



**Order No.: 5871 955 102**

# **ZF Rear Axle**

**for tractor transmissions**

# **T-7100**



**ZF Passau GmbH**

**Donaustr. 25 - 71**

**D- 94034 Passau**

# **REPAIR MANUAL** **for rear axle T-7100**

## **IMPORTANT NOTE :**

Due to the great variety of ZF units it is necessary to limit disassembly and reassembly manuals to a current ZF production unit. Continuous technical upgrading of the ZF units and extensions concerning design options may require differing steps, which can be carried out by qualified specialists without greater difficulties by means of the perspective views included in the corresponding spare parts lists.

This disassembly and reassembly manual is based on the design level of a ZF production unit at the time of issue of the manual.

ZF Passau GmbH reserves the right to replace this disassembly and reassembly manual by a successive edition at any time without advance notice. Upon request, ZF Passau GmbH will advise which edition is the latest one.

---

## **ATTENTION:**

For information on operation, maintenance and for descriptions please refer to the corresponding Operation Manual covering the whole tractor transmission:

T-7100 L	ZF Order No.:	5872 970 002
T-7100 S	ZF Order No.:	5872 971 002
T-7100 PS	ZF Order No.:	5872 978 002
T-7100 KT	ZF Order No.:	5872 984 002

Observe the vehicle manufacturer's instructions and specifications for the installation and commissioning of the unit!

## **ZF Passau GmbH**

Donaustr. 25 - 71  
D - 94034 Passau

Abt.: ASDM / Division : ASDM

Nachdruck auch auszugsweise ohne die Genehmigung der ZF Passau GmbH nicht gestattet!

Copyright ZF Passau GmbH! Copying even partially not permitted!

Copyright ZF Passau GmbH! Toute reproduction, même partielle, est interdite!

Technische Änderungen vorbehalten!

Subject to technical modifications!

Sous réserve de modifications techniques!

Konstruktionsstand / Design Level / Niveau Technique 2004/10

1. Auflage / 1<sup>st</sup> Edition / 1ère Édition

<b>TABLE OF CONTENTS</b>	<b>Page</b>
Preface	0/1
General information and important notes on industrial safety	0/2 ... 3
Labeling of identification plate and information on spare parts ordering	0/4
Conversion table	0/5
Denomination of standard dimensions	0/6
Tightening torques for screws	0/7
Configuration of rear axle and PTO transmission	0/8
LIST OF TOOLS (required special tools)	0/9
<b>Chapters:</b>	
<b>1. <u>DISASSEMBLY – T-7100 Rear Axle</u></b>	0/10
<b>1.1 Disassembly of axle end drive</b>	0/10
<b>1.2 Disassembly of brake</b>	0/13
<b>1.3 Disassembly of differential</b>	0/16
<b>1.4 Disassembly of PTO transmission</b>	0/19
<b>1.5 Disassembly of ground speed PTO</b>	0/25
<b>1.6 Disassembly of power lift</b>	0/27
<b>1.7 Disassembly of control units</b>	0/29

<b>TABLE OF CONTENTS</b>		<b>Page</b>
<b>2. <u>REASSEMBLY - T-7100 Rear Axle</u></b>		0/30
<b>2.1 Reassembly of PTO transmission</b>		0/30
Preassembly of clutch shaft		0/33
Preassembly of flange shaft		0/35
Adjustment of clutch shaft bearing		0/38
Adjustment of flange shaft bearing		039
Adjustment of PTO control		0/39
<b>2.2 Reassembly of ground speed PTO</b>		0/41
Reassembly of PTO control		0/41
Adjustment of bearing clearance		0/42
Adjustment of axial play		0/44
<b>2.3 Reassembly of differential</b>		0/45
Adjustment of crown wheel		0/50
Adjustment of bearing preload		0/51
<b>2.4 Reassembly of brake</b>		0/52
Adjustment of brake		0/54
<b>2.5 Reassembly of axle end drive</b>		0/56
Adjustment of bearing preload of rear axle shaft support		0/58
Adjustment of planetary carrier axial play		0/60
<b>2.6 Reassembly of power lift</b>		0/61
<b>2.7 Reassembly of control units</b>		0/66

## PREFACE

This documentation has been developed for specialized staff trained by ZF Passau for repair and maintenance work to be made on ZF units.

**This documentation describes a ZF series product with a design level valid at the date of edition.**

Due to the continuous technical improvement of the product, however, the repair of the unit at your disposal might require both deviating work steps and differing setting and testing data.

We would therefore recommend you to entrust masters and servicemen with the work on your ZF product whose practical and theoretical training is constantly updated in our training school.

The Service Stations established by ZF Friedrichshafen all over the world offer you:

1. Permanently trained staff
2. Specified equipment, e.g. special tools
3. State-of-the-art genuine ZF spare parts

All work is done there with utmost care and reliability.

**In addition, repair work carried out by ZF-Service Stations is covered by the ZF warranty within the terms of the currently applicable contractual conditions.**

Any damage resulting from work which is done in an improper and unprofessional manner by third parties and any consequential costs incurred shall be excluded from this contractual liability. This shall also be applicable if other than genuine ZF spare parts are used.

ZF Passau GmbH

Service Department



# Repair Manual

Corporate Division  
Off-Road Driveline Technology  
and Axle Systems



## GENERAL

The Service Manual covers all work required for disassembly and the relating reassembly.

When repairing the unit, ensure utmost cleanliness and that the work is done in a professional manner.

Dismantle the unit only if any damaged parts must be replaced. After removing screws or nuts, loosen covers and housing parts, which were installed with seals, by slight hammer blows with a plastic hammer. Use suitable pulling devices for removing parts being tightly installed on the shafts, such as bearings, bearing rings and similar.

Carry out disassembly and reassembly work on a clean working place. Use special tools which have been developed for this purpose. Prior to reinstallation of the parts, clean contact faces of housings and covers from residues of seals. Remove any burrs or similar irregularities with an oil stone. Clean housings and end covers, in particular corners and angles, with a suitable detergent. Damaged or heavily worn parts must be replaced, with an expert assessing whether parts subject to normal wear during operation, such as bearings, thrust washers etc. will be reinstalled.

Parts such as seal rings, lock plates, split pins etc. must generally be replaced. Radial seal rings with worn or broken sealing lip must also be replaced. In particular, ensure that no chips or other foreign bodies remain in the housing. Check the lube oil holes and grooves regarding unhindered passage.

Oil according to the relating List of Lubricants shall be applied to all bearings prior to their installation:  
**NOTE:** Only a heating furnace (oil bath) or an electric drier is permitted to be used for heating up parts such as bearings, housings, etc.!  
Parts fitted in heated state must be readjusted after cooling-down to ensure a perfect contact.

### **CAUTION:**

When assembling the unit, exactly observe the tightening torques and setting data indicated in the manual. Tighten screws and nuts according to the enclosed standard table, unless otherwise specified. The use of fluid seals or Molykote is not permitted for the control part in transmissions – due to a possible malfunction.

Never wash discs having organic friction linings (e.g. paper discs - adverse effect on lining adhesion). Only dry-cleaning is permitted (leather cloth).

When fitting snap rings and retaining rings, pay attention to an exact contact in the grooves!



### **DANGER**

**When using detergents, observe the manufacturer's instructions regarding their handling.**