.

The low speed compression damping adjuster has 13 clicks or more.

Turning the adjuster one full turn clockwise advances the adjuster 4 clicks.

To adjust to the standard position:
1. Turn the adjuster clockwise (harder) until it will no longer turn (lightly seat). Turn the adjuster counterclockwise (softer) until it clicks. This click is position 1.
2. Set the adjuster 11 clicks and adjust it until the punch mark (5) on the adjuster and the punch mark (4) on the adjuster body are aligned.



(4) adjuster body punch mark
(5) low speed compression damping adjuster punch mark

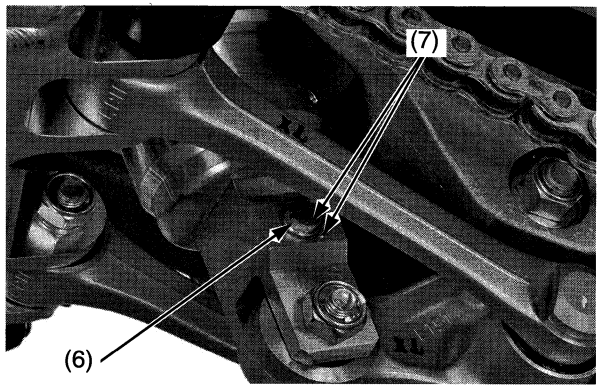
(cont'd)

Rear Suspension Adjustments

Rebound Damping
The rebound damping adjuster (6) is located at the lower end of the rear shock absorber.

It has 17 clicks or more. Turning the adjuster one full turn changes the adjuster 8 clicks.

- When adjusting the rebound damping adjuster, make sure to use the proper size tool to avoid damage.
- Rebound damping can be increased by turning the adjuster clockwise.
- Be sure that the rebound adjuster is firmly located in a detent, and not between positions.



(6) rebound damping adjuster (7) punch marks

To adjust to the standard position:
1. Turn the adjuster clockwise (harder) until it will no longer turn (lightly seat). Turn the adjuster counterclockwise (softer) until it clicks. This click is position 1.
2. Set the adjuster 7 to 10 clicks and adjust it until the punch marks (7) on the adjuster and the rear shock absorber are aligned.

Rear Suspension Race Sag (Off-Road Use Only)

Setting the proper race sag (ride height) is very important for off-road use.

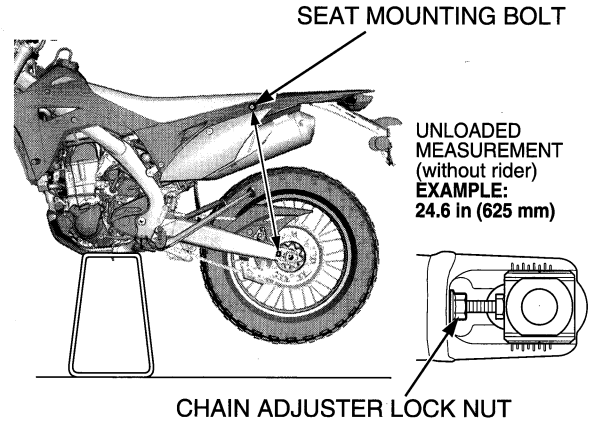
Race sag refers to the amount of rear wheel travel used by your motorcycle at rest, ready to ride, with you on the seat. As a general rule of thumb, the race sag dimension should be about one-third of the maximum travel.

On your motorcycle, ride height is changed by adjusting the rear suspension spring pre-load.

Spring Pre-load & Race Sag Adjustment
The following adjustment procedure establishes the correct starting point for any suspension tuning — the proper rear suspension spring preload adjustment for your specific needs.
Your motorcycle should be at normal racing weight, including fuel, oil and coolant. You should be wearing all your normal protective apparel. You will need two helpers.

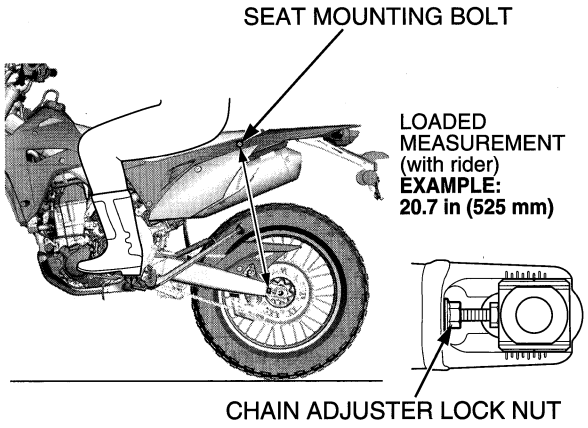
To calculate the proper adjustment, it is necessary to measure between two fixed points — from the center of the seat mounting bolt to the center of the chain adjuster lock nut as illustrated here — for two different situations:

unloaded: motorcycle on an optional workstand with rear suspension fully extended, no rider.
loaded with rider: motorcycle on ground, with rider.
1. Support your motorcycle on an optional workstand with the rear wheel off the ground.
2. Measure the *unloaded* dimension.



3. Measure the *loaded with rider* dimension. Remove the workstand. With two helpers available, sit as far forward as possible on your motorcycle's seat, wearing your riding apparel.
   Ask one helper to steady your motorcycle perfectly upright so you can put both feet on the pegs.
   Bounce your weight on the seat a couple of times to help the suspension overcome any situation and settle to a good reference point.

Ask the other helper to measure the *loaded with rider* dimension.



Example:

Unloaded	= 24.6 in (625 mm)
– Loaded	= 20.7 in (525 mm)
Race Sag	= 3.9 in (100 mm)

4. Calculate the *race sag* dimension.
   To do this, subtract the *loaded with rider* dimension (step 3) from the *unloaded* dimension (step 2).
   Standard Race Sag: 4.1 in (105 mm)

   Adjust spring pre-load as necessary to obtain the desired handling results.
   Decreasing the race sag dimension (example: 3.7 in, 95 mm) improves turning ability for tight terrain at the cost of slightly reduced straight line stability.
   Increasing the race sag dimension (example: 4.5 in, 115 mm) may improve stability on faster terrain with less turns, but will reduce turning performance slightly and may upset the balance between the front and rear suspension, producing a harsher ride. This will happen if the adjustment shifts the effective wheel travel toward the more progressive end of its range.