



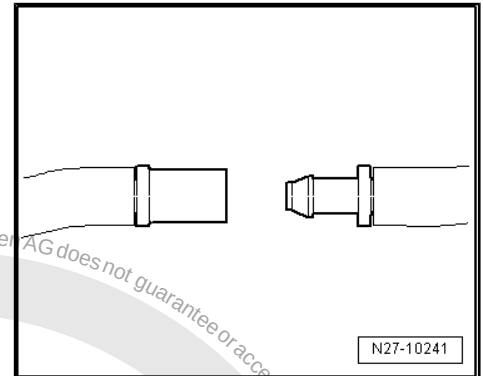
## 92 – Windscreen wash/wipe system

### 1 Washer fluid line hose couplings

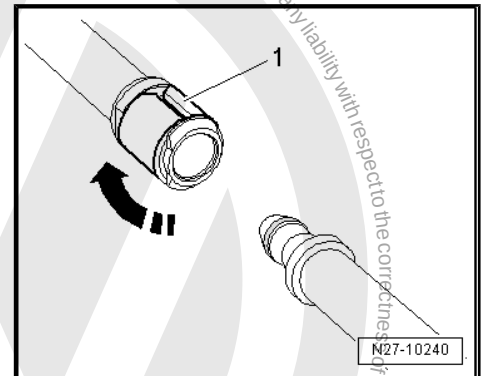
The following hose coupling types are used to connect the hoses to pumps and spray jets and/or as points of separation:

#### 1.1 Windscreen and rear window washer system

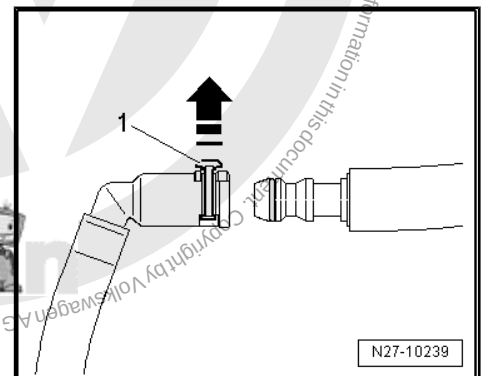
- Pull the two coupling sections apart (no securing device) to loosen the connection.
- To secure the connection, push the two coupling sections together, until you hear and feel them engage.



- To loosen the connection, rotate the lock ring -1- through 90° -arrow- and pull off the hose connection.
- To secure the connection, push on the hose connection and rotate the lock ring -1- -arrow- until it engages.

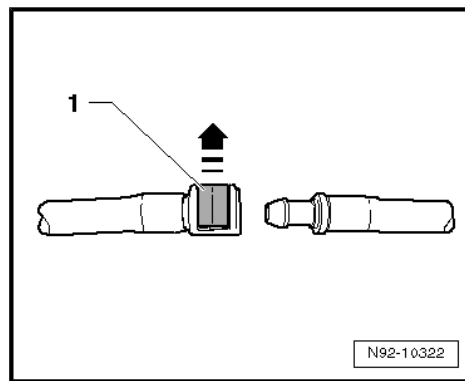


- To loosen the connection, pull up the lock ring -1- by approx. 1 mm -arrow- and pull off the hose connection.
- To secure connection, attach hose connection and press in clip -1- until it engages.
- To secure connection, attach hose connection and press in clip -1- until it engages.



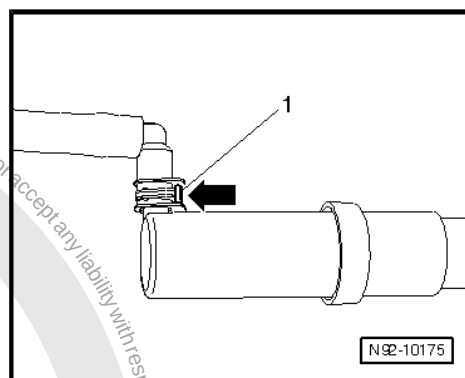


- To loosen the connection, pull up the lock ring -1- -arrow- and pull off the hose connection.
- To secure connection, attach hose connection and press in clip -1- until it engages.



## 1.2 Headlight washer system

- To loosen the connection, push the lock ring -1- -arrow- and pull off the hose connection.
- To secure the connection, push and hold the lock ring -arrow- and push on the hose connection. Check that the securing clip has correctly engaged by depressing and trying to pull off without the clip.





## 2 Hose repair

A new repair concept has been developed for repairs to washer system hoses. Various connectors, special EPDM hoses (ethylene-propylene terpolymer) and heat-shrink hose are available as spare parts.

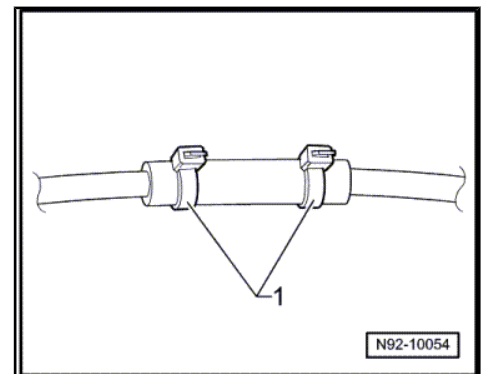
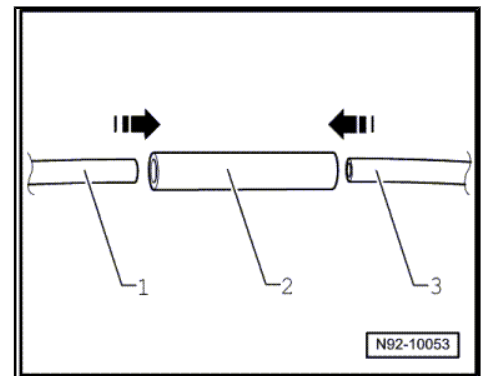
### 2.1 General description

- ◆ The replacement parts can be found in the electronic parts catalogue (ETKA).
- ◆ Replacement parts are available for repair of both smooth and corrugated pipes.

### 2.2 Repairing smooth pipe

Smooth pipe with a diameter of 5x1 mm or 6x1 mm can be repaired with EPDM hose.

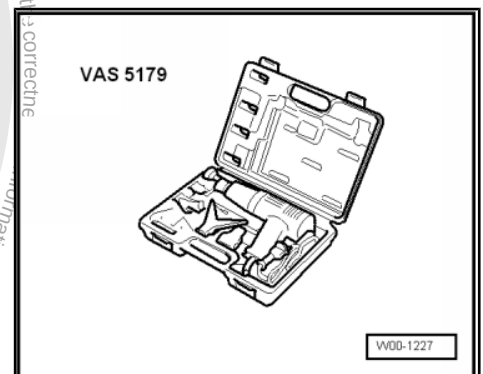
- Cut damaged section at right angles out of smooth pipe which is to be repaired.
- Select the appropriate EPDM hose -2- and cable ties according to the electronic parts catalogue (ETKA).
- Cut EPDM hose -2- so that ends -1- and -3- of smooth pipe can each be pushed about 10 mm into the EPDM hose -2-.
- Secure the repair joints with cable ties -1-.



### 2.3 Repairing corrugated pipe

#### Special tools and workshop equipment required

- ◆ Hot air blower -VAS 5179- or

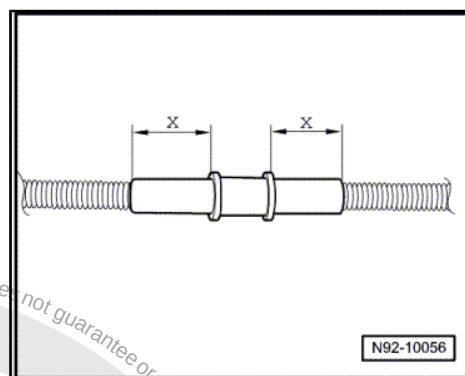
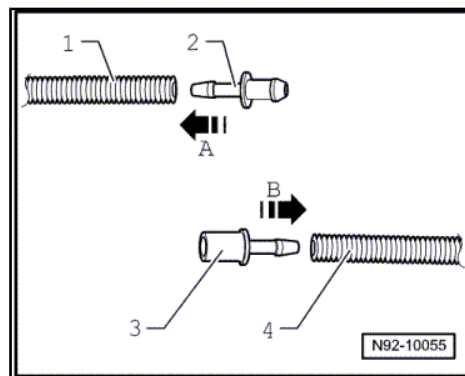


- ◆ Hot air blower -V.A.G 1416/- or
- ◆ Hot air blower -VAS 1978/14-



## Note

- ◆ *Repair points must not be subjected to pulling or bending forces.*
- ◆ *If the damaged section is longer than 20 mm, a new piece of corrugated pipe must be used and the procedure described below must be performed twice.*
- Cut damaged section at right angles out of corrugated pipe which is to be repaired.
- Select suitable end pieces -2- and -3- and correct sized shrink-fit piping from the electronic parts catalogue (ETKA).
- Heat end of corrugated pipe -1-.
- Push connector -2- into corrugated pipe -2- -arrow A-.
- Heat end of corrugated pipe -4-.
- Push connector -3- into corrugated pipe -4- -arrow B-.
- Cut heat-shrink hose so that ends of corrugated pipe are each covered by about 20 mm -dimension x- of heat-shrink hose.
- Push heat-shrink hose over corrugated pipe, join connectors and secure repair joints with heat-shrink hose.





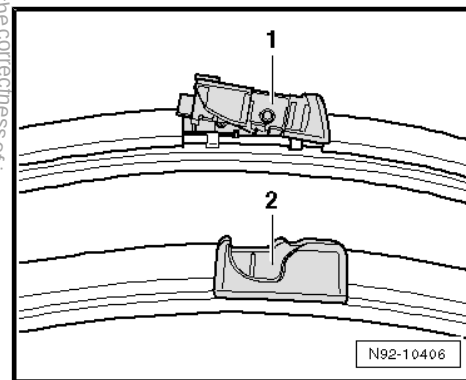
### 3 Distinguishing features of jointless wiper blades

Distinguishing features from Bosch and Federal Mogul.

When renewing wiper rubbers, note the make. When renewing wiper blades, the same make must be used.

Wiper blades can be identified according to wiper arm fastening.

**Bosch wiper blades -1 and 2-:**



**Federal Mogul wiper blades -1-:**

