



Reconditioning

spare parts

Reconditioning and Re-manufacturing of spare parts

Vehicles fulfil numerous functions and perform in construction areas, on agricultural lands, on and off-road. The brake technology is based on components that operate in same ways. We do reconditioning on a great number of spare parts and we are dedicated to manufacturing quality. Brake linings and friction technical elements, provided by our manufacturing facility, meet on strict process controls according to ISO 9001:2008 standard.



Company portfolio

Spare Parts | Manufacturing | Reconditioning

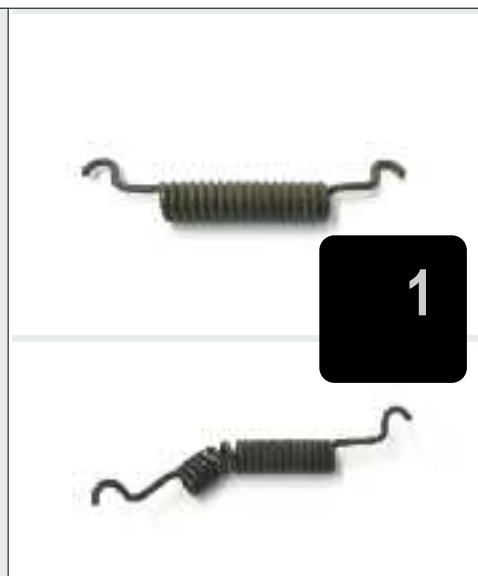
Replacement parts enfold the profession of NB PARTS. No matter in which shape and condition the spare parts are in, our company helps customers in questions concerning the renewal of their operating brake system and our specialists even restore heavily used and stripped down brake components that have been undergone high impact. After all, every brake system depends on precision and performance by each single component to reach brake and actuation functioning best as possible.

Thanks to intern production and finishing methods and our very own bonding facility the sections manufacturing and reconditioning benefit greatly from each other and join forces in achieving optimal results at NB PARTS. Expert knowledge in manufacturing is being passed on as well to processing phases in repairing and renewing of parts of wear and tear. And that certainly improves the quality in restoring brake parts. During the reconditioning process, the turned in items go through inspections on correctly operating mechanisms, material reliability and safety, and that is paired up with appropriate disassembly and overhaul according to OEM requirements. Depending on the defects figured out, all necessary repairs will be carried out and in detail thoroughly examined. Nevertheless, our customers can expect, that their rather expensive spare parts or their unique components (in some case even no longer available) being treated carefully to keep them true to the original.

The key services in brake solutions have been lately complemented and extended by reconditioning services for adjoining engine (mounting) components, e.g. starter, generator or water pump. Even in this place the reuse of recoverable vehicle's parts can be a cost-efficient alternative instead of ordering expensive original replacement parts once more than necessary. To benefit of reconditioning you might fill in the required details on the request form printed to the brochure's last page and get an estimate for repair-treatment of your worn out components. For any further information and help please contact us directly. Various original, ident and compatible spare parts are listed as well in product catalogues for agriculture and construction vehicles, mobile cranes, public utility and commercial vehicles, as well as for pallet and forklift trucks or industrial application. Make sure to employ the sources of reuse and recycling and be assure: with the best of effort as possible our team is looking forward to win your confidence.



Brake shoes and Springs



Overhauling and Relining of brake shoes (bonded or riveted)

- 1) Analyses of condition and measuring
- 2) Preparing of new friction lining through appropriate finishing processes
- 3) Removing of worn-out brake lining, cleaning of brake shoe support (sandblasting)
- 4) Bonding, pressing and tempering in oven under a certain amount of pressure
- 5) Painting, final inspection

Manufacturing of brake shoe supports

- 1) Measuring of the brake shoe support and generating of the CAD drawing
- 2) Production of single components by means of laser cut, CNC press cut
- 3) Deburring, drilling, rounding and bending
- 4) Welding by means of MACK or laser welding technology
- 5) Stamping
- 6) Final inspection

Manufacturing of springs

- 1) Defining the spring measurements (wire diameter, spring travel, number of spring coils)
- 2) Calculation of spring force, spring rate and spring work
- 3) Defining the material and generating of technical drawing
- 4) Production of precise wire forming by high quality machining
- 5) Mechanical surface treatment
- 6) Final inspection



Brake pads and Brake bands

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Manufacturing of disc brake pads, brake pads and blocks

- 1) Measuring of the brake pad and generating of the CAD drawing
- 2) Production of supporting backplate by means of on laser cutting or CNC press cutting
- 3) Defining the friction material based on purpose and application
- 4) Bonding under pressure of friction material on supporting backplate, curing in drying oven
- 5) Grinding of friction material to overall thickness of the brake pad
- 6) Painting and marking
- 7) Final inspection

Production of brake bands

- 1) Measuring of the brake band, defining the support material and generating of the CAD drawing
- 2) Production of single component by means of laser cut, CNC press cut, followed by deburring
- 3) Rounding, bending, forming, drilling and riveting
- 4) Welding by means of MACK or laser welding technology
- 5) Embossing of the brake belt support
- 6) Bonding to appropriate friction material
- 7) Final inspection



Brake discs and Clutch facings



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Manufacturing of brake discs

- 1) Measuring of the internally ventilated or solid brake disc
- 2) Defining the material such as C45, C55, GG15, GG25
- 3) Generating of the CAD drawing
- 4) Production of casting tool (casting process) or cutting to size out of the raw material (cutting process)
- 5) Turning and drilling on the basis of the most modern CNC technology
- 6) Final inspection

Manufacturing of clutch facings (brake disc linings, rings)

- 1) Defining the friction materials taking into consideration of:
 - a) average friction coefficient μ (dry or wet running conditions),
 - b) temperature range,
 - c) application and stress range,
 - d) density,
 - e) wear,
 - f) tensile strength
- 2) Measuring of the clutch facing and generating of the CAD drawing
- 3) Production based on waterjet, turning or press cutting technology
- 4) Drilling and countersinking of the rivet holes
- 5) Final inspection



Brake discs with friction material

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Manufacturing of lined brake discs

- 1) Measuring of the brake disc, defining the support material, generating of the CAD drawing
- 2) Production of the brake disc support by means of laser cut, CNC press cut
- 3) Deburring, followed by drilling and riveting
- 4) Welding by means of MACK or laser welding technology
- 5) Embossing of the brake disc support
- 6) Defining the brake lining materials (paper, sinter, carbon, teflon or organic composition) by taking into consideration of:
 - a) average friction coefficient μ (oil or dry running conditions)
 - b) application and stress range
 - c) temperature range
 - d) density
 - e) wear
 - f) tensile strength
- 7) Preparing of the support, surface treatment on the basis of sandblasting technology
- 8) Bonding, pressing, riveting of the friction material onto the support
- 9) Curing in drying oven
- 10) Grinding and turning of the brake disc to required overall thickness
- 11) Painting and marking
- 12) Final inspection



Brake linings for various applications



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Brake lining finishing processes for various applications

- 1) Measuring of roll or sheet material linings
- 2) Defining the friction materials (organically bonded friction materials moulded/rolled, beside of sintered or woven materials, worked out of roll or sheet material) by taking into consideration of:
 - a) average friction coefficient μ (oil or dry running conditions)
 - b) application (riveting or bonding) and stress range
 - c) temperature range
 - d) density
 - e) wear
 - f) tensile strength
- 3) Generating of the CAD drawing
- 4) Production of lining items by means of waterjet-cutting, turning, stamping or grinding, as well as milling and cutting processes
- 5) Drilling and countersinking of rivet holes
- 6) Hardening conform to radius
- 7) Marking
- 8) Final inspection



Brake drums and drum brake linings

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Manufacturing of wheel studs

- 1) Measuring of wheel studs, defining of the material and hardness, generating of the CAD drawing
- 2) Production by means of CNC machining and turning processes by taking into consideration of:
 - a) thread, b) accuracy of screw positioning-seat, c) conical, spherical, flat collar
- 3) Surface treatment
- 4) Final inspection

Manufacturing of brake drums

- 1) Measuring of brake drum, defining the material (e.g. pearlitic grey cast iron: material GG 25 according to DIN 1691), generating of the CAD drawing by taking into consideration of:
 - a) hardness, b) presevation, c) fitting and assembling capability (hub fit, diameter of friction surface, drilling pattern, hub seating surface, misalignment, surface roughness)
- 2) Preparing of casting tool (casting process) or pre-manufactured material (cutting process)
- 3) Turning and drilling by means of CNC machining, 4) Final inspection

Manufacturing of drum brake linings

- 1) Measuring and defining the material, generating of the CAD drawing by taking into consideration of:
 - a) average friction coefficient μ (oil or dry conditions), b) temperature range, c) density, d) wear, e) tensile strength, f) application (riveting or bonding) and stress range
- 2) Preparing molding tools (shaping process) or pre-manufactured material (cutting process)
- 3) Inside/outside radius grinding, chamfering of lining ends, drilling/countersinking of rivet holes
- 4) Hardening conform to radius, finishing marking, 5) Final inspection



Brake calipers / Brake shafts / Compressed-air



Overhauling of compressed-air components

- 1) Analyses of condition, disassembling
- 2) Cleaning of the inner as well as proofing of housing, flange and thread
- 3) Reassembling of cylinder with new seals
- 4) Painting
- 5) Final inspection

Manufacturing of brake shafts

- 1) Measuring of brake shaft, defining the material (forging, material in bar form, chilled cast or hardenable special cast), generating of the CAD drawing
- 2) Production by means of CNC machining and processes of turning by taking into consideration of:
 - a) shaft ends (flat cam, S-cam), b) length, c) tothing, d) slots
- 3) Hardening of shaft ends, tothing and cam by means of induction or case hardening methods
- 4) Final inspection

Manufacturing of brake calipers

- 1) Measuring, defining the material and type of seals (brake fluid or mineral oil)
- 2) Generating of the CAD drawing by taking into consideration of:
 - a) number of piston, diameter, material (coating), b) running surface dimension, c) stroke/volume, d) thickness of brake disc, e) connectors to brake lines / air releasing bleeder, f) fastening holes
- 3) Production by means of CNC machining and processes of turning, drilling and honing
- 4) Surface treatment (KTL coating, colour anodized), assembling of components, 5) Final inspection



Brake cylinders and Hydraulic components

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Renewal of hydraulic brake cylinders

- 1) Analyses of condition, disassembling, cleaning
- 2) Honing of cylinder and checking of housing, flange and thread
- 3) Reassembling of cylinder with new seals, if necessary preparing of new piston
- 4) Repainting
- 5) Final inspection

Manufacturing of hydraulic brake cylinders

- 1) Measuring of cylinder (master cylinder, wheel brake cylinder, clutch cylinder, booster, brake caliper)
- 2) Defining the material and type of seals, generating of the CAD drawing
- 3) Production through CNC machining, processes of turning, drilling, honing and in consideration of:
 - a) number of piston, diameter, material (coating), b) running surface dimension, c) stroke/volume, d) connectors to brake lines and air releasing bleeder, e) fastening holes
- 4) Surface treatment (KTL coating, colour anodized), 5) Assembling, 6) Final inspection

Manufacturing of sealing components

- 1) Measuring of sealing object (lip seals, cup seal, protective cap, O-ring, square-ring, bellow seal)
- 2) Defining the material (EPDM, NBR)
- 3) Generating of the CAD drawing
- 4) Production process
- 5) Final inspection



Brake hoses and Brake lines



Manufacturing of brake hoses

- 1) Measuring of brake hose and defining the material
- 2) Generating of the CAD drawing
- 3) Preparing of end fittings
- 4) Cutting of hose length and mounting the fittings onto brake hose
- 5) Final inspection

Manufacturing of bowden cables

- 1) Measuring of cable and attachments
- 2) Generating of the CAD drawing by taking into consideration of the application (bowden cables, shift cables, gas cables, clutch control cables, pull control cables, pull and push actuating cables)
- 3) Production of end fittings by means of turning process
- 4) Cutting of core length and sheath length
- 5) Connecting of fittings to cable and sheath, 6) Final inspection



Clutches and Water pumps

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Overhauling of clutch discs and complete clutches*

- 1) Complete disassembling of clutch discs, cleaning, sandblasting and painting
- 2) Applying of friction material, linings in quality standards (Raybestos/Valeo)
- 3) Aligning, balancing, centering
- 4*) Checking and if necessary replacing of levers, springs, hub, etc.
- 5*) Grinding of clutch pressure plate
- 6*) Reassembling, adjusting, balancing (all treatment steps according to OE-specification)

4-6*) complete clutches (including driven plates, release bearings, pressure plates)

1-3) clutch discs with still good-performing hub

Reconditioning of water pumps

- 1) Analyses of condition, disassembling
- 2) Cleaning (sandblasting and preserving)
- 3) Checking of housing, flange, impellers, thread (repair of cracks, surface damages, demolition and defects of adjustment position, if necessary recutting of winding)
- 4) Repainting
- 5) Reassembling and final inspection



Starters and Alternators



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Restoring of alternator (electric generator)

- 1) Complete disassembling into single component units
- 2) Correct cleaning and surface treatment
- 3) Comprehensive function tests on each component
 - Belt pulley:* checking the belt pulley surface of signs of wear and damages by considerable knock
 - Fan:* inspection fan wheels of damages by knock and correct running performance
 - Drive bearing shield:* testing of bearing seats and replacing of roller bearing
 - Rotor:* checking on earth short circuit, rectification of slip ring otherwise replacement by undergoing required minimum level
 - Stator:* performance test on winding and earth short circuit
 - Diode plate including diodes:* test of diodes in conducting/blocking direction (forward/reverse-biased)
 - Slip ring bearing shield:* checking on bearing seats
 - Electric field regulator:* function test, carbon brush exchange by undergoing required minimum level
- 4) Reassembling and final inspection

Restoring of starter

- 1) Complete disassembling into single component units
- 2) Correct cleaning / surface treatment (grease lubrication according to original equipment regulation)
- 3) Comprehensive function tests on drive bearing, pinion and free-wheel gearbox (exchange of bearing bushes, rollers and springs), engagement lever, planetary gear and needle roller bearing
- 4) Checking on relay (armature, switch cover, coils), besides true running tests on armature unit and collector (exchange of bearing bushes)
- 5) Earth short circuit tests on pole box with winding (required exchange of carbon brushes)
- 6) Reassembling and final inspection



Shock absorbers and Gas springs

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Manufacturing of gas springs (50 up to 10000 Newton) and hydraulic shock absorbers

- 1) Measuring of gas spring or shock absorber and calculating the required force (Nm)
- 2) Production process of housing and piston rod
- 3) Assembling
- 4) Filling-in of gas-oil mixture or oil fluid
- 5) Final inspection

Production of gas springs, tension springs, locking gas springs, double-stroke gas springs, dampers and end fittings (eyelets, forks, angle joints, etc.)

Product catalogues

- Spare parts for agriculture vehicles
- Spare parts for car trailers
- Spare parts for construction vehicles
- Spare parts for mobile crane
- Spare parts for public utility vehicles
- Spare parts for pallet and forklift trucks
- Spare parts for commercial vehicles
- Spare parts for industrial application
- Spare parts for Volkswagen classic car Beetle



Spare Parts | Manufacturing | Reconditioning

Reconditioning

Reconditioning Request

qty		qty		qty	
<input type="checkbox"/>	Brake shoe	<input type="checkbox"/>	Brake pad	<input type="checkbox"/>	Brake band
<input type="checkbox"/>	Brake disc	<input type="checkbox"/>	Brake disc (wet running)	<input type="checkbox"/>	Clutch facing / Disc lining
<input type="checkbox"/>	Brake drum	<input type="checkbox"/>	Drum brake lining	<input type="checkbox"/>	Brake lining
<input type="checkbox"/>	Brake cylinder	<input type="checkbox"/>	Brake caliper	<input type="checkbox"/>	Brake shaft
<input type="checkbox"/>	Compressed-air component	<input type="checkbox"/>	Wheel stud	<input type="checkbox"/>	Springs
<input type="checkbox"/>	Brake hose	<input type="checkbox"/>	Brake line	<input type="checkbox"/>	Sealing components
<input type="checkbox"/>	Clutch disc	<input type="checkbox"/>	Clutch complete	<input type="checkbox"/>	Water pump
<input type="checkbox"/>	Alternator	<input type="checkbox"/>	Starter	<input type="checkbox"/>	Anchor plate
<input type="checkbox"/>	Shock absorber	<input type="checkbox"/>	Gas spring	<input type="checkbox"/>	
<input type="checkbox"/>	Additional:				
<input type="checkbox"/>					
<input type="checkbox"/>					
<input type="checkbox"/>					
<input type="checkbox"/>	Vehicle characteristics:				
<input type="checkbox"/>					

Request	Returning
<input type="checkbox"/> Request an order	<input type="checkbox"/> Standard delivery
<input type="checkbox"/> Request an estimate	<input type="checkbox"/> Express delivery

Customer details

Company:	Country:
Contact person:	Telephone:
Adresse:	Telefax:
Postcode/City:	E-Mail:

Location, date

Signature



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