



# BOSCH

## Service telegram

Robert Bosch GmbH, After-Sales Service, Automotive Equipment.  
Not to be communicated to any third party.

DISTRIBUTOR- Motor vehicle: FZD, NKW  
TYPE FUEL- Workshop: EP  
INJECTION PUMP 07.1997  
ST 0532 En

DAMAGE CAUSED BY DIESEL FUELS  
WITH LOW SULPHUR CONTENT

Diesel fuel containing less than 0.05% sulphur has been available throughout Germany and Austria since October 1995. This reduced sulphur content has been legally prescribed in the European Union since October 1996.

This low-sulphur fuel liberates fewer sulphate particles and less harmful sulphur dioxide. The sulphur in the crude oil is removed by way of hydrogen treatment.

Depending on the intensity of such hydrogen treatment, the lubricating components of the diesel fuel are removed to a greater or lesser extent.

The reduced lubricity can result in increased distributor-type fuel-injection pump wear if exclusive use is made of diesel fuel without lubricating additives.

If the fuel is subjected to intense hydrogen treatment, damage may also be encountered with in-line pumps. To guarantee the lubricity of the diesel fuel with < 0.05 percent sulphur content, the leading oil companies are mixing effective lubricant additives with brand names such as SUPER DIESEL into their "normal diesel fuel" as per DIN EN 590.

Various oil companies are currently marketing diesel fuels which can produce the following phenomena with distributor-type fuel-injection pumps.

Failures and malfunctions:

- \* Increased wear chiefly at cam plate and cam roller ring.
- \* Rough engine running at idle and part load
- \* Lack of power
- \* Increased fuel consumption
- \* Increased pollutant emissions

As yet, neither a test method nor a limit value for the required lubricity have been defined. Work is in progress to establish wear limits as per ISO and EN standardization. The mixing-in of additives by individuals is not permitted.

WARRANTY:

- Distributor-type fuel-injection pumps

Pump damage at the drive mechanism (control lever and cam roller ring assembly) which is clearly the result of poor lubrication by the fuel, is not covered by Bosch warranty.

- In-line pump:

Problematic injection pumps are to be sent to the following address.

ROBERT BOSCH GmbH

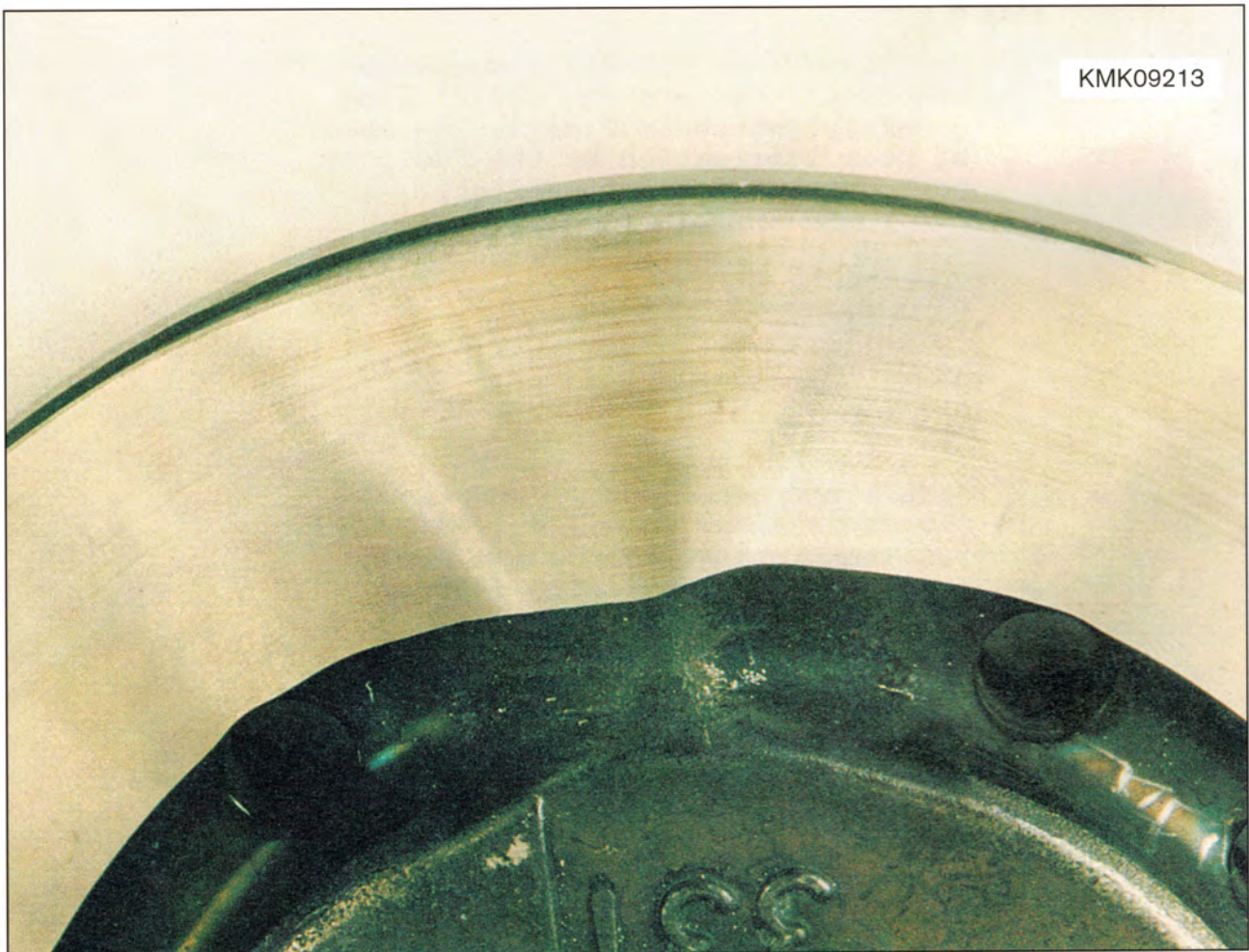
FeW / Log 3 - Auspackraum  
z.W. an K5 / ERR  
Am Boschwerk  
70469 Stuttgart  
Germany

Outside Germany, enquiries should be addressed to your local Bosch representative.

WEAR PATTERNS RESULTING FROM POOR  
FUEL LUBRICATION ON DISTRIBUTOR-  
TYPE FUEL-INJECTION PUMPS

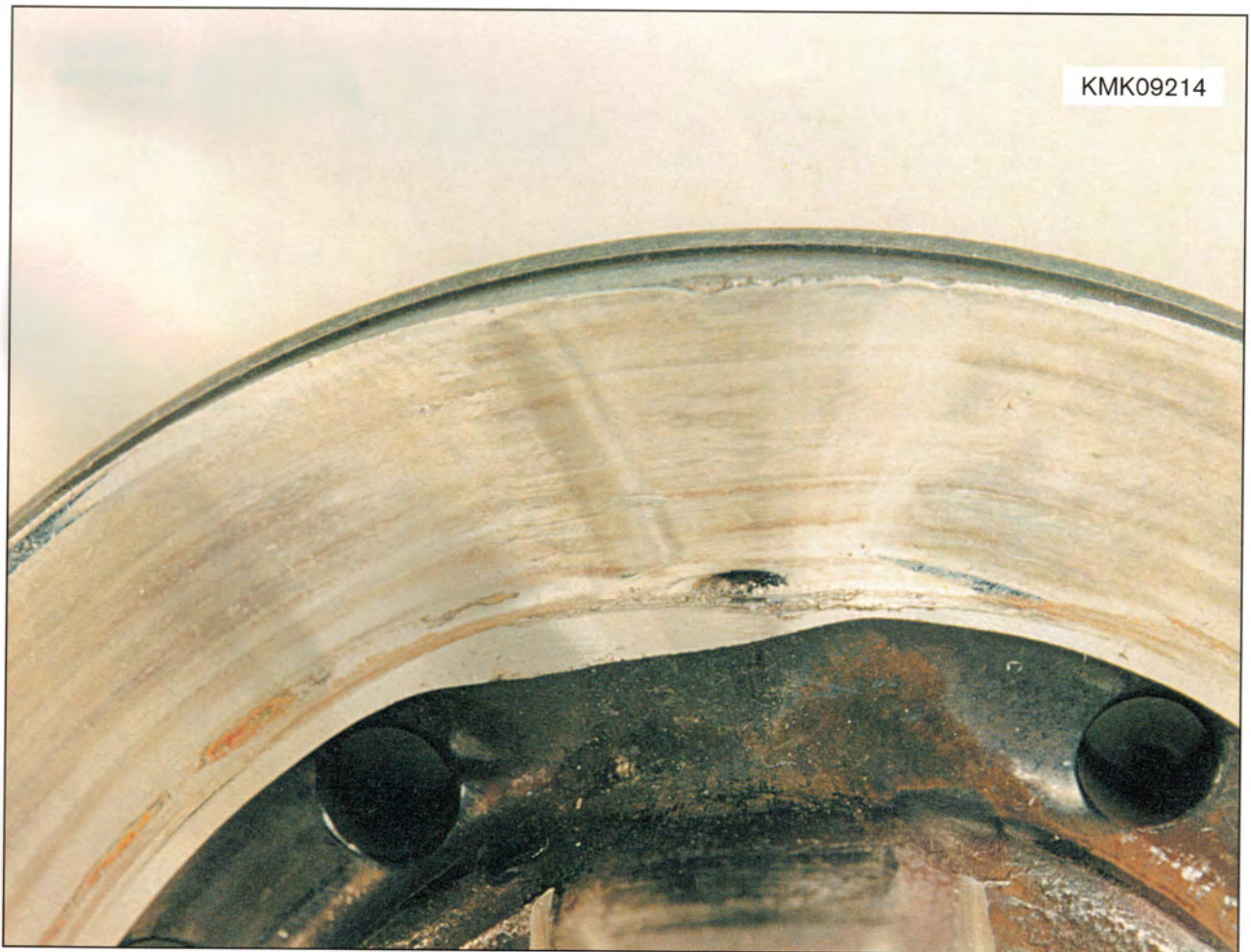
\* Cam track, control lever:

Little abrasion in the case of fuel  
w i t h additive



\* Cam track, control lever

Severe abrasion in the case of fuel  
w i t h o u t additive



\* Roller (cam roller ring)

Little abrasion in the case of fuel  
w i t h additive



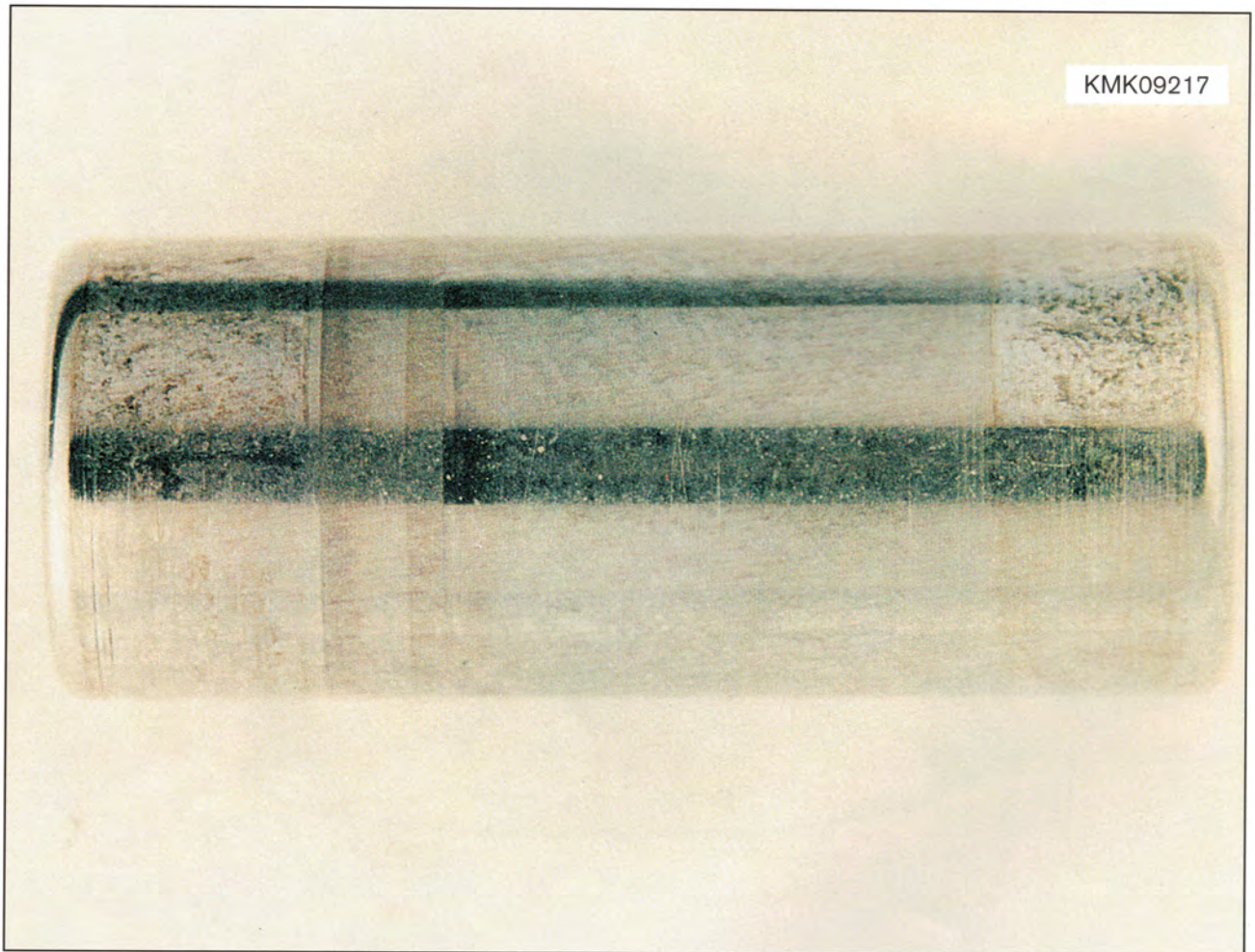
\* Roller (cam roller ring)

Severe abrasion in the case of fuel  
w i t h o u t   a d d i t i v e



\* Roller pin

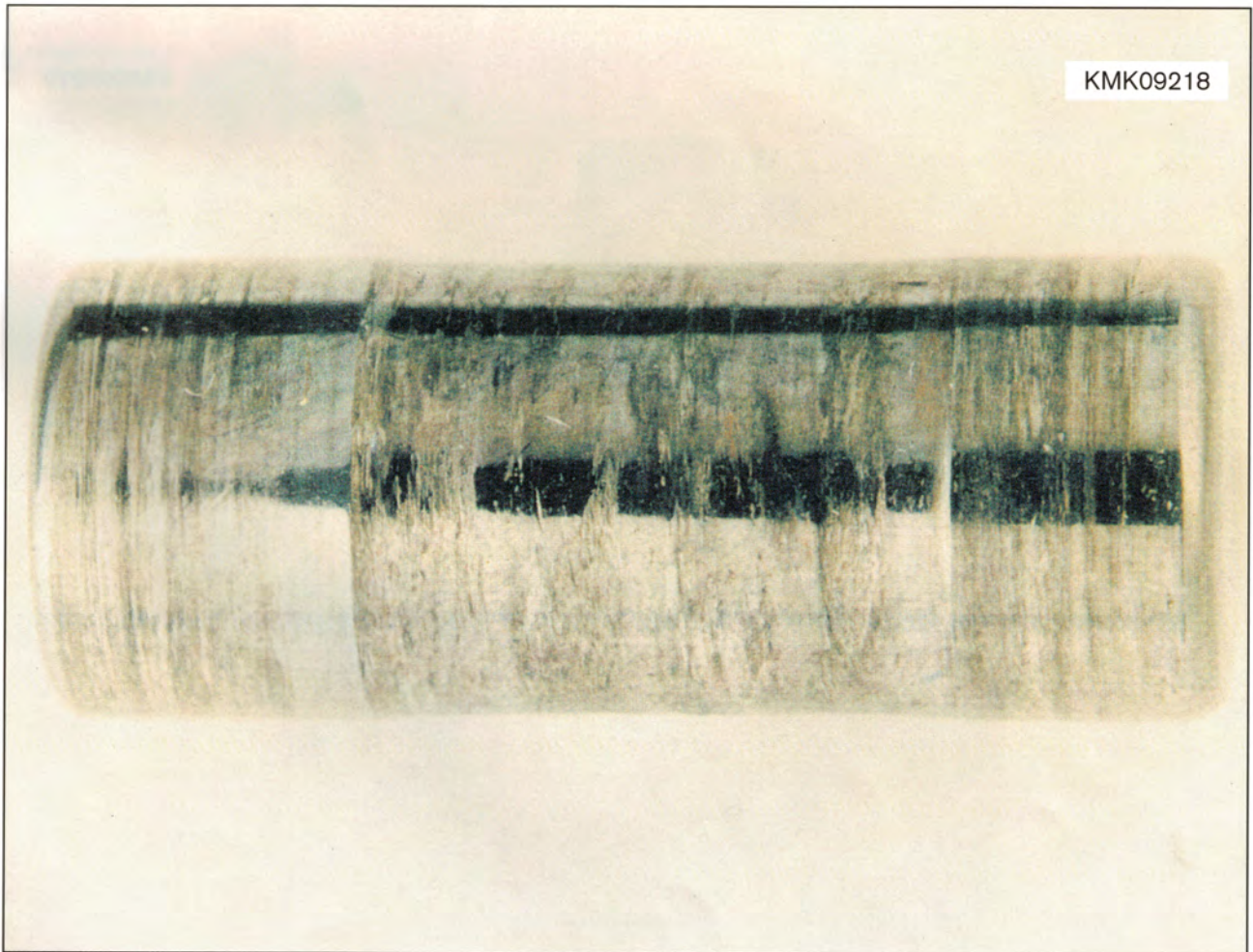
Little abrasion in the case of fuel  
w i t h additive





\* Roller Pin

Severe abrasion in the case of fuel  
w i t h o u t additive



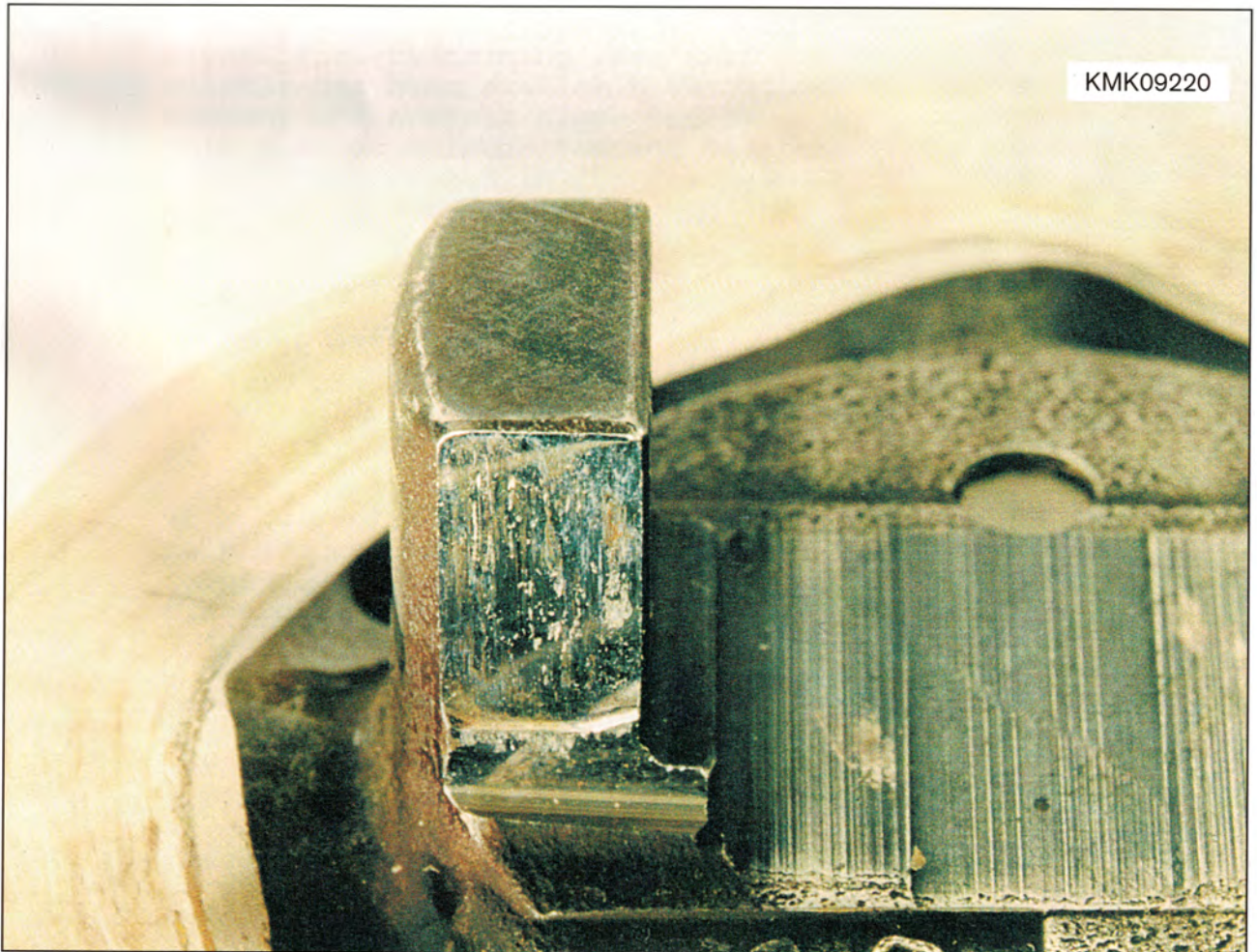
\* Control lever claw

Little abrasion in the case of fuel  
w i t h additive



\* Control lever claw

Severe abrasion in the case of fuel  
w i t h o u t   a d d i t i v e



Published by:

Robert Bosch GmbH  
Division KH  
After-Sales-Service Department for  
Training and Technology (KH/VSK)

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