

# Remanufacturing Terminology

Remanufacturing Term Guideline

Date

06.03.2012

# Remanufacturing Terminology



## Content

1	Scope.....	2
2	Terms and definitions .....	2
2.1	Parts .....	2
2.1.1	Component .....	2
2.1.2	Core .....	2
2.1.3	Product .....	3
2.1.4	Unit .....	3
2.1.5	Spare Parts .....	3
2.2	Process .....	4
2.2.1	Deposit / Refund .....	5
2.2.2	Dispose of .....	5
2.2.3	Rebuild.....	5
2.2.4	Reclaim .....	6
2.2.5	Recondition .....	6
2.2.6	Reconstruct.....	6
2.2.7	Recycle .....	6
2.2.8	Refurbish.....	7
2.2.9	Remanufacture.....	7
2.2.10	Renew.....	7
2.2.11	Renovate.....	8
2.2.12	Repair .....	8
2.2.13	Repurpose .....	8
2.2.14	Restore .....	8
2.2.15	Reuse .....	9
2.2.16	Rework.....	9
2.2.17	Surcharge .....	9
	Annex.....	10
	A Translations.....	10
	Bibliography .....	14

## 1 Scope

In the following, relevant terms which are frequently used in connection with the remanufacturing business, are defined and distinguished from each other. This standard has been drafted to attempt to provide a single definition for common terms to be used in remanufacturing-related communication. Most of the definitions refer to the BSI British Standards Design for manufacture, assembly, disassembly and end-of-life processing (BS 8887-2:2009), as well as to DIN EN standards. This is an internal document – the content may not be published.

## 2 Terms and definitions

### 2.1 Parts

#### 2.1.1 Component

Part or small assembly of parts used as part of a larger assembly.

*NOTE In some industries, a component can be defined as a “constituent part of a device which cannot be physically divided into smaller parts without losing its particular function”.*

#### 2.1.2 Core

The basic, essential or most important part.

*NOTE 1 In the Remanufacturing industry a core is the used product which is returned*

## 2.1.3 Product<sup>1</sup>

Result of a process.

*NOTE 1 There are four generic product categories, as follows:*

- *services (e.g. transport);*
- *software (e.g. computer program, dictionary);*
- *hardware (e.g. engine mechanical part);*
- *processed materials (e.g. lubricant)*

*Many products comprise elements belonging to different generic product categories. Whether the product is then called service, software, hardware or processed material depends on the dominant element. For example, the offered product “automobile” consists of hardware (e.g. tyres), processed materials (e.g. fuel, cooling liquid), software (e.g. engine control software, driver's manual), and service (e.g. operating explanations given by the salesman).*

*NOTE 2 Service is the result of at least one activity necessarily performed at the interface between the supplier and customer and is generally intangible.*

*NOTE 3 Quality assurance is mainly focused on the intended product.*

## 2.1.4 Unit<sup>2</sup>

A group regarded as a distinct entity.

## 2.1.5 Spare Parts<sup>3</sup>

Replaceable component, sub-assembly and assembly identical to and interchangeable with the item it is intended to replace.

*NOTE Often called spare or service part (in the US).*

---

<sup>1</sup> ISO 9000:2005 (E), 2005, p.11

<sup>2</sup> [www.thefreedictionary.com/unit](http://www.thefreedictionary.com/unit), 17.10.2011

<sup>3</sup> [www.businessdictionary.com](http://www.businessdictionary.com), 17.10.2011

# Remanufacturing Terminology

## 2.2 Process

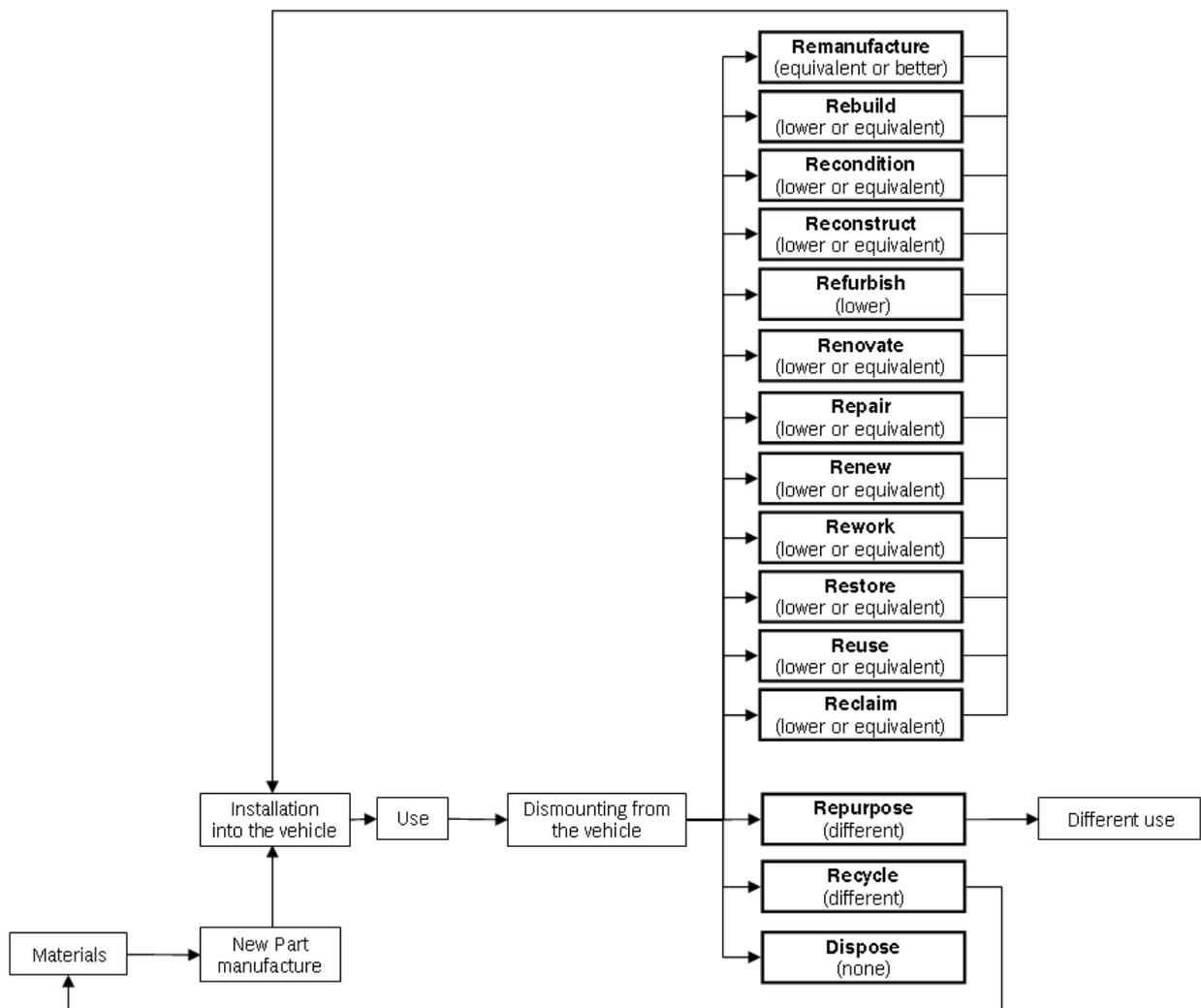


Figure 1: The potential lifecycle(s) of a product and its materials  
(The likely change in quality level compared to the original product is given in parentheses).<sup>4</sup>

<sup>4</sup> cp. BSI British Standards, BS 8887-2:2009, 2009, p.8

# Remanufacturing Terminology

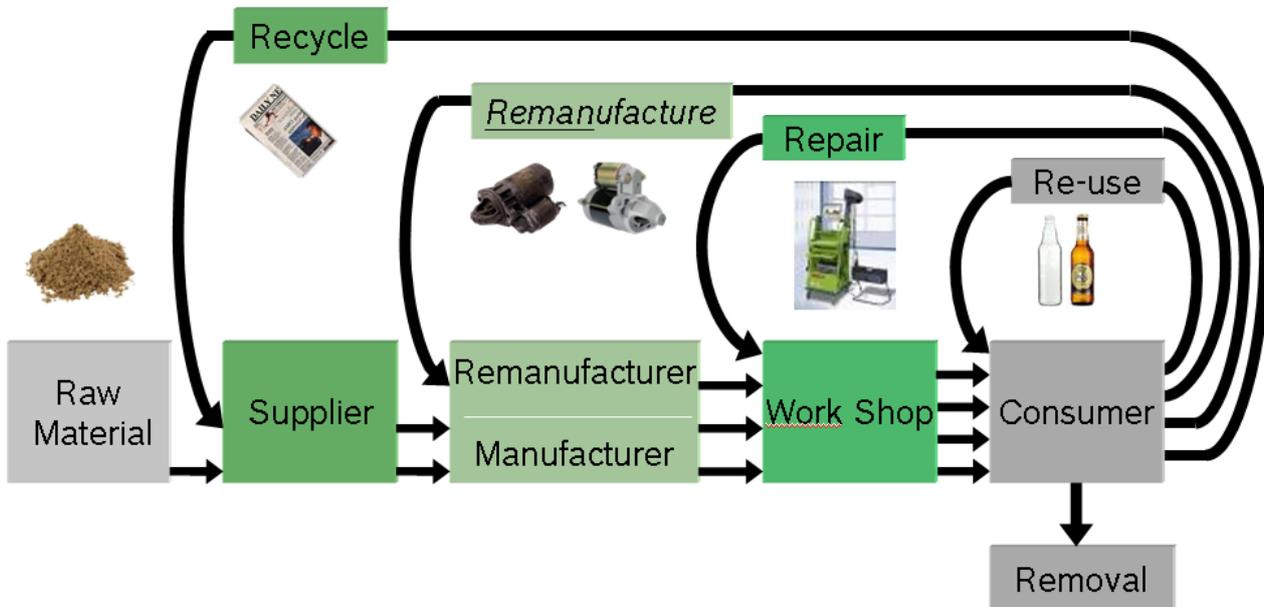


Figure 2: Delimitation Remanufacturing vs. Recycling, Repair, Re-use<sup>5</sup>

## 2.2.1 Deposit / Refund

A sum of money given as security for an item acquired for temporary use.

*NOTE In Remanufacturing, the ownership of the core part of the unit remains with the provider of the unit. The new user does not acquire the ownership.*

## 2.2.2 Dispose of

To discard, to throw out, to destroy

## 2.2.3 Rebuild

To repair by taking apart and reconstructing, often with new parts to a standard as close as possible to its original condition regarding appearance, performance and life expectancy.

*NOTE Typically used for car chassis and historical industrial installations, without major engineering changes*

<sup>5</sup> Boston University

## 2.2.4 Reclaim

Recovery from waste (useful substances), recovery of materials

## 2.2.5 Recondition<sup>6</sup>

Return a used product to a satisfactory working condition by rebuilding or repairing major components that are close to failure, even where there are no reported or apparent faults in those components.

*NOTE With respect to reconditioning:*

- *manufacturing effort involves the replacement of worn or broken parts, generally less extensive than required to remanufacture, but more than necessary for repair;*
- *performance after reconditioning is expected to perform its intended role but the overall performance is likely to be inferior to that of the original model; and*
- *any subsequent warranty is generally less than new or a remanufactured product but the warranty is likely to cover the whole product (unlike repair); reconditioned products do not require a warranty equivalent to that of a newly manufactured equivalent.*
- *Often used for chemicals like oil*

## 2.2.6 Reconstruct

Restoring a product into its original or complete condition by re-building / re-constructing / re-assembling it from remaining parts. Defects can be corrected, and the structure may change.<sup>7</sup>

*NOTE To be used for buildings or industrial estates*

## 2.2.7 Recycle<sup>8</sup>

Process in which waste material is either treated to release materials in a form where they can be used again, or used as fuel in energy recovery. E.g. paper, glass, plastic bottles

---

<sup>6</sup> BSI British Standards, BS 8887-2:2009, 2009, p.4

<sup>7</sup> cp. [www.merriam-webster.com/dictionary/reconstruct](http://www.merriam-webster.com/dictionary/reconstruct), 17.10.2011

<sup>8</sup> BSI British Standards, BS 8887-2:2009, 2009, p.4

## 2.2.8 Refurbish

Aesthetic maintenance of a product to bring it back to a condition comparable to that of a new product. It does not include repairing or rebuilding any components.

*NOTE Use for polishing of historical inventory, changing the optical appearance of used parts (e.g. consumer electronic)*

## 2.2.9 Remanufacture<sup>9</sup>

Return a used product to at least its original performance with a warranty that is equivalent or better than that of the newly manufactured product.

*NOTE 1 From a customer viewpoint, the remanufactured product can be considered to be the same as the new product. If we have, with in this borderline, divergating specifications, they can be named Reman Level 1 / Reman Level 2*

*NOTE 2 With respect to remanufacture:*

- *manufacturing effort involves dismantling the product, the restoration and replacement of components and testing of the individual parts and whole product to ensure that it is within its original design specifications;*
- *performance after remanufacture is expected to be at least to the original performance specification (out of customer perspective); and*
- *any subsequent warranty is generally at least equal to that of new product.*

*NOTE 3 This assumes that remanufacture applies to like-for-like products.*

“A remanufactured product fulfils a similar function to the original part. It is manufactured using a standardized industrial process in line with specific technical specifications. The industrialized process incorporates defined core management standards. A remanufactured spare part is warranted as a new spare part.”<sup>10</sup>

## 2.2.10 Renew<sup>11</sup>

To make new or as if new again.

---

<sup>9</sup> BSI British Standards, BS 8887-2:2009, 2009, p.4

<sup>10</sup> CLEPA Reman Definition & Process, 2011

<sup>11</sup> [www.thefreedictionary.com/renew](http://www.thefreedictionary.com/renew)

## 2.2.11 Renovate

Lat. renovare "to make new". Damage due to wear from ordinary use is removed; item is restored to its original condition.

*NOTE* Renovation is mostly used to describe the action of repairing a building.

## 2.2.12 Repair

Returning a faulty or broken product or component back to a usable state

*NOTE 1* A repair may use remanufactured or reconditioned parts.

*NOTE 2* With respect to repair:

- manufacturing effort is the minimum required to address the specified fault;
- after repair, the product is expected to be in a useable state, but assurances of performance are generally limited to the repaired part; and
- any subsequent warranty is generally less than that of newly manufactured, remanufactured or reconditioned equivalents and may apply only to the component that has been replaced or repaired.<sup>12</sup>

*NOTE 3* Unlike rework, repair can affect or change parts of the nonconforming product<sup>13</sup>

## 2.2.13 Repurpose<sup>14</sup>

To use a product for a different purpose than originally intended.

*NOTE 1* An item can be repurposed by modifying it to fit a new use, or by using the item as it is in a new way.

## 2.2.14 Restore

Restoration includes measures to preserve the material existence and the physical characteristics of an object.

*NOTE* Restoration is mostly used in the context of works of art or of general objects of cultural history.

---

<sup>12</sup> BSI British Standards, BS 8887-2:2009, 2009, p.5

<sup>13</sup> ISO 9000:2005 (E), p.14

<sup>14</sup> cp. <http://www.investopedia.com/terms/r/repurposing.asp#axzz1g2lpWQPR>, 09.12.2011

## 2.2.15 Reuse<sup>15</sup>

Operation by which a product or its components are put back into use for the same purpose at end-of-life.

*NOTE A functional test to ensure the reusability can be done.*

*Typical: parts from scraped vehicles*

## 2.2.16 Rework<sup>16</sup>

Action on a nonconforming product to make it conform to the requirements. Rework includes all follow-on efforts such as disassembly, repair, replacement, reassembly, etc.

*NOTE Rework is a generic term for repair. In contrast to repair, rework can neither affect nor change parts of the nonconforming product. Rework can be done also restarting the production process from raw material level.*

## 2.2.17 Surcharge

An additional sum added to the usual amount or cost for a specific product, purpose or service.

*NOTE In the remanufacturing business surcharge refers to the value added on the invoice for the option to sell a related core back to the supplier.*

---

<sup>15</sup> BSI British Standards, BS 8887-2:2009, 2009, p.5

<sup>16</sup> ISO 9000:2005 (E), p.13,14

# Remanufacturing Terminology

## Annex

### A Translations

	English	Chinese	Czech	Danish	Dutch	Estonian	Finnish	French
2.1.	parts	配件	díl	dele	onderdelen	osad	osat	pièces
2.1.1.	component	零件	komponent	komponent	samengesteld deel	komponent	komponentit	composant
2.1.2.	core	旧电机	použitý díl	ombytter (BX)	schrootdeel	korpus	runko	vieille matière (carcasse)
2.1.3.	product	产品	produkt	produkt	product	toode	tuote	produit
2.1.4.	unit	成品	jednotka	enhed	unit	üksus	yksikkö	unité
2.1.5.	spare parts	余件	náhradní díly	reservedele	reserve-onderdelen	varuosad	varaosat	pièces détachées
2.2.	process	流程	proces	process	werkwijze	protsess	käsittely	processus
2.2.1.	deposit / refund	预存/退款	záloha	pant	statiegeld / terugbetaling	pant	pantti	consigne
2.2.2.	dispose of	废弃	likvidovat	afskaffe	weggooien	hävitama	poistaa	disposer
2.2.3.	rebuild	翻新	obnovit	genopbygge	renoveren	korrastada	kunnostaa	rénover
2.2.4.	reclaim	回收	opravit	genanvende	recupereren	taaskasutama	kierrättää	recupérer
2.2.5.	recondition	修补	renovovat	istandsætte	herstellen	restaurerimine	kunnostaa	reconditionner
2.2.6.	reconstruct	重建	rekonstruovat	genopbygge	reconstrueren	rekonstrueerima	jälleenrakennus	reconstruite
2.2.7.	recycle	循环	recyklovat	genbruge	recycleren	korduvkasutamine	kierrättää	recycler
2.2.8.	refurbish	重新整修	modernizovat	renovere	opknappen	värskendama	ehostaa	remettre à neuf
2.2.9.	remanufacture	再制造	opravit	renovere	herfabricage	taastamine tehases	tehdaskunnostus	refabriquer
2.2.10.	renew	更新	obnovit	fornye	vernieuwen	uuendama	uudistaa	rénover
2.2.11.	renovate	重新修复	renovovat	renovere	vernieuwen	renoveerima	remontoida	rénover
2.2.12.	repair	修理	opravit	reparere	reparatie	remontima	korjata	réparer
2.2.13.	repurpose	推广	opětne použit pro jiný účel	genbruge	hergebruiken	muuks otstarbeks kasutama	käyttää muuhun tarkoitukseen	Utilisation à des fins différentes
2.2.14.	restore	复原	restaurovat	restaurere	terugbrengen	restaureerida	entisoidä	restaurer
2.2.15.	reuse	再利用	opětne použit	genanvende	hergebruik	uuesti kasutama	käyttää uudelleen	réutiliser
2.2.16.	rework	返工	opracovat	rework	rework	remontida	korjata	retravailler
2.2.17.	surcharge	附加费	příplatek	gebyr	toeslag	corpuse väärtus	runkoveloitus	consigne

# Remanufacturing Terminology

	English	German	Italian	Japanese
2.1.	parts	Teile	pezzo	部品 (buhin)
2.1.1.	component	Komponente	componente	構成部品(kouseibuhin)
	core	Altteil	carcassa	コア (koa)
2.1.2.				
2.1.3.	product	Produkt	prodotto	商品 (shouhin)
2.1.4.	unit	Einheit	unità	ユニット (unitto)
2.1.5.	spare parts	Ersatzteile	pezzo di ricambio	スワップパーツ (supeapa-tsu)
2.2.	process	Prozess	processo	プロセス (purosesu)
2.2.1.	deposit / refund	Pfand	deposito/ cauzione	預け金/預金 (depositto)
2.2.2.	dispose of	entsorgen	smaltire	処分 (syobun)
2.2.3.	rebuild	wiederaufbauen	ricostruzione	リビルト (ribiruto)
2.2.4.	reclaim	zurückgewinnen	recupero	再生 (saisei)
2.2.5.	recondition	wiederherstellen	ricondizionare	修理 (syuuri)
2.2.6.	reconstruct	wiederaufbauen	ricostruire	再構成 (saikousei)
	recycle	recyceln	riciclare	リサイクル (risaikuru)
2.2.7.				
2.2.8.	refurbish	aufpolieren	rinnovare	改造、修理調整 (kaizou, syuurichousei)
	remanufacture	(serien)instandsetzen (refabrikation)	regenerato	再製造 (saiseizou)
2.2.9.				
2.2.10.	renew	erneuern	riprendere	新しくする事 (atarashikusurukoto)
2.2.11.	renovate	renovieren	rinnovare	新しくする事 (atarashikusurukoto)
2.2.12.	repair	reparieren, erneuern	riparare	修理 (syuuri)
	repurpose	für anderen Zweck wieder-verwenden, umnutzen	riproposta	再度目的をもたす事 (saidomokufekiwomotasukoto)
2.2.13.				
2.2.14.	restore	restaurieren	ripristinare	修復 (syuufuku)
2.2.15.	reuse	wiederverwenden	riutilizzare	再利用 (sairiyou)
2.2.16.	rework	nacharbeiten	rilavorare	再加工 (saikakou)
2.2.17.	surcharge	Zuschlag	sovrapprezzo	追加料金 (tsuikaryoukin)

# Remanufacturing Terminology

	English	Korean	Latvian	Lithuanian	Norwegian
2.1.	parts	부품 (Boopoom)	Daļas	dalys	deler
2.1.1.	component	구성품 (Koosungpoom)	Sastāvdaļa	komponentai	komponenter
2.1.2.	core	핵심품 (Haekshimpoom)	Atpakaļnododamais agregāts	korpusas	bytte
2.1.3.	product	제품 (Jaepoom)	Produkts	produktas	produkt
2.1.4.	unit	단위 (Danwi)	Vienība	mazgas	enhet
2.1.5.	spare parts	여분부품 (Yeoboonboopoom)	Rezerves daļas	atsarginės dalys	reservedeler
2.2.	process	처리과정 (Cherikwalung)	Process	procesas	prosess
2.2.1.	deposit / refund	위탁금/환금 (witaglum/whanbool)	Ķīlas nauda	depozitas	pant
2.2.2.	dispose of	처분 (Cheoboon)	Iznīcināt	disponuoti	avskaffe
2.2.3.	rebuild	지건 (Jaegun)	Atjaunot	atstatyti	gjennoppbygge
2.2.4.	reclaim	지상 (Jaeseng)	Materiālu pārstrāde	susigrąjinti	gjenbruk
2.2.5.	recondition	원상회복 (Wonsanghueibok)	Bojāto detaļu nomaiņa	restauruoti	renovere
2.2.6.	reconstruct	복원 (Bokwon)	Rekonstruēt	perkonstruoti	gjennoppbygge
2.2.7.	recycle	지활용 (Jaewhaljong)	Pārstrādājamo materiālu izmantošana	perdirbti	resirkulere
2.2.8.	refurbish	외형복원 (whehyungbokwon)	Spodrināšana	renovuoti	overhale
2.2.9.	remanufacture	지제조 (Jaejecho)	Atjaunošana	perdaryti	reprodusere
2.2.10.	renew	지기 (Jaekje)	Atjaunot	atnaujinti	fornye
2.2.11.	renovate	혁신 (Heokshin)	Renovēšana	atnaujinti	renovere
2.2.12.	repair	수리 (soori)	Remontēšana	suremontuoti	reparere
2.2.13.	repurpose	전용 (Jeonyong)	Pielietojuma maiņa	pakartotinai panaudoti	bruk til annet formål
2.2.14.	restore	복원 (Bokwon)	Restaurēt	atkurti	restaurere
2.2.15.	reuse	지사용 (Jaesayong)	Izmantot atkārtoti	panaudoti iš naujo	brukes på nytt
2.2.16.	rework	지가공 (Jaegakong)	Pārstrādāt	remontuoti	reparasjon
2.2.17.	surcharge	부가금 (boogakum)	Piemaksa	priemoka	gebyr

# Remanufacturing Terminology

	English	Polish	Portuguese	Russian	Spanish	Swedish
2.1.	parts	części	Peça	детали	pieza	delar
2.1.1.	component	komponent	Componente	компонент	componente	komponenter
2.1.2.	core	rdzeń	Peça usada	вышедшее из строя изделие/запчасть	pieza usada	stomme
2.1.3.	product	produkt	Produto	изделие	producto	produkt
2.1.4.	unit	jednostka	Unidade	узел	unidad	enhet
2.1.5.	spare parts	części zamienne	Peça de reposição	запасная часть/деталь	pieza de recambio	reservdelar
2.2.	process	proces	Processo	процесс	proceso	hantering
2.2.1.	deposit / refund	depozyt/kaucja	Depósito/reembolso	возмещаемый залог	depósito / reembolso	pant
2.2.2.	dispose of	pozbywać się	Descarte	утилизировать	descartar	disponera
2.2.3.	rebuild	odbudowa	Reconstruir	восстанавливать	reconstruir	renovera
2.2.4.	reclaim	odzyskiwać	Recuperar	возвращать	recuperar	återanvända
2.2.5.	recondition	remontować	Recondicionar	отремонтировать	reacondicionar	renovera
2.2.6.	reconstruct	rekonstruować	Reformar	восстанавливать	reconstruir	återuppbyggning
2.2.7.	recycle	utylizować	Reciclar	повторно использовать	reciclar	cirkulera
2.2.8.	refurbish	odnawiać	Polir/Limpar	отполировать	pulir	sminka
2.2.9.	remanufacture	regeneracja fabryczna	Remanufaturar	отремонтировать восстановить	remanufacturar	Fabriksrenoverad
2.2.10.	renew	odnawiać	Renovar	обновлять восстанавливать реконструировать	renovar	förnya
2.2.11.	renovate	renowacja	renovar	обновлять восстанавливать	renovar	remontera
2.2.12.	repair	naprawa	Reparar	ремонтировать	reparar	reparera
2.2.13.	repurpose	ponowne zastosowanie	Utilização para diferentes fins/Adequação para mudança de aplicação	использовать по другому назначению	utilización para otros fines diferentes	använda till en annan ändamål
2.2.14.	restore	odrestaurowywać	Restaurar	реставрировать	restaurar	restaurera
2.2.15.	reuse	ponownie użyć	Reutilizar	повторно использовать	reutilizar	använda på nytt
2.2.16.	rework	powtżać pracę	Retrabalhar	передельвать	rehacer	reparera
2.2.17.	surcharge	opłata dodatkowa	Sobretaxa	дополнительная плата	recargo	tilläggsavgift

# Remanufacturing Terminology



## Bibliography

- [1] **BSI British Standards:** Design for manufacture, assembly, disassembly and end-of-life processing (MADE), BS 8887-2:2009, London 2009
- [2] **ISO:** ISO 9000:2005(E), 2005
- [3] [www.thefreedictionary.com/unit](http://www.thefreedictionary.com/unit), 17.10.2011
- [4] [www.businessdictionary.com](http://www.businessdictionary.com), 17.10.2011
- [5] **Boston University**
- [6] [www.merriam-webster.com/dictionary/reconstruct](http://www.merriam-webster.com/dictionary/reconstruct), 17.10.2011
- [7] **CLEPA:** Reman Definition & Process, Brussels 2011
- [8] [www.investopedia.com/terms/r/repurposing.asp#axzz1g2lpWQPR](http://www.investopedia.com/terms/r/repurposing.asp#axzz1g2lpWQPR), 09.12.2011