

GL1500 Headlamp Adjustments

This procedure was determined with a 1996-model Aspencade. I can't say whether different years vary from what I found on mine.

The [96] 1500's headlamp assembly has 4 adjusters. One is the well-known height adjuster located in the dash. The other three are located on the top and bottom of the headlamp assembly. Access them by removing the front fairing panel and the bottom center vent inlet grille.

The Headlamp Assembly

The headlamp assembly has a moveable outer housing, allowing up/down adjustment of the whole light assembly. Inside the housing are three separate mirror assemblies, two parabolic mirrors and one flat mirror.

The two parabolic mirrors hold the bulbs. They control the general beam pattern, and specifically control the low beams. The right-side parabolic moves separately from the left-side parabolic, which is **generally** fixed in place.

Beneath and in front of the two parabolics is a flat mirror that extends across the entire front bottom of the lamp assembly. This mirror controls the high beam height. It moves separately from the parabolic mirrors.

Beam Operation

On low beam, the low-beam filament's output from the bulb is blocked from hitting the flat mirror by a tiny parabolic mirror inside the bulb itself. This light is re-routed into the parabolics. This allows the parabolic mirrors to spread the low beam light and give a clean cut-off (a "horizon" cut-off) on the top of the beam. The low-beam filaments are located off of the parabolics' focal points, which diffuses and widens the beam.

On high beam, the high-beam filament's output is not blocked. Light hits the flat mirror and is reflected out from the bottom of the bulb to produce a full, higher-aimed beam. The high-beam filament is also located closer to the focal point of the parabolics, sharpening the beam's focus.

On high beam, you can shine the lights against a wall and see two "hot spots." These are the focused beams from the parabolic mirrors. You also see a swath of light across the whole area, extending above the hot spots. This is the light from the flat mirror. On low beam, the hot spots are much more difficult to see, because the light is not as focused. The beam cuts off cleanly at the top.

'88-'97 models further modify and focus the beams using refraction through the headlamp lens. '98 and newer models have clear lenses, and rely on better-designed parabolics for fine-tuning of the beams.

Adjusters

Adjuster 1-- Overall beam height. Located on the left end of the dash in the fairing. Rocks the entire headlamp unit forward and back to move the beams up and down.

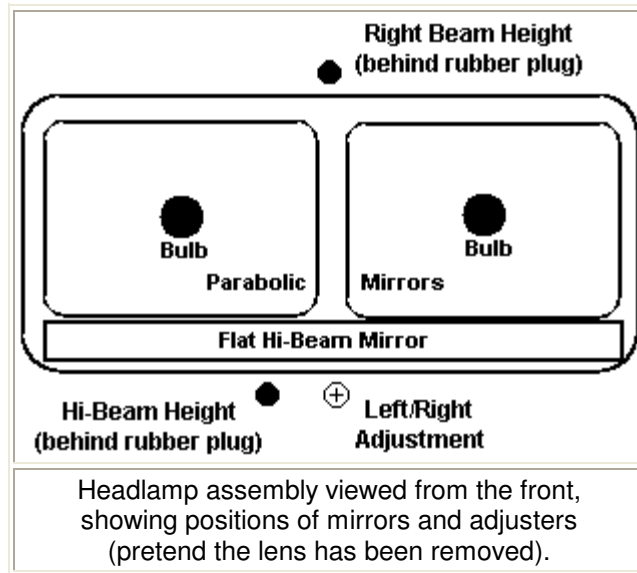
Turn this knob clockwise (CW) to lower the beams, counter-clockwise (CCW) to raise them. The "easy" way to remember this is that the beam height will move the same direction as the right side of the knob.

Adjuster 2-- Right-side beam height. Located behind the rubber plug in the top front of the headlamp unit. Rocks the right-side parabolic mirror forward and back to move the right beam up and down. Turn CCW to raise the right beam without moving the left beam. CW to lower the right beam.

Adjuster 3-- Hi beam height adjustment. Located behind the rubber plug in the bottom front of the headlamp unit. Rotates the flat mirror at the bottom of the light assembly forward and back. Turn CCW to lower the high beam without moving the low beam. CW to raise the high beam.

Adjuster 4-- Left/Right adjustment. Located in the bottom front of the headlamp unit. This is the Phillips head screw that is not hidden behind a rubber plug. Rotates all three mirrors and the bulbs left and right as a unit, to move the beams left and right.

Turn CCW to move the beams right. CW to move the beams left.



Headlamp Adjusting Procedure

Tools needed

- Long, slender #1 Phillips screwdriver (for adjusters behind the rubber plugs)
- #2 Phillips screwdriver (for the other adjuster screw)
- 12-inch square of cardboard
- Flat wall or garage door
- Paper, tape, marker

NOTE: All adjustments are very fine. You have to turn the screws A LOT to see changes in adjustment. This procedure is best done after dark, because you will need to do some test rides.

Preparation

1. Set the bike on its center stand, 10 feet away from an unobstructed wall or garage door, and square to the wall or door.
2. Remove the front fairing cover and lower vent grille to gain access to the headlamp adjusters.
3. Idle the engine or connect a battery charger to the battery, to prevent battery drain.

Low Beam Vertical Alignment

1. With the lights on low beam, cover the right half of the lamp assembly with the cardboard square, so only the left bulb is shining on the wall.
2. Using a marker, mark the top of the left low beam on the wall (use paper taped to the wall if you don't want to mark the wall itself).
3. Move the cardboard so it blocks the left bulb, so only the right bulb is shining on the wall.
4. The top of the right low beam should be even with the mark you made for the left low beam. If it's not, adjust by turning the screw behind the rubber plug at the top of the lamp assembly, using a long, slender #1 Phillips screwdriver.
5. Move the cardboard back and forth between the bulbs to verify that the low beams are at the same height. On high beam, the two hotspots should line up vertically.

High Beam Vertical Adjustment

1. With the lights on high beam, note the position of the beams' hot spots on the wall in relation to the mark you made in step 5 above.
2. Most owners complain about their low beams being too low on the roadway. To correct this, lower the high beams by turning the screw behind the rubber plug at the bottom of the headlamp assembly, using a long, slender #1 Phillips screwdriver. You can watch the high beam hot spot being lowered on the wall in relation to the mark you made.
3. Take a test ride. Get out on a dark street, and adjust the high beams using the dash knob until you like what you can see. Then switch to low beam and see how that looks.
4. Repeat these steps until you get the low beam pattern you want.

Left/Right Adjustment

1. Back to the wall. Set the bike on its center stand at a distance of 25 feet from the wall and square to the wall. Center the front wheel.
2. Shine the high beams on the wall.
3. Step to the back of the bike, and level your eye with the center of the passenger backrest. Use the center of the backrest and the center of the windshield like a gunsight. The center of the hotspot of the high beam should hit the wall in this line.
4. Adjust by turning the uncovered screw at the bottom of the headlamp assembly, using a #2 Phillips screwdriver.

Reinstall the vent grille and front cover, and you're done.