

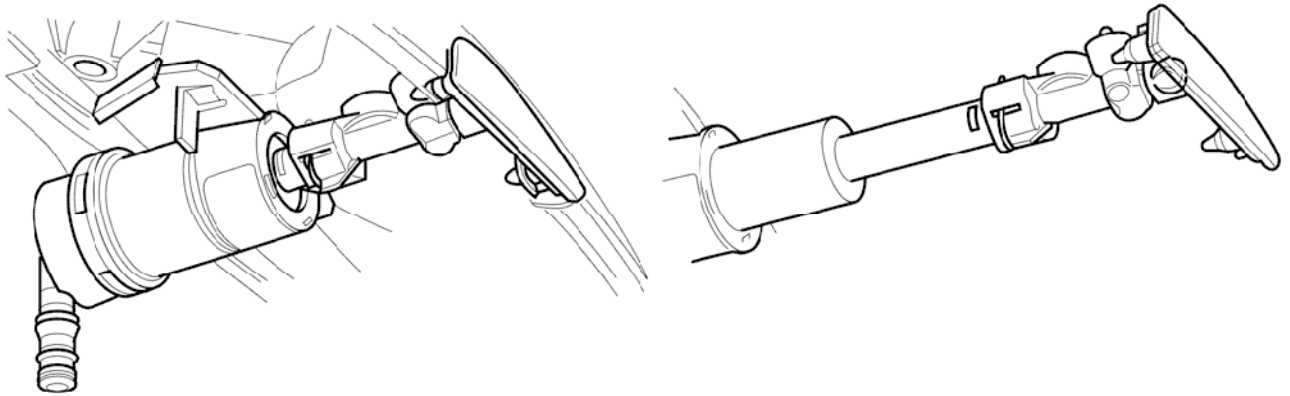
1999 XK RANGE - Wipers and Washers - 501-16

pressure. The windshield wash feed tubes supplied assembled in the associated wiper arms fit at their lower ends onto connectors in the plenum cover. Located on the rear face of the washer fluid reservoir the windshield wash pump is connected by feed tubes to the plenum cover. The seven liter washer fluid reservoir is situated in a cavity formed by the front bumper, LH front valance and the front wing liner.

The windshield washers are operated by pressing the button at the end of the wiper control stalk switch. Pressing and releasing the button operates the washers for 1 - 1.4 seconds and the wipers complete three sweeps. An optional drip wipe function adds a further sweep of the wipers after a 4 second delay, to clear residual fluid from the windshield. If the button is held depressed, the washers and wipers will operate continuously for up to 20 seconds.

Headlamp Powerwash System

Headlamp Powerwash Jet Assembly (Retracted and Extended)



E36125

The headlamp powerwash system incorporates a telescopic nozzle unit mounted in the lower section of each headlamp. Each nozzle is connected via snap fittings to a powerwash pump mounted above the windshield wash pump on the rear face of the washer fluid reservoir.

The powerwash system operates in conjunction with the windshield washers when the ignition switch is in position II and the headlamp switch is in the dip or main beam position. When the powerwash pump is activated, the nozzle units under fluid pressure, extend forward approximately 72 mm and commence the wash cycle. The wash cycle consists of two 800 ms pulses separated by a six second delay. To conserve washer fluid, headlamp powerwash will only function on every sixth operation of the windshield wash switch.

When the 'WASHER FLUID LOW' message is illuminated, the windshield washers will continue to operate for a limited period but the headlamp powerwash will not function until the fluid level is restored.

Rain Sensing System

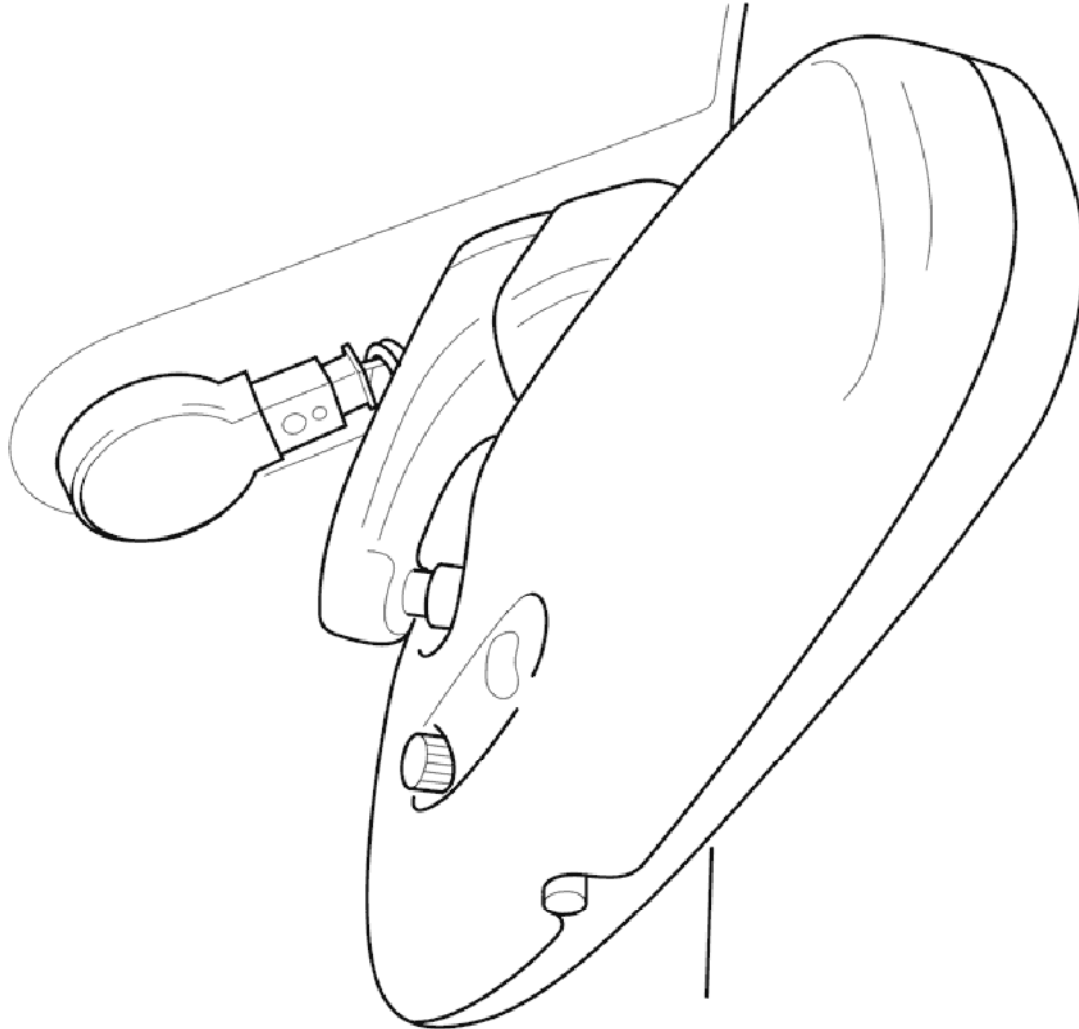
The rain sensing system installed for some markets, provides automatic wiper operation when rain is detected on the windshield. The system detects differing levels of rainfall and varies wiper operation ranging from intermittent to maximum continuous, to suit prevailing requirements.

The system which is brought into operation by selecting AUTO on the wiper control switch bezel, does not preclude normal manual control of wiper operation.

The system consists of a rain sensor, an electronic control module and a dedicated wiper control switch.

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The rain sensor is an optical transducer that is sensitive to changes in infra-red light penetration of the windshield created by the refractive effects of water droplets. The sensor elements consist of two groups of light emitting diodes which alternately project infra-red light onto the windshield and a photo-diode that receives resulting reflections from the glass. All of the infra-red light is reflected back from a moisture-free windshield, resulting in a constant 5V output signal from the sensor and no wiper activation. Rain falling on the light sensing area of the windshield results in refraction and diffusion of a proportion of the projected light with a corresponding imbalance of light received by the photodiode. This results in pulsed outputs from the sensor, the frequency and duration of which are directly proportional to the number and size of water droplets respectively. These pulses together with wiper switch position signals are received by the sensor control module and processed to mimic column switchgear operation. In this recognisable form, signals are input to the body processor module (BPM) where they are interpreted as normal wiper operation requests.



E36054

The rain sensor unit is installed on the inside of the windshield within the rear view mirror stem cover. The unit is secured to the glass by a special adhesive that facilitates service removal. When installing a rain sensor unit, it must be positioned in the clear circle within the obscuration band.