Discover our **Workshop**

TVH

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For your own safety, please follow the pedestrian crossing and guide during the visit.

WELCOME AT OUR WORKSHOP IN WAREGEM

The workshop in Waregem has 3 main activities:

- Repair of complete machines
- Adapt and repair of second-hand and new machines to meet customer requirements
- Reconditioning and repair of parts

This tour at the workshop will focus on reconditioning and repair of parts.

Reconditioned
Recycled
Reliable

RECONDITIONED PARTS

We repair parts that, after extensive testing, are placed in stock. This is done according to strict quality standards. These repaired parts, or reconditioned parts, are automatically shown on your offer whenever you inquire about a new part.

All our reconditioned parts have the same warranty conditions as new parts.

Right from the start of TVH, reconditioned parts have been a vital part of our range and our service. Needless to say that we have already gathered the necessary know-how.
We offer these parts in 3 different ways:

1. Reconditioned parts with return of old unit

When you purchase a reconditioned part, with return of your old unit, a surcharge amount will appear on your invoice. When you return your old part (subject to normal wear) to us, this surcharge is refunded to you. This is also shown on your offer.
Common reconditioned parts are: valve assemblies, electric motors, reductors …

2. Reconditioned parts without return of old unit

These are reconditioned parts that don't require the return of an old unit. As a result, no surcharge unit is mentioned on the offer.
Common reconditioned parts are: covers, stub axles, front axle housings …

3. Repair of parts

If no reconditioned part is available, then you can send us your faulty part for repair by our specialized engineers. These repairs receive the same warranties as our reconditioned parts.

Automatic transmissions & gearboxes

Automatic transmisisons and gearboxes must be reconditioned according to a very **precise process**. Within our workshops we have the qualified technicians and in-house developed **test banks** to test transmissions and gearboxes so that a perfectly working product can be supplied.

Each part is disassembled, thoroughly cleaned and the housings are sandblasted. All transmissions or gearboxes are fitted with new seals, bearings, solenoids and discs.

Bearings are heated to install, therefore the bearing isn't damaged during installation. We always use the correct tools for each job.

If needed, **vital parts** are **replaced** after a thorough inspection by our qualified technicians.

Test bank for gearboxes

Thanks to this test bank we can detect abnormal noises and leakages. We can also simulate a load during the test.
For different types of gearboxes we have adapter mounting plates, so we are able to test **different types of gearboxes with 1 test bank**.

Test bank for smaller automatic transmissions

By means of our test banks we measure pressure in function of time and pressure (curve) to assure a correct shifting of the transmission. On this test bank, an industrial automatic transmission is coupled to a hydraulic unit and the electronics needed to adjust continuously the rotational frequency and the gear.

The old regular pressure gauges are replaced by sensitive speed, pressure and temperature sensors so that now, the test can easily be carried out via a couple of clicks of the mouse. The tests are always carried out with both cold and warm oil.

Test reports are available and stored in our system. They can be sent to the customer.

This test bank is **electrically powered** to reduce emissions and noise.

For different types of transmissions we have adapter mounting plates, so we are able to test **different types of transmissions with 1 test bank**.

Test bank for major automatic transmissions

On this test bank, an industrial automatic transmission is coupled to a V8 diesel engine and tested. Operating pressure, torque converter pressure, pump pressure and gear change pressure are shown at the same time.

During gear change, the pressure build-up or the pressure drop can easily be visualized.

The transmission will not be delivered in case of a major speed reduction or in case a certain pressure is not achieved.
Should there be a difference in the functioning of the transmission after being fitted into the machine, the cause can be determined by means of simple pressure measuring at specific measuring points. In this case, our experienced mechanics are ready to help the customer out and to identify the problem.

Electrical motors

Our standard repair procedure consists of **disassembling the complete motor**. During this process we check, clean and recondition all parts. We **rework the commutator** according to specific tolerances. If needed, we **varnish** and dry the field coils and armatures in an oven. The material expands due the heat and the varnish will stick better to the material.

By default we **replace all bearings, encoders, seals and brushes**.

After we reassemble the motor, we perform tests on it by means of highly-qualified **BAKER testing equipment** to assure a properly functioning motor. This surge tester allows us to test electric motors (both DC and AC motors) in a static way. The resistance of windings and connections is measured and compared mutually so as to check whether the electric balance is maintained.

Short high-voltage peaks (1200 V) allow us to measure the insulation value between the conductors and enclosure as well as between the coats of varnish on the windings. Measurements can be stored electronically and be consulted in a later phase when a new repair or test is being carried out.

The surge tester allows us to store a different identity per motor, which implies that the device has an unseen number of applications and possibilities.

Thanks to this device we can, in case of repair of an electric motor, deliver with great certainty a decent and qualitative product to the customer.

A **test report** is added to each reconditioned motor. Our range of electric reconditioned motors includes: DC and AC motors for drive, pump and power steering applications.

Hydraulic cylinders

We assemble new hydraulic cylinders and repair cylinders of customers. The range goes from small tilt cylinders to large telescopic cylinders of a telehandler.

Every cylinder is tested before it leaves our workshop.

This test bank, which has been developed internally, allows us to check all types of hydraulic cylinders for internal and external leakage as well as pressure. The tests can be performed statically and dynamically. By means of hydraulic oil pressure, we can continuously move the piston rod from a compressed position to a fully extended position.

At maximum pressure, we test the mechanical power and density for instance, of the main seals. At low pressure, which implies a low oil flow, the piston rod moves very slowly.

By measuring the pressure build-up before the piston rod starts moving, we can identify the static friction. The lower the friction is, the longer the seals will last. Switching to testing via the PLC-controls has made the testing process much simpler. It also allows us to simulate a work situation which will give us sufficient info so as to provide the customer with a perfect and high-quality spare part. The tests are performed with **filtered hydraulic oil at operating temperature**. From every test, a report is drawn up which reflects the course of the pressure in the cylinder in function of time or movement of the piston rod. The test bank consists of **two independent hydraulic aggregates** so as to guarantee in all circumstances sufficient test capacity.

To drain off hydraulic oil from the cylinder we use pressurized air. This leaves a thin layer of oil in the cylinder to prevent rust, but no oil will leak out of the cylinder during transport.

Hydraulic control valves, pumps & hydrostatic axles

In our workshops we have qualified technicians and **test facilities** to recondition and test our reconditioned control valves and hydrostatic axles. As for other products, we disassemble, clean and inspect all parts, standard replace seals and bearings, and replace vital parts if needed, to ultimately end up with a perfectly working reconditioned spare part. **All units are tested** on our in-house developed test bank.

Test bank for pumps

This test bank enables us to measure the **speed, flow and system pressure** and register possible pressure losses. We can also build up the pressure in the hydraulic system to simulate a work load.

We received an **innovation award** for this test bank.

Linde test truck for hydrostatic transmissions and orbitrols

To accurately test a hydrostatic transmission, it needs to be tested in a working situation as real as possible. Therefore, TVH has converted a Linde 351 into a test machine. Every hydrostatic transmission from the Linde brand is fitted into the test truck and adjusted by our experienced mechanics before it leaves the workshop. The following functions are being checked: driving, braking, accelerating, balance between left and right wheel, standing still.

Also orbitrols can be quickly verified via the test truck.

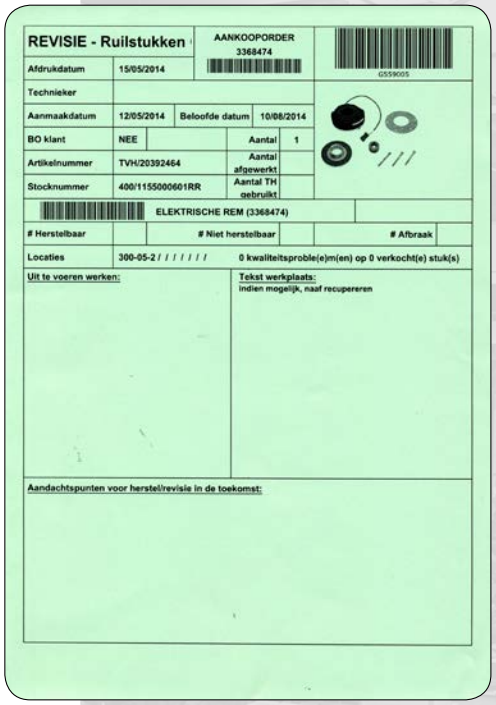
Test banks for hydraulic valves

Hydraulic valves are known to be valuable but also expensive parts of the hydraulic circuit because the working and safety of the machine depend on it. For these parts we have developed a test bank internally to test almost every hydraulic valve in a way that is very close to the normal working situation. The test bank allows us to read at any time the operating pressure, contained pressure and possible internal leakage. After every test, a result report is generated and a copy of it is sent to the customers.

We can test the valves in 2 ways:

1. The valve block or orbitrol to be tested is coupled via the test bank to an adapted fork lift truck, which is also part of the test configuration. The valves on the fork lift truck are bridged to the valve subject to testing on the test bank. This way, all functions (lifting, inclining, etc) can be checked. By forcing the oil to the different users (lift cylinder, steering cylinder …) **all functions can be visualized** on the test fork lift truck. The hydraulic components can thus be tested with or without pressure.

2. The parts can also be tested with hydraulic nitrogen accumulators. This way, the accumulators create a counter pressure which, in fact, simulates pressure of the valve. Leakages, no matter how small they may be, will be revealed.


REVISIE - Ruilstukken

AANKOOPORDER 3368474

Afdrukdatum	15/05/2014				
Technieker					
Aanmaakdatum	12/05/2014	Beloofde datum	10/08/2014		
BO klant	NEE		Aantal	1	
Artikelnummer	TVH/20392464		Aantal afgewerkt		
Stocknummer	400/1155000601RR		Aantal TH gebruikt		

ELEKTRISCHE REM (3368474)

# Herstelbaar		# Niet herstelbaar		# Afbraak	
Locaties	300-05-2 / / / / / / /	0 kwaliteitsproble(e)m(en) op 0 verkocht(e) stuk(s)			

Uit te voeren werken:

Tekst werkplaats:
indien mogelijk, naar recupereren

Aandachtspunten voor herstel/revisie in de toekomst:

WORK FORMS AND INFORMATION

Our technician receives a work form (green card) with all the essential information:

- a picture: helps to pick the correct part
- unique code
- a brief description of the job
- part number

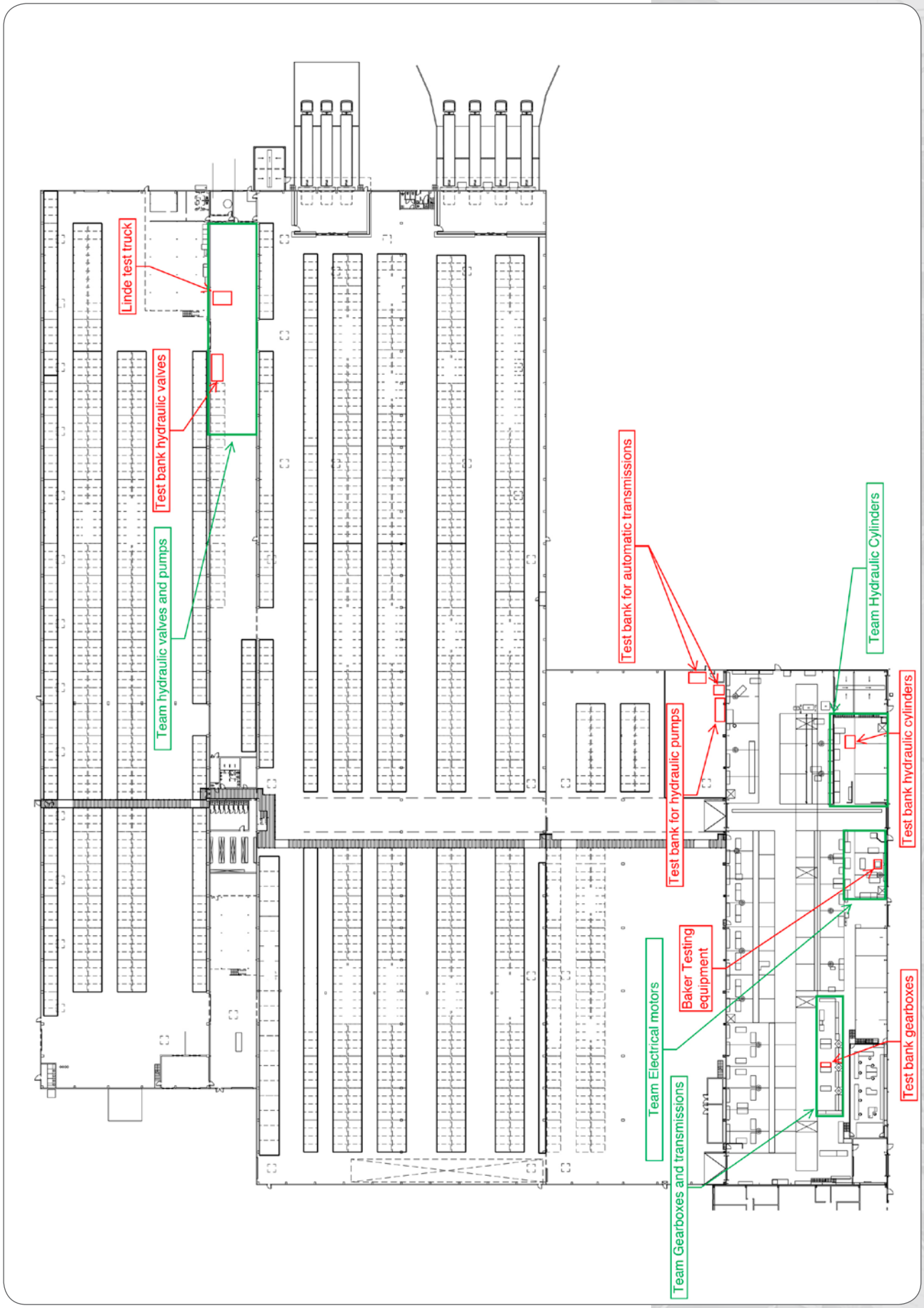
All the information that the technician needs can be found in our computer system. If required, we make our own manuals in Dutch (the native language of our technicians) to share the knowledge.

FINISH

Each work form has a unique code, after each repair this code is engraved in the part. This makes it easier to follow up the part.

All our reconditioned parts are painted which gives them a **professional look and finish.**

OUR WORKSHOP



FOLLOW US

PARTS & ACCESSORIES

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REF 22018563
06-2014 • SS