FIELD TEST EVALUATION REPORT

IVECO TRUCK (2015-3)

CouplerTec 10COMM (2015-12)

Ljubljana, 17. 10. 2016

Introduction

Company: Motorway Company, Slovenia
Vehicle: **Iveco truck, 2015**
Truck operates mostly only in the winter. It's engaged in spreading the de-icing spread (salt+sand+chemicals) on the roads in winter and also cleaning the pilled up snow from the roads.
In a summer time similar trucks are - due it's very specific upgrades and equipmnet - inactive, put on-hold which is regarding rusting worse than being active. The company is looking for the solution how to engage them also in summer activities.

CouplerTecu:
CouplerTec **6 COMM** system for commercial vehicles with 6 pads
Installation date:
14. 12. 2013

About CouplerTec

- CouplerTec's patented capacitive coupling technology interferes with the electrical charge between iron and oxygen so it becomes hard for these elements to combine to form rust.
- By creating a negative (-) electrostatic surface charge on the metal surface of the protected structure, the (-) oxygen atom is now repelled. In other words, the technology interferes with the metal's ability to react with oxygen.
- Should a protected structure's paintwork become compromised (e.g. stone chip or scratch) resulting in exposed bare metal, then over time a very thin layer of surface rust may eventually form on the bare metal surface. This layer of surface rust takes the place of the paint work and becomes the dielectric, which in turn holds the charge static. The surface rust will turn a dark brown colour, this is non-active ferric oxide and will not progress any further.
- Even when vehicle is not new and already has some existing rust CouplerTec systems have been proven to slow the corrosion process. But remember, as good as this product is, it is not a miracle cure for badly rusted vehicles, as the more rust the vehicle has, the harder it is to stop. The results are best when CouplerTec istalled in teh new vehicle.

METODOLOGY

Purpose of Test:

To evaluate the effectiveness of the Coupler in reducing the effects of rust and corrosion on winter roads maintenance truck that operates on Slovenian highways and motorways.

Requirements to the test

Vehicles: Two identical brand new trucks. One vehicle will be used as the test vehicle and the other vehicle will be used as the control vehicle to which the test vehicle will be measured against.

Test Vehicle: To be fitted with a CouplerTec 10comm with the addition of a standard conventional rustproofing methods usually used by the company.

Control Vehicle: A standard conventional rustproofing methods (e.g. spray coating) ONLY will be applied to the control vehicles (identical to that applied to the test vehicle).

Test Environment:

Control and Test Vehicles must be used within the same environment

Test Trial Period:

currently cca 1 year (2016-10)

Vehicle Evaluation:

The test vehicle and control vehicle will be inspected at time intervals (e.g. 1x/per year) from the date of installation.

Time INTERVAL:
3 yrs
dec 2015 Vs. okt 2016

BEFORE vs AFTER

TEREX loader with CouplerTec
BEFORE: AFTER
1 year

Remark: It is not unusual for commercial (also other vehicles) to be rusty already as new. This comparison shows a stabilization of the rust process. There is no progress of rust detected. Also existing rust shown on later photo is darker (inactive ferric oxide).

2015-12 (installation)

2016-10

NO CouplerTec vs. WITH CouplerTec

TEREX loader
after 1 year

WITHOUT WITH CouplerTec

Remark: Some “upgrades” are of lower quality (e.g. no paint, less galvanized) , therefore more prone to rust. Part on CouplerTec protected vehicle clearly has advantage.

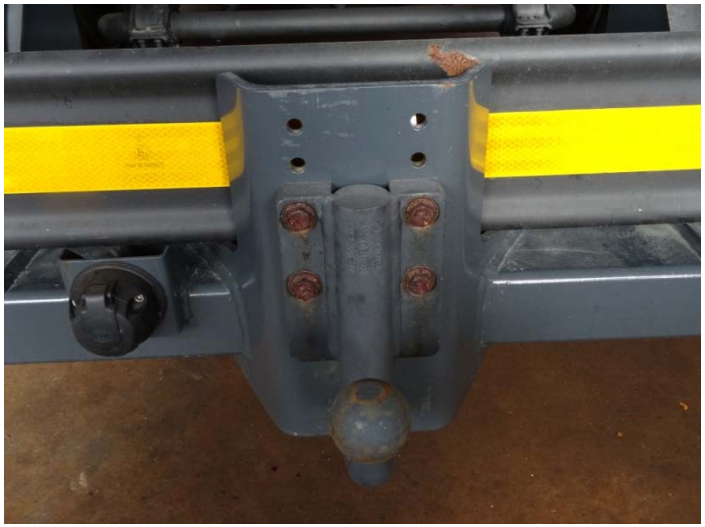
Conventional rust protection ONLY

CouplerTec Electronic rustproofing

TEREX loader
after 1 year

WITHOUT WITH CouplerTec

Remark: Some “upgrades” are of lower quality (e.g. no paint, less galvanized) , therefore more prone to rust. Photo on left clearly speaks in CouplerTec’s advantage .



Conventional rust protection ONLY

CouplerTec Electronic rustproofing

TEREX loader
after 1 year

WITHOUT WITH CouplerTec

Remark: Flat washers are unfortunately of very poor quality (e.g. no paint, not galvanized) , therefore more prone to rust. However flat washers protected with CouplerTec have darker colour indicating inactive ferric oxide. Poor quality parts will still rust but much slower.

Part in front is more rusty on vehicle without CouplerTec.

Conventional rust protection ONLY

CouplerTec Electronic rustproofing

Interim summary

CouplerTec rust protection tremendously benefits on a long term.

In this report are presented some observations in a relatively short time interval.

Rust growth typically has exponent growth.

More significant differences in advantage of CouplerTec Electronic Rustproofing will be seen through time.