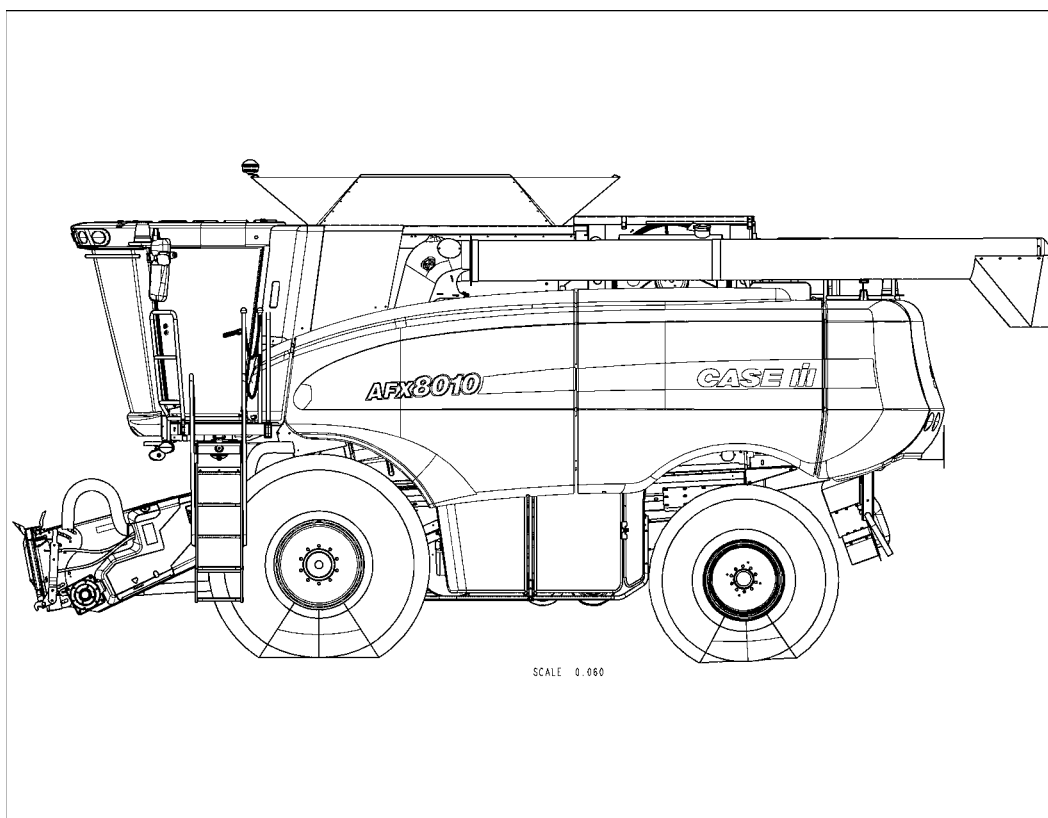




## REPAIR MANUAL



**AFX8010**

# Contents

---

INTRODUCTION	
DISTRIBUTION SYSTEMS	A
POWER PRODUCTION	B
POWER TRAIN	C
TRAVELLING	D
BODY AND STRUCTURE	E
TOOL POSITIONING	G
CROP PROCESSING	K



## INTRODUCTION

# Contents

---

## INTRODUCTION

Foreword ( - A.10.A.40)  
AFX8010

3

---

## Foreword ( - A.10.A.40)

AFX8010

### Technical Information

This manual has been produced by a new technical information system. This new system is designed to deliver technical information electronically through CDROM and in paper manuals. A coding system called ICE has been developed to link the technical information to other Product Support functions e.g. Warranty.

Technical information is written to support the maintenance and service of the functions or systems on a customers machine. When a customer has a concern on his machine it is usually because a function or system on his machine is not working at all, is not working efficiently, or is not responding correctly to his commands. When you refer to the technical information in this manual to resolve that customers concern, you will find all the information classified using the new ICE coding, according to the functions or systems on that machine. Once you have located the technical information for that function or system then you will find all the mechanical, electrical or hydraulic devices, components, assemblies and sub-assemblies for that function or system. You will also find all the types of information that have been written for that function or system, the technical data (specifications), the functional data (how it works), the diagnostic data (fault codes and troubleshooting) and the service data (remove, install adjust, etc.).

By integrating this new ICE coding into technical information , you will be able to search and retrieve just the right piece of technical information you need to resolve that customers concern on his machine. This is made possible by attaching 3 categories to each piece of technical information during the authoring process.

The first category is the Location, the second category is the Information Type and the third category is the Product:

- LOCATION - is the component or function on the machine, that the piece of technical information is going to describe e.g. Fuel tank.
- INFORMATION TYPE - is the piece of technical information that has been written for a particular component or function on the machine e.g. Capacity would be a type of Technical Data that would describe the amount of fuel held by the Fuel tank.
- PRODUCT - is the model that the piece of technical information is written for.

Every piece of technical information will have those 3 categories attached to it. You will be able to use any combination of those categories to find the right piece of technical information you need to resolve that customers concern on his machine.

That information could be:

- the description of how to remove the cylinder head
- a table of specifications for a hydraulic pump
- a fault code
- a troubleshooting table
- a special tool

### How to Use this Manual

This manual is divided into Sections. Each Section is then divided into Chapters. Contents pages are included at the beginning of the manual, then inside every Section and inside every Chapter. An alphabetical Index is included at the end of a Chapter. Page number references are included for every piece of technical information listed in the Chapter Contents or Chapter Index.

Each Chapter is divided into four Information types:

- Technical Data (specifications) for all the mechanical, electrical or hydraulic devices, components and assemblies.
- Functional Data (how it works) for all the mechanical, electrical or hydraulic devices, components and assemblies.

- Diagnostic Data (fault codes, electrical and hydraulic troubleshooting) for all the mechanical, electrical or hydraulic devices, components and assemblies.
- Service data (remove disassembly, assemble, install) for all the mechanical, electrical or hydraulic devices, components and assemblies.

**Sections**

Sections are grouped according to the main functions or a systems on the machine. Each Section is identified by a letter A, B, C etc. The amount of Sections included in the manual will depend on the type and function of the machine that the manual is written for. Each Section has a Contents page listed in alphabetic/numeric order. This table illustrates which Sections could be included in a manual for a particular product.

PRODUCT	SECTION										
	A - Distribution Systems										
	B - Power Production										
	C - Power Train										
	D - Travelling										
	E - Body and Structure										
	F - Frame Positioning										
	G - Tool Positioning										
	H - Working Arm										
	J - Tools and Couplers										
	K - Crop Processing										
L - Field Processing											
Tractors	X	X	X	X	X	X		X	X		
Vehicles with working arms: backhoes, excavators, skid steers, .....	X	X	X	X	X	X	X	X	X		
Combines, forage harvesters, balers, ....	X	X	X	X	X	X	X	X	X	X	
Seeding, planting, floating, spraying equipment, ....	X	X	X	X	X	X	X		X		X
Mounted equipment and tools, .....					X	X	X		X		

This manual contains these Sections. The contents of each Section are explained over the following pages.

**Contents**

INTRODUCTION	
DISTRIBUTION SYSTEMS	A
POWER PRODUCTION	B
POWER TRAIN	C
TRAVELLING	D
BODY AND STRUCTURE	E
TOOL POSITIONING	G
CROP PROCESSING	K

**Section Contents**

SECTION A, DISTRIBUTION SYSTEMS

This Section covers the main systems that interact with most of the functions of the product. It includes the central parts of the hydraulic, electrical, electronic, pneumatic, lighting and grease lubrication systems. The components that are dedicated to a specific function are listed in the Chapter where all the technical information for that function is included.

**Contents of DISTRIBUTION SYSTEMS - A**

PRIMARY HYDRAULIC POWER SYSTEM AFX8010	A.10.A
SECONDARY HYDRAULIC POWER SYSTEM AFX8010	A.12.A
ELECTRICAL POWER SYSTEM AFX8010	A.30.A
LIGHTING SYSTEM AFX8010	A.40.A
ELECTRONIC SYSTEM AFX8010	A.50.A

SECTION B, POWER PRODUCTION

This Section covers all the functions related to the production of power to move the machine and to drive various devices.

**Contents of POWER PRODUCTION - B**

ENGINE	B.10.A
AFX8010	
FUEL AND INJECTION SYSTEM	B.20.A
AFX8010	
AIR INTAKE SYSTEM	B.30.A
AFX8010	
EXHAUST SYSTEM	B.40.A
AFX8010	
ENGINE COOLANT SYSTEM	B.50.A
AFX8010	
LUBRICATION SYSTEM	B.60.A
AFX8010	
STARTING SYSTEM	B.80.A
AFX8010	

SECTION C, POWER TRAIN

This Section covers all the functions related to the transmission of power from the engine to the axles and to internal or external devices and additional Process Drive functions.

**Contents of POWER TRAIN - C**

POWER COUPLING Fixed Coupling	C.10.B
AFX8010	
TRANSMISSION Mechanical	C.20.B
AFX8010	
TRANSMISSION Hydrostatic	C.20.F
AFX8010	
FRONT PTO Mechanical	C.42.B
AFX8010	
PROCESS DRIVE Primary process drive	C.50.B
AFX8010	
TRANSMISSION LUBRICATION SYSTEM	C.90.A
AFX8010	



**SECTION D, TRAVELLING**

This Section covers all the functions related to moving the machine, including tracks, wheels, steering and braking. It covers all the axles both driven axles and non-driven axles, including any axle suspension.

***Contents of TRAVELLING - D***

FRONT AXLE	D.10.A
AFX8010	
REAR AXLE	D.12.A
AFX8010	
2WD-4WD SYSTEM Hydraulic	D.14.C
AFX8010	
STEERING Hydraulic	D.20.C
AFX8010	
SERVICE BRAKE Hydraulic	D.30.C
AFX8010	
PARKING BRAKE Hydraulic	D.32.C
AFX8010	
WHEELS AND TRACKS Wheels	D.50.C
AFX8010	

**SECTION E, BODY AND STRUCTURE**

This Section covers all the main functions and systems related to the structure and body of the machine. Including the frame, the shields, the operator's cab and the platform.

***Contents of BODY AND STRUCTURE - E***

FRAME Primary frame	E.10.B
AFX8010	
SHIELD	E.20.A
AFX8010	
OPERATOR AND SERVICE PLATFORM	E.30.A
AFX8010	
USER CONTROLS AND SEAT	E.32.A
AFX8010	
USER CONTROLS AND SEAT Operator seat	E.32.C
AFX8010	
USER CONTROLS AND SEAT Instructor seat	E.32.D
AFX8010	
USER PLATFORM	E.34.A
AFX8010	
ENVIRONMENT CONTROL Heating, Ventilation and Air Conditioning	E.40.D
AFX8010	
SAFETY SECURITY ACCESSORIES Safety	E.50.B
AFX8010	
DECALS AND PLATES	E.60.A
AFX8010	

SECTION G, TOOL POSITIONING

This Section covers all the functions related to the final and/or automatic positioning of the tool once the tool is positioned using the Working Arm or the machine frame.

**Contents of TOOL POSITIONING- G**

LIFTING	G.10.A
AFX8010	
TILTING	G.20.A
AFX8010	
LEVELING	G.30.A
AFX8010	

---

**SECTION K, CROP PROCESSING**

This Section covers all the functions related to crop processing.

**Contents of CROP PROCESSING - K**

FEEDING Reel feeding AFX8010	K.25.B
FEEDING Header feeding AFX8010	K.25.D
FEEDING Feeder housing AFX8010	K.25.E
FEEDING Transition cone AFX8010	K.25.K
THRESHING Axial flow threshing AFX8010	K.40.C
SEPARATING Rotary separator AFX8010	K.42.C
STORING AND HANDLING Grain storing AFX8010	K.60.B
CLEANING Primary cleaning AFX8010	K.62.B
CLEANING Tailings return system AFX8010	K.62.C
CLEANING Self-levelling frame AFX8010	K.62.D
RESIDUE HANDLING Straw chopper AFX8010	K.64.C
RESIDUE HANDLING Chaff Spreader AFX8010	K.64.D
RESIDUE HANDLING Straw beater AFX8010	K.64.E
UNLOADING Grain unloading AFX8010	K.72.B
PROTECTION SYSTEMS Stone trapping AFX8010	K.90.E

---

## Chapters

Each Chapter is identified by a letter and number combination e.g. Engine B.10.A The first letter is identical to the Section letter i.e. Chapter B.10 is inside Section B, Power Production.

### CONTENTS

The Chapter Contents lists all the technical data (specifications), functional data (how it works), service data (remove, install adjust, etc..) and diagnostic data (fault codes and troubleshooting) that have been written in that Chapter for that function or system on the machine.

### Contents

#### POWER PRODUCTION

##### ENGINE \_ 10.A

#### TECHNICAL DATA

ENGINE - General specification (B.10.A - D.40.A.10) 3

AFX8010

#### FUNCTIONAL DATA

ENGINE - Dynamic description (B.10.A - C.30.A.10) 4

AFX8010

#### SERVICE

ENGINE - Remove (B.10.A - F.10.A.10) 5

AFX8010

#### DIAGNOSTIC

ENGINE - Troubleshooting (B.10.A - G.40.A.10) 6

AFX8010

INDEX

The Chapter Index lists in alphabetical order all the types of information (called Information Units) that have been written in that Chapter for that function or system on the machine.

**Index**

POWER PRODUCTION - B

ENGINE

ENGINE - Dynamic description (B.10.A - C.30.A.10) 4

AFX8010

ENGINE - General specification (B.10.A - D.40.A.10) 3

AFX8010

ENGINE - Remove (B.10.A - F.10.A.10) 5

AFX8010

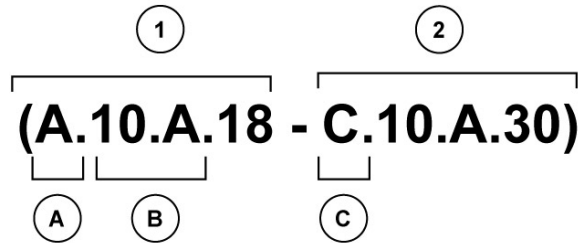
ENGINE - Troubleshooting (B.10.A - G.40.A.10) 6

AFX8010

## Information Units and Information Search

Each chapter is composed of information units. Each information unit has the ICE code shown in parentheses which indicates the function and the type of information written in that information unit. Each information unit has a page reference within that Chapter. The information units provide a quick and easy way to find just the right piece of technical information you are looking for.

example information unit	Stack valve - Sectional View (A.10.A.18 - C.10.A.30)				
Information Unit ICE code	A	10.A	18	C	10.A.30
ICE code classification	Distribution systems	Primary hydraulic power	Stack valve	Functional data	Sectional view



CRIL03J033E01 1

Navigate to the correct information unit you are searching for by identifying the function and information type from the ICE code.

- (1) Function and (2) Information type.
- (A) corresponds to the sections of the repair manual.  
(B) corresponds to the chapters of the repair manual.  
(C) corresponds to the type of information listed in the chapter contents, Technical data, Functional Data, Diagnostic or Service.  
(A) and (B) are also shown in the page numbering on the page footer.  
THE REST OF THE CODING IS NOT LISTED IN ALPHA-NUMERIC ORDER IN THIS MANUAL.
- You will find a table of contents at the beginning and end of each section and chapter.  
You will find an alphabetical index at the end of each chapter.
- By referring to (A), (B) and (C) of the coding, you can follow the contents or index (page numbers) and quickly find the information you are looking for.

## Page Header and Footer

The page header will contain the following references:

- Section and Chapter description

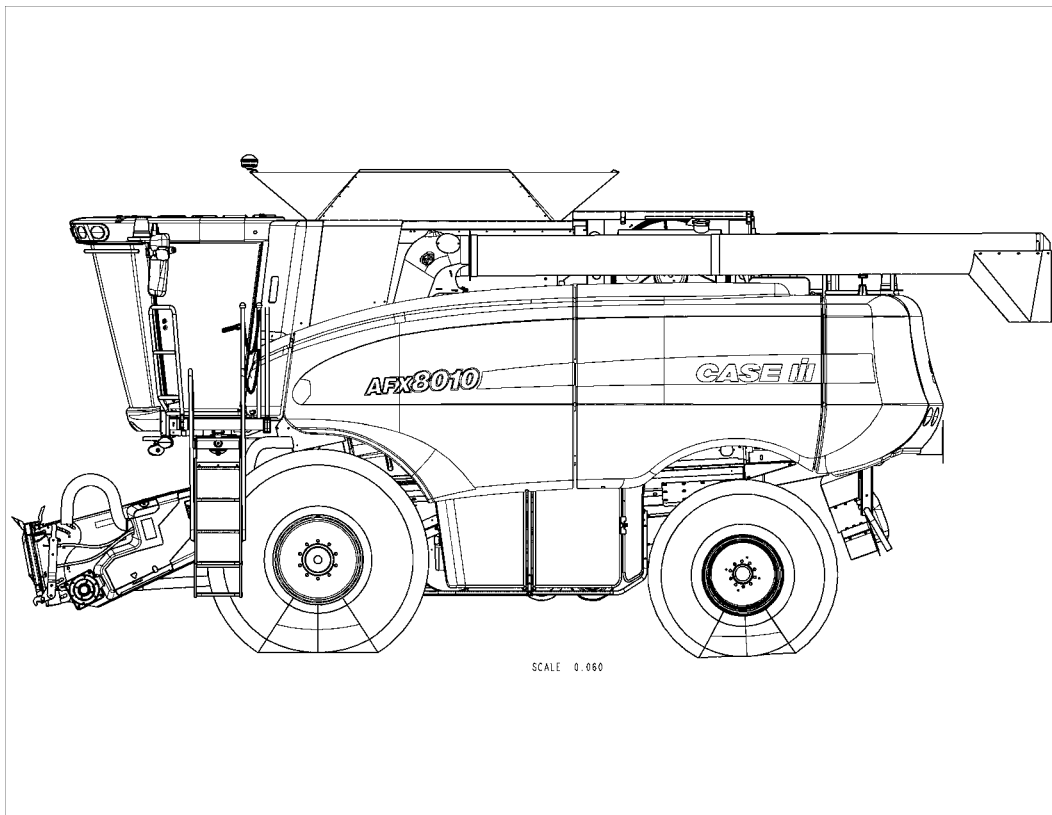
The page footer will contain the following references:

- Publication number for that Manual, Section or Chapter.
- Version reference for that publication.
- Publication date
- Section, chapter and page reference e.g. A.10.A / 9



# REPAIR MANUAL

## DISTRIBUTION SYSTEMS



**AFX8010**

# Contents

---

## DISTRIBUTION SYSTEMS - A

PRIMARY HYDRAULIC POWER SYSTEM AFX8010	A.10.A
SECONDARY HYDRAULIC POWER SYSTEM AFX8010	A.12.A
ELECTRICAL POWER SYSTEM AFX8010	A.30.A
LIGHTING SYSTEM AFX8010	A.40.A
ELECTRONIC SYSTEM AFX8010	A.50.A





## **DISTRIBUTION SYSTEMS - A**

### **PRIMARY HYDRAULIC POWER SYSTEM - 10.A**

**AFX8010**

## DISTRIBUTION SYSTEMS - A

### PRIMARY HYDRAULIC POWER SYSTEM - 10.A

#### CONTENTS

#### FUNCTIONAL

<b>Description</b>	<b>Page</b>
Basic Principles Of The System .....	5
General Information .....	7
Specifications .....	8
Hydraulic System .....	9
Hydraulic Component Locations .....	10
Oil Supply .....	11
Filtration .....	12
Cooling .....	12
Gear Pumps .....	13
Hydraulic Schematic .....	14
PFC Pump Hydraulic System .....	18
PFC Pump Schematic .....	18
PFC Component Locations .....	19
Signal Circuits .....	29
Steering Priority Valve .....	30
Electrical Monitoring Circuits .....	36
Regulated Pressure .....	37
Park Brake / Regulated Pressure Valve .....	37
Component Location .....	38
Regulated Pressure Schematic .....	38
Regulated Pressure Valve Operation .....	39
Electrical Monitoring Circuits .....	40
Control Pressure .....	41
Control Pressure Pump .....	45
Filtration .....	46
Control / Lubrication Pressure Valve .....	47
Control Pressure Schematic .....	48
Electrical Monitoring Circuits .....	50

PTO Gearbox Cooling and Lubrication System .....	51
Lubrication System .....	52
PTO Gearbox Cooling .....	55
Electrical Monitoring Circuits .....	56
<b>DIAGNOSTIC</b>	
Hydraulic System Testing Procedures .....	57
Diagnostic Test Equipment .....	58
Hydraulic System Testing Procedures .....	60
# 1 Low Pressure Standby .....	61
# 2 High Pressure Standby .....	63
# 3 Steering Relief Setting .....	65
# 4 Bench Testing Components .....	67
# 5 Control Pressure Test .....	69
# 6 PTO Gear Box Lubrication Pressure Test .....	71
# 7 Regulated Pressure Test .....	73
#8 Spreader Pump Flow Test .....	75
# 9 Fan Pump Flow Test .....	77
# 10 PFC Pump Flow .....	79
# 11 Control Pressure Pump Flow Test .....	81
<b>Signal valve</b>	
Signal valve - Unidentified failure (A.10.A.12 - G.30.B.46) .....	83
<b>Sensing system</b>	
Sensing system Differential pressure switch - Short circuit to B+ (A.10.A.95.81-G.30.B.54) .....	87
Sensing system Temperature sensor - Short circuit to B+ (A.10.A.95.90-G.30.B.54) .....	90
Sensing system Temperature sensor - Short circuit to ground (A.10.A.95.90-G.30.B.53) ...	93
Sensing system Temperature sensor - Open circuit (A.10.A.95.90-G.30.B.50) .....	96
Sensing system Reservoir level sensor - Short circuit to B+ (A.10.A.95.93-G.30.B.54) ...	101

**Case Afx8010 Service Manual**

Full download: <http://manualplace.com/download/case-afx8010-service-manual/>

DISTRIBUTION SYSTEMS - PRIMARY HYDRAULIC POWER SYSTEM

---