

FB20

Drive to Tree Shear Head

S/N WCFB20X005001 –

TECHNICAL MANUAL FB20 Shear Head TM F435784 (12FEB02)

**CALIFORNIA
Proposition 65 Warning**

Diesel engine exhaust and some of its constituents are known to the State of California to cause cancer, birth defects and other reproductive harm.



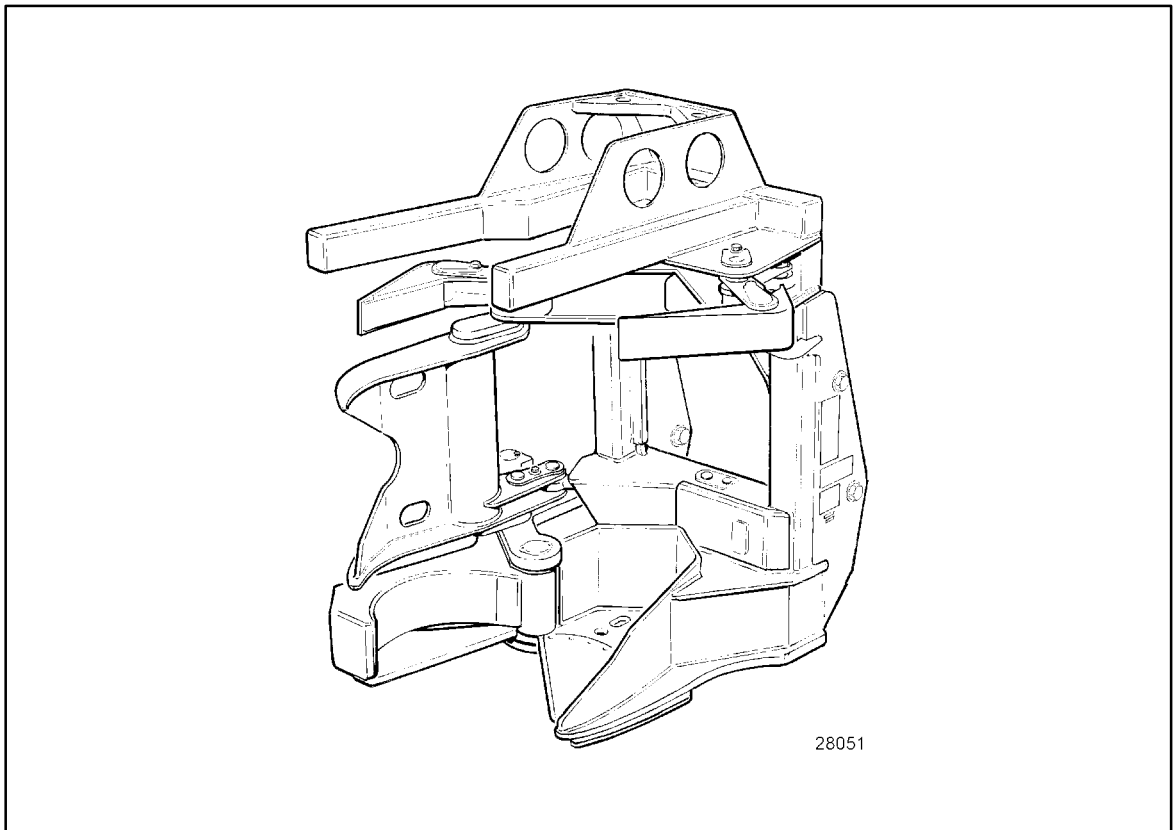
WARNING

The engine exhaust from this product contains chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.

Worldwide Construction and Forestry Division

English

Workshop Manual



FB20 Drive to Tree Felling Head

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Table of Contents

Section	Description
7400	Introduction
7411	Frame and Shear
7412	Clamp Arms
7420	Carrier Adapter
7440	Hydraulic Group
7442	Hydraulic Cylinders

7400 Introduction

1.1 Introduction	7400-3
1.1.1 General	7400-3
1.1.2 Models Covered By This Manual	7400-3
1.2 FB20 Felling Head	7400-4
1.2.1 Component Description	7400-4
1.2.2 General Dimensions	7400-5
1.2.3 General Specifications	7400-6
1.3 Safety Precautions	7400-8
1.3.1 General	7400-8
1.3.2 Safety Symbol	7400-8
1.3.3 Understanding Signal Words	7400-8
1.3.4 General Safety Precautions	7400-9
1.3.5 Operating Safety Precautions	7400-12
1.3.6 Servicing Safety Precautions	7400-13
1.3.7 Fire prevention	7400-16
1.4 Torque Values	7400-17
1.4.1 Steel Fasteners	7400-17
1.4.2 Hydraulic Fittings	7400-21
1.5 Application of Adhesives	7400-25
1.5.1 Through Hole (Bolts & Nuts)	7400-25
1.5.2 Blind Holes (Cap Screws, etc.)	7400-25
1.5.3 Pre-Assembled Fasteners	7400-26
1.5.4 Hydraulic Fittings	7400-26
1.6 Tool Lists	7400-27
1.6.1 Service Shop	7400-27
1.6.2 Service Truck	7400-28

1.1 Introduction

1.1.1 General

The Workshop Manual is intended to provide technical information, component specifications, troubleshooting and removal, disassembly and reassembly procedures for most of the major components of the felling head. Use this manual in conjunction with the applicable Operator/Maintenance Manual and the applicable Carrier Workshop Manuals.

When practical, the Workshop Manual lists likely causes of malfunctions, offers test procedures to verify causes and then illustrates the steps for the adjustment or repair procedure(s).

Troubleshooting must always be a multi-step process. Use the following steps:

1. Know the operation of all machine systems.
2. Ask the operator about symptoms and when they occur.
3. Operate the machine yourself if practical.
4. List all possible causes.
5. Inspect for obvious causes.
6. Eliminate the simple ones by checking oil, changing filters, etc.
7. Carry out diagnostic procedures like pressure and leakage testing to pinpoint the cause.

Component specifications provide performance and mode of operation information that can be very useful in troubleshooting.

Disassembly and re-assembly procedures are given for many major components. When possible, clearance and torques are given. If a manufacturer's workshop manual is available, it should be given priority.

Reference to special equipment for testing and repair is limited, as most repair shops or local machine shops are well equipped to fabricate on an as-needed basis to reduce downtime.

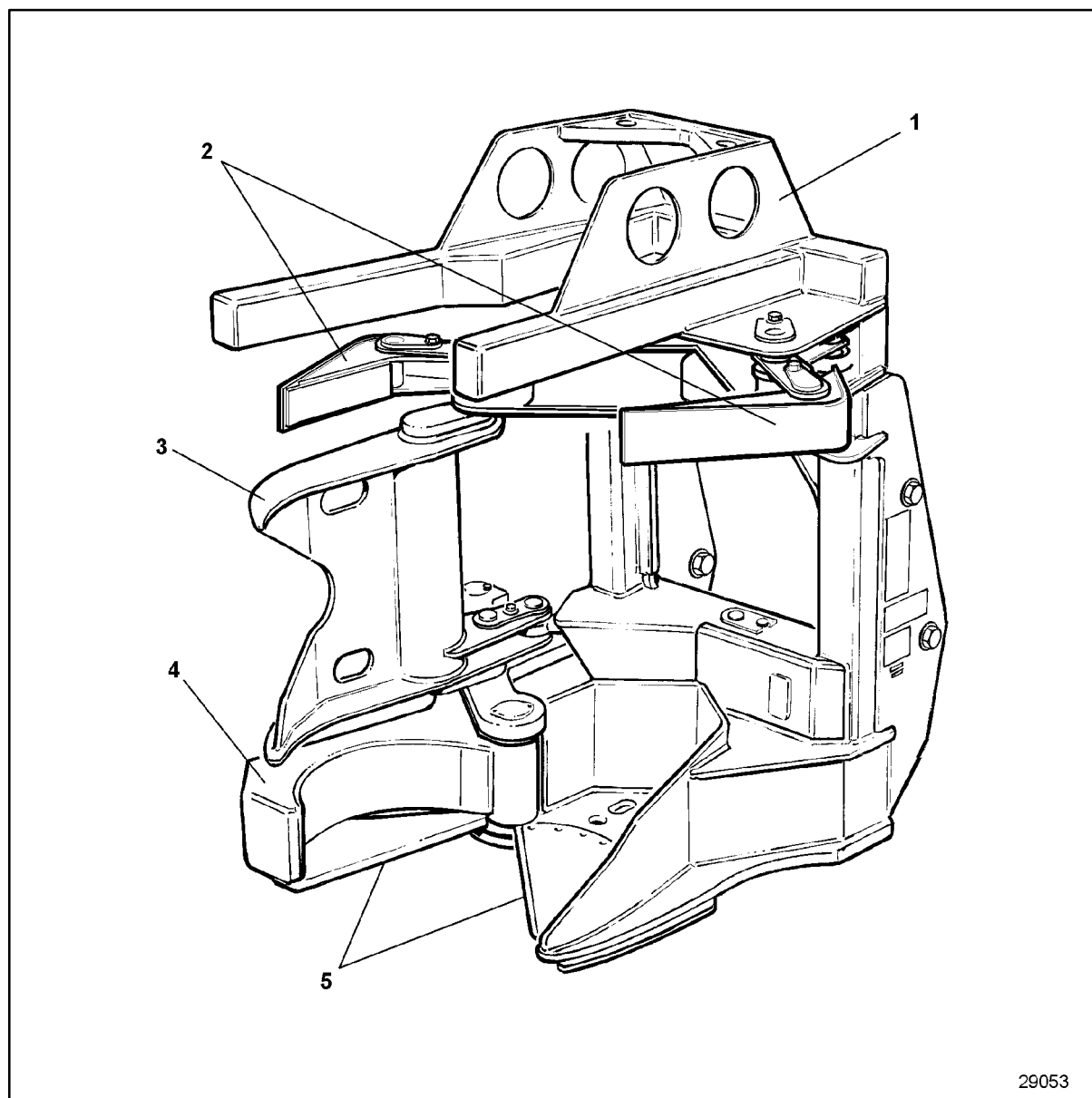
1.1.2 Model Covered By This Manual

Technical information, component specifications, troubleshooting, removal, disassembly and reassembly procedures for the FB20 model felling head is covered in this manual.

1.2 FB20 Felling Head

1.2.1 Component Description

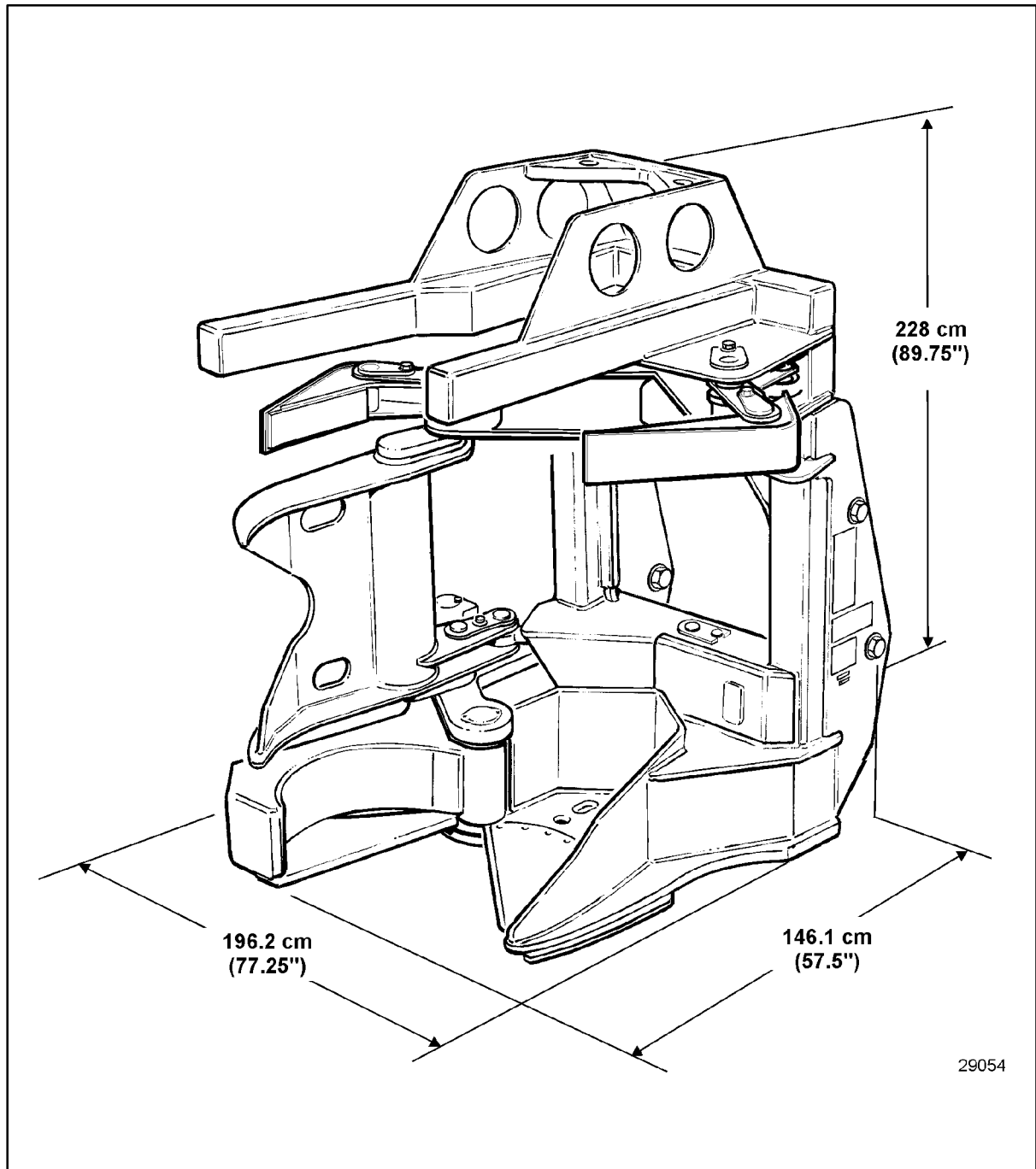
1. Frame
2. Accumulator Arms and Cylinders
3. Grapple Arm and Cylinder
4. Shear Arm and Cylinder
5. Shear Blades



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1.2 FB20 Felling Head

1.2.2 General Dimensions



FB20 Felling Head

1.2 FB20 Felling Head

1.2.3 General Specifications

Bolt Torques (lb ft/lubricated)

Grapple Arm Pin Retainer	140 lb. ft. (190 Nm) (5/8"-11, Gr.8)
Accumulator Arm Pin Retainer	140 lb. ft. (190 Nm) (5/8"-11, Gr.8)
Blade Retainer cap screws	750 lb. ft. (1020 Nm) (HB8NC1.00x04.00) 750 lb. ft. (1020 Nm) (HB8NC1.00x02.75)

Accumulator Arm Cylinders

No. Cylinders	2
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Grapple Arm Cylinder

No. Cylinders	1
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Shear Arm Cylinder

No. Cylinders	1
Bore Diameter	5.00x11.00x3.50 (optional) 6.00x11.00x3.50 (optional) 7.00x11.00x4.00 (optional)

Lubrication points

Accumulator Arms and Cylinders	8 fittings
Grapple Arm and Cylinder	4 fittings
Shear Arm and Cylinder	3 fittings

1.2 FB20 Felling Head

1.2.4 General Specifications

Miscellaneous

Maximum Cutting Capacity	Hardwood - 430 mm (17") Softwood - 508 mm (20")
Blade Weight	45 kg (100 lb)
Blade Holder Weight	90 kg (200 lb)
Blade Clearance (Full Closed)	1 - 1.6 mm (1/32" - 1/16")
Blade Thickness	19 mm (3/4")
Total Weight	2721 kg (6000 lb)

Note!

Refer to OEM carrier workshop manual for applicable Service Specifications by Model.

1.3 Safety Precautions

1.3.1 General

Should there be any information or instructions in this manual that are not in compliance with local laws and regulations in force in the country or region where this equipment is operated, the local laws and regulations must take precedence.

This equipment should not be operated or maintained by personnel other than those who have been thoroughly trained on this or similar type equipment.

As the owner/maintainer, ensure that you become familiar with all occupational safety regulations pertaining to forest machinery as well as all safety instructions pertaining to this equipment. Observe the instructions provided in this manual and on all hazard and information decals on the equipment.



1.3.2 Safety Symbol

This safety alert symbol is used throughout the manual to call your attention to areas in which carelessness or failure to follow specific procedures may result in personal injury and/or component damage or malfunction.

1.3.3 Understanding Signal Words

 **DANGER**

DANGER identifies the most serious hazards where failure to follow listed procedures would result in a high probability of death or serious injury.

 **WARNING**

WARNING identifies a hazard exists which can result in serious injury or death if proper precautions are not taken.

 **CAUTION**

CAUTION identifies areas where failure to follow listed procedures may cause personal injury, component damage or subsequent malfunction.

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