

# **Shop Manual**

# **PC3000-1**

## **HYDRAULIC MINING SHOVEL** **SERIAL NUMBERS PC3000-1 6194**

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Series 06192 -  
Diesel engine driven ma-  
chines

With this **SERVICE MANUAL** KOMATSU MINING GERMANY GmbH provides you with the description of the construction and the function of the major systems of the hydraulic excavator PC 3000.

We describe for you all functions and how to carry out the inspections and adjustments.

### **How do you find "your" desired information?**

In the table of CONTENTS all the functions and components are shown in their sequence of the description.

If after reading this **SERVICE MANUAL** you can give us suggestions and comments for improvements - please do not hesitate to contact us.

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The editorial staff will be pleased about your co-operation.

### **- FROM THE PRACTICE - FOR THE PRACTICE -**



- **This service manual corresponds to the state of development of the machine at the time the manual was produced.**
- **Variations based on special customers request and special equipment are not included in this manual.**

Correct service and repair is extremely important for the safe operation of the machine.

The machine has been designed to suit your work, but it is still impossible to totally avoid any danger due to the size of the machine.

When working on the machine, always try to avoid any possible danger.

**KEEP IN MIND**

- **BE CAREFUL**
- **BE ALERT**
- **THINK ABOUT WHAT YOU ARE DOING**

**Any PERSON** doing any work in or around the machine must be familiar with the local **SAFETY INSTRUCTIONS** and with the specific **SAFETY INSTRUCTIONS REGARDING TO HIS OCCUPATION**

In this part we describe all functions; testing and adjustment procedures. Of course for better understanding of the systems the hydraulic and electric circuit diagram is very helpful and a must for fault finding. Whenever it is possible for the description the circuit diagram numbers / codes are used. One who is not able to understand the circuit diagram or is not so familiar with the used symbols should study the hints for the circuit diagrams Section 10 and 11.

**Following abbreviations are used:**

<b>PDG</b>	=	<b>Pump-Distributor-Gear</b>
<b>LBA</b>	=	<b>Loader-Bucket-Attachment</b>
<b>BHA</b>	=	<b>Back-Hoe-Attachment</b>
<b>MRV</b>	=	<b>Main-Relief Valve (Primary valve)</b>
<b>SRV</b>	=	<b>Service-line-Relief Valve (Secondary valve)</b>
<b>ACV</b>	=	<b>Anti-Cavitation Valve</b>
<b>EPM</b>	=	<b>Electronic-Power Module</b>
<b>ESR</b>	=	<b>Electronic-Signal Rectifier</b>
<b>ELL</b>	=	<b>Electronic-Load Limiter</b>
<b>EFM</b>	=	<b>Electronic-Fuel Measurement</b>
<b>DRE</b>	=	<b>Druck-Reduzierventil-Elektrisch (Pressure Reducing Valve Electrical)</b>
<b>EGR</b>	=	<b>Elektronische-Grenzlast-Regelung (Electronic Load Limit Regulation)</b>
<b>EBL</b>	=	<b>Electronic Bucket Leveling</b>
<b>ETM</b>	=	<b>Electronic Text and Monitoring System</b>
<b>CLS</b>	=	<b>Central Lubrication System</b>
<b>STC</b>	=	<b>Swing ring Teeth Central Lubrication System</b>
<b>PTO</b>	=	<b>Power Take Off</b>
<b>RPM</b>	=	<b>Revolutions Per Minute</b>

**All adjustments and pressure settings for the hydraulic circuits must be carried out at normal operating temperature!**

**For service intervals, oil levels and filling capacities see the "Service Literature", because this literature is always made for the specific machine !**

- Technical DATA (Leaflet)
- Assembly PROCEDURE (Brochure)
- Foreword.

## SECTION

1. Main assembly groups
2. Drive
3. Hydraulic oil tank
4. Hydraulic oil cooling
5. Controlling
6. Components
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9. Hydraulic track tensioning system
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14. Electronic Text Monitoring system

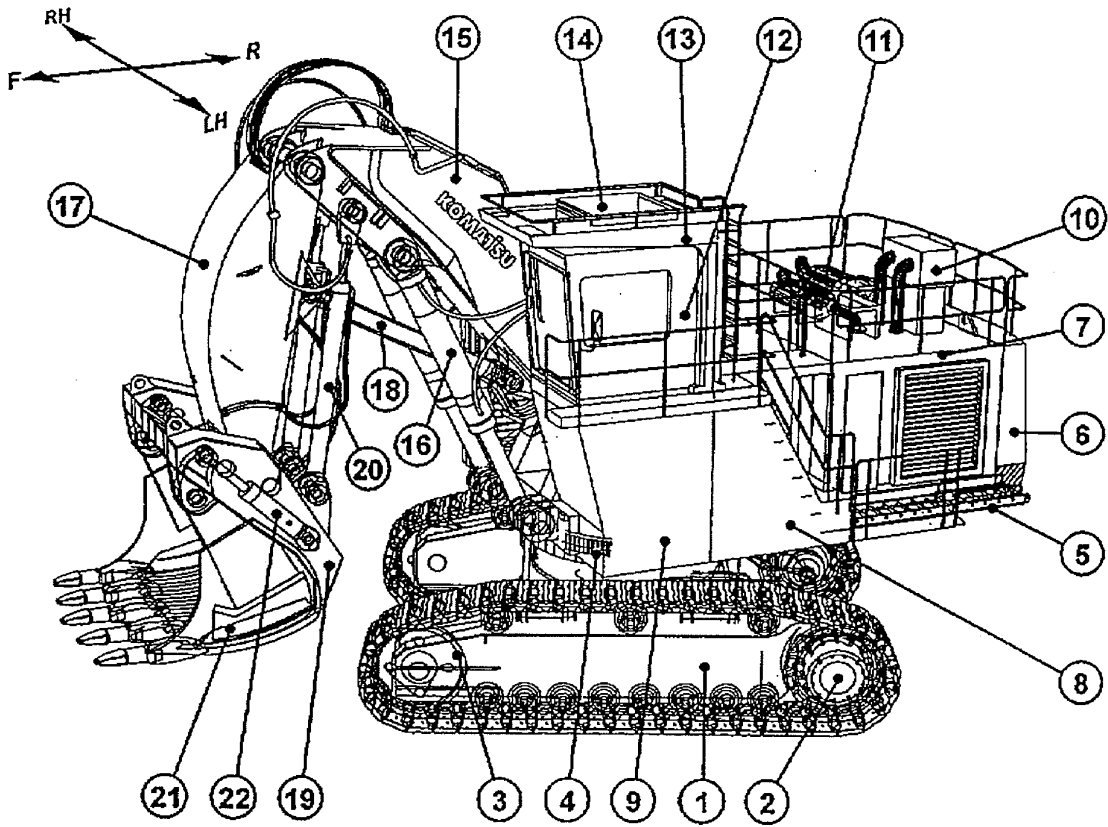
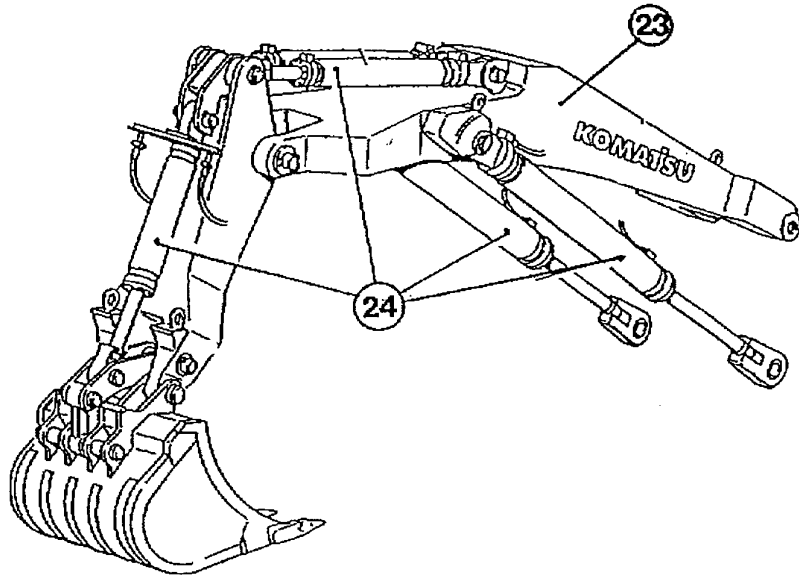
## APPENDIX



- Each section includes a detailed table of contents.

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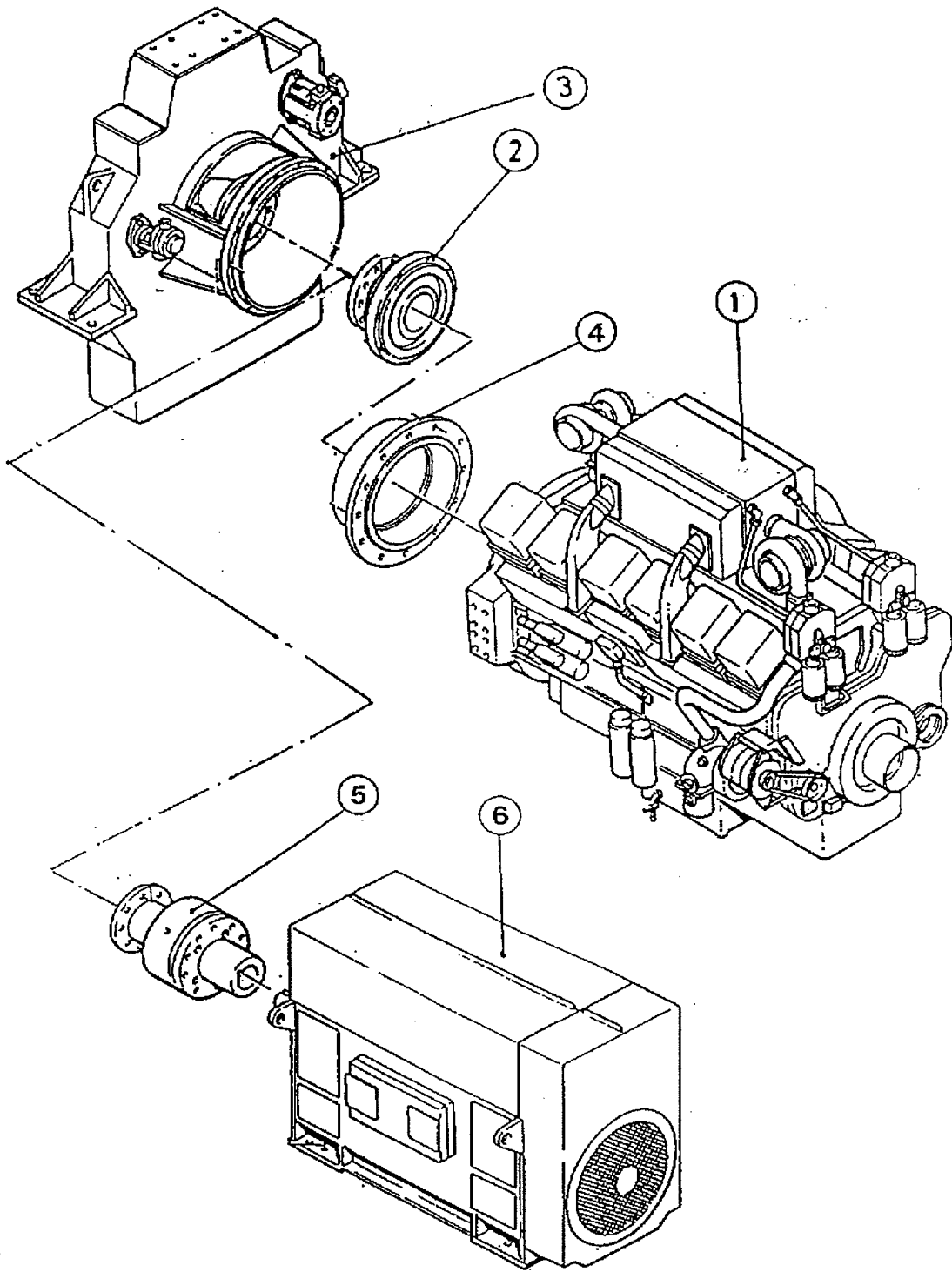
**General Layout****Legend: Z 22175**

- (1) Undercarriage
- (2) Travel gear with sprocket
- (3) Guide wheel
- (4) Swing ring
- (5) Access Ladder, retractable
- (6) Counterweight
- (7) Machinery house
- (8) Fuel tank
- (9) Cab base
- (10) Air cleaner
- (11) Exhaust mufflers
- (12) Operators cabin
- (13) Falling Object Protective Structure (FOPS)
- (14) Air-conditioning for operators cabin
- (15) Boom, Bull-clam attachment
- (16) Boom cylinders
- (17) Stick, Bull-clam attachment
- (18) Stick cylinders
- (19) Bull-clam shovel
- (20) Bucket tilt cylinders
- (21) Bucket clam
- (22) Clam cylinders
- (23) Backhoe boom
- (24) Backhoe attachment cylinders



Z 22176

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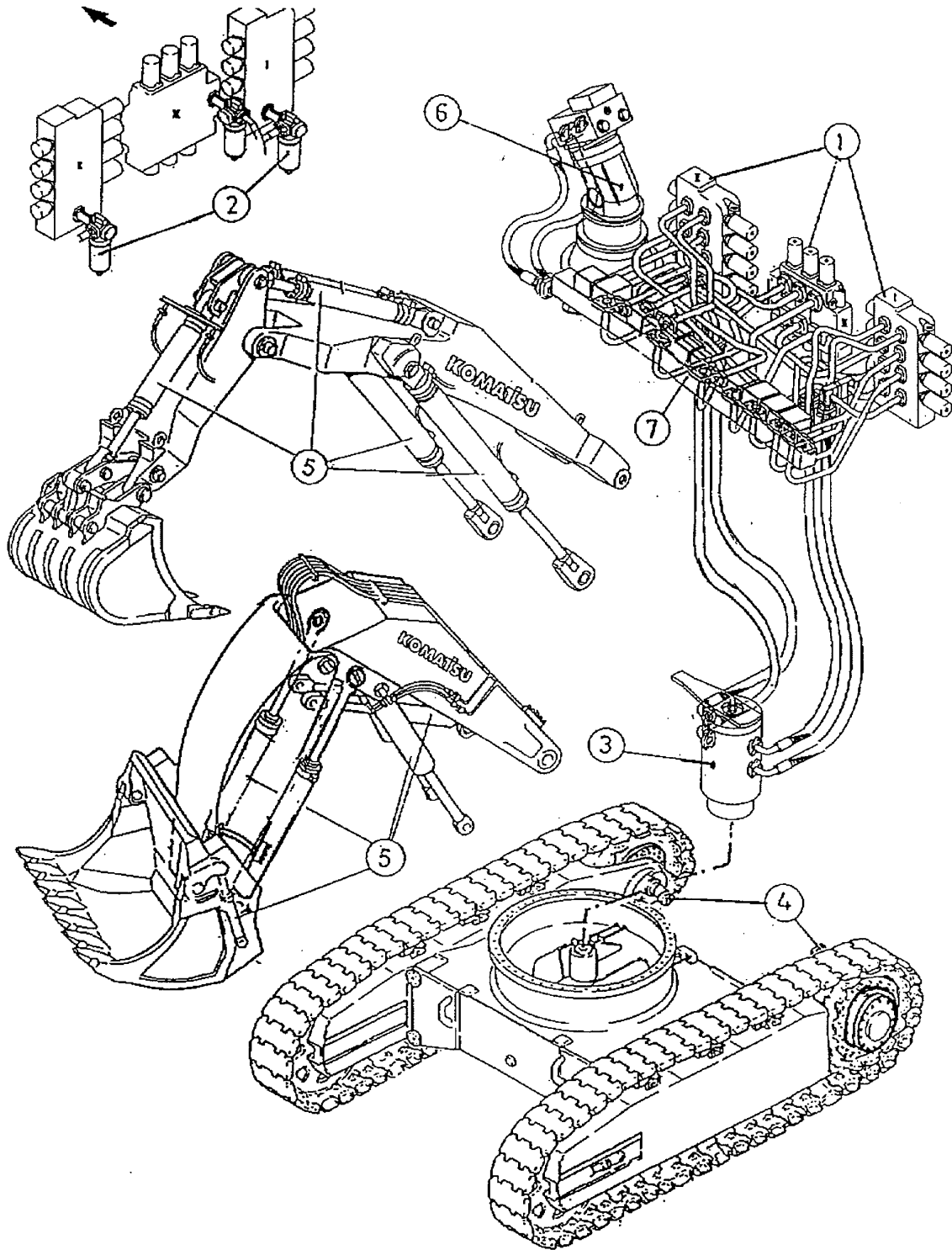


**Drive****Legend: Z 22176**

- (1) Diesel engine
- (2) Elastic coupling, Diesel engine
- (3) PTO gear box
- (4) Adapter flange
- (5) Elastic coupling, Electrical motor
- (6) Electrical motor

Z 22177

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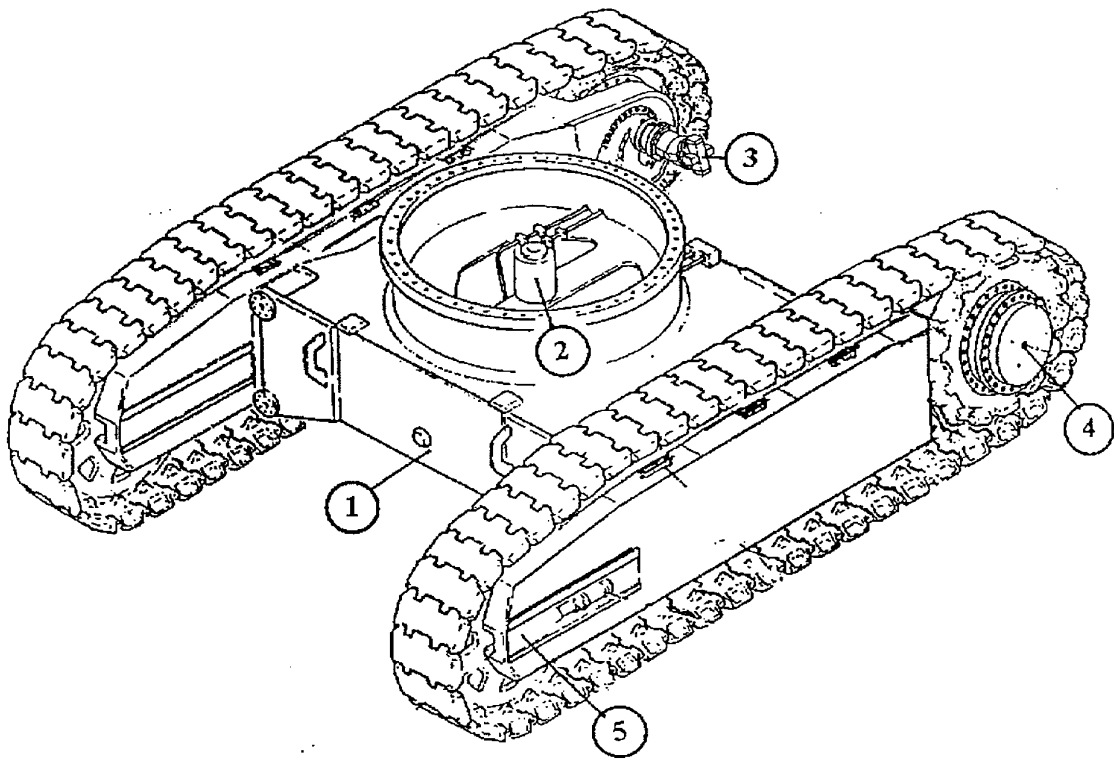
**Control Blocks, Swing Gear**

**Legend: Z 22177**

- (1) Main control blocks
- (2) High-pressure filter
- (3) Rotary joint
- (4) Travel motors
- (5) Attachment cylinders
- (6) Swing motor
- (7) Distributor manifold

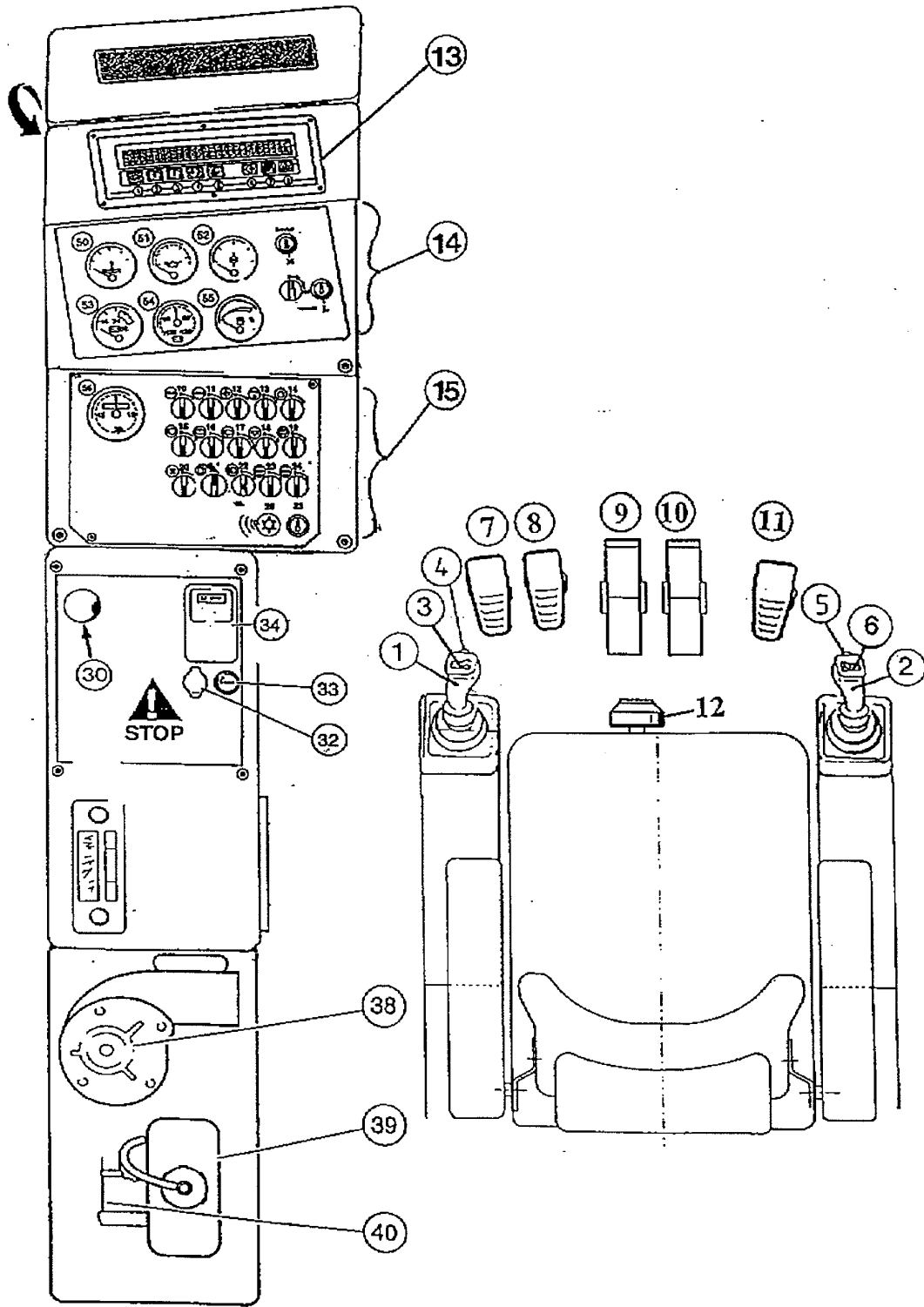
Z 22178

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**Undercarriage, Travel Drive****Legend: Z 22178**

- (1) Undercarriage
- (2) Rotary distributor
- (3) Travel motors
- (4) Final drive assy.
- (5) Idler wheel with hydraulic track tensioning cylinder.



**Driver's Cab****Legend: Z 22179**

- (1) L.H. Attachment control lever
- (2) R.H. Attachment control lever
- (3) High idle / Low idle switch
- (4) Truck counter button
- (5) Horn button
- (6) not used
- (7) Clam opening control pedal
- (8) Clam closing control pedal
- (9) L.H. Travel control pedal
- (10) R.H. Travel control pedal
- (11) Swing brake
- (12) Drivers seat
- (13) ETM - Electronic Text Display
- (14) Gauges
- (15) Switch board
- (30) Emergency stop button
- (32) 24 Volt Socket
- (33) Cigarette lighter
- (34) Ash dry
- (38) Pressurizing fan
- (39) Windshield washer container
- (40) Windshield washer pump

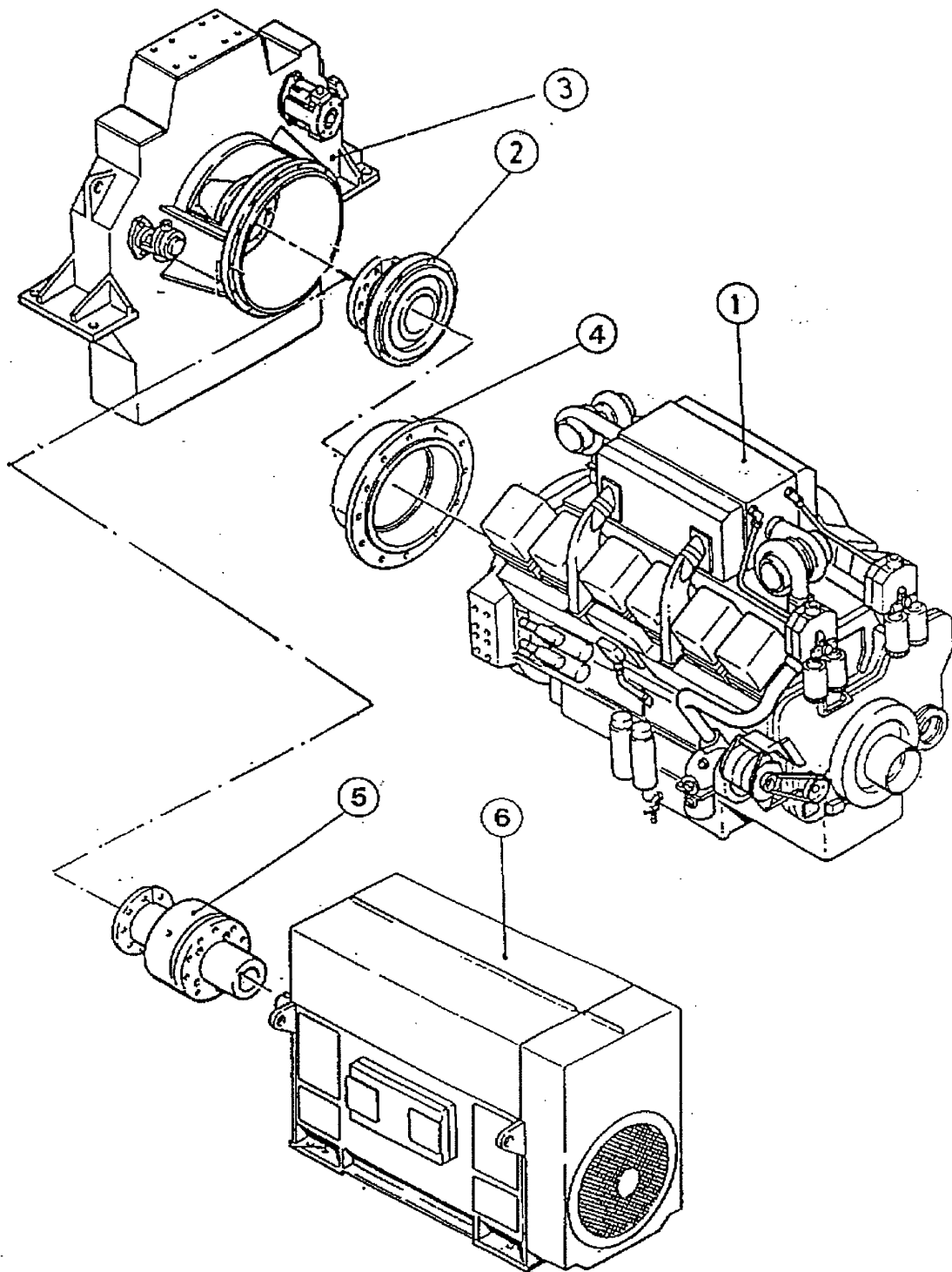


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Z 22176

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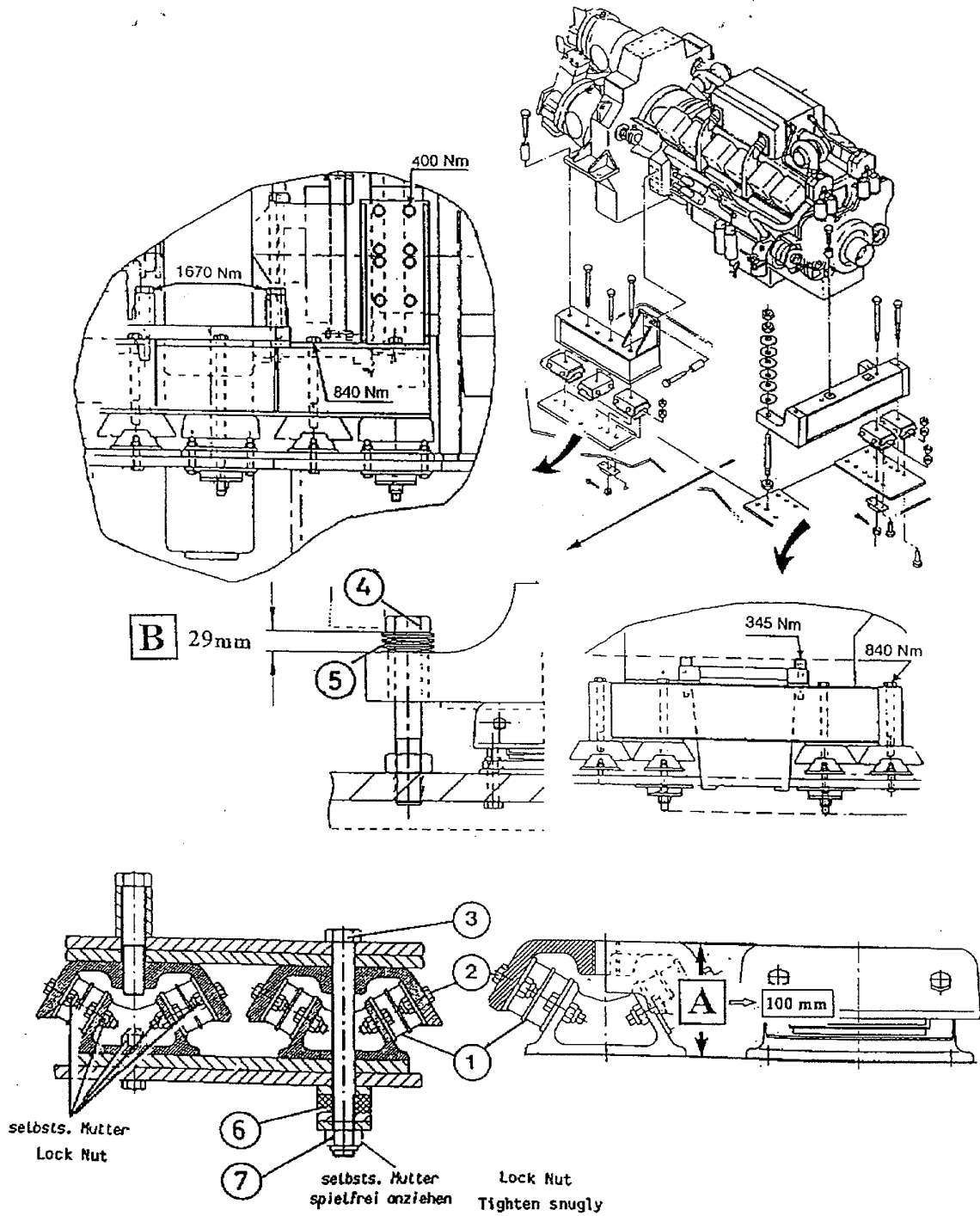


**Prime Drive Assembly****General**

The PC 3000 is driven by a CUMMINS engine.

**Legend: Z 22176**

- (1) Engine
- (2) Torsion type coupling (diesel drive)
- (3) Pump distributor gear
- (4) Adapter flange
- (5) Torsion type coupling (electric drive)
- (6) Electric motor





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