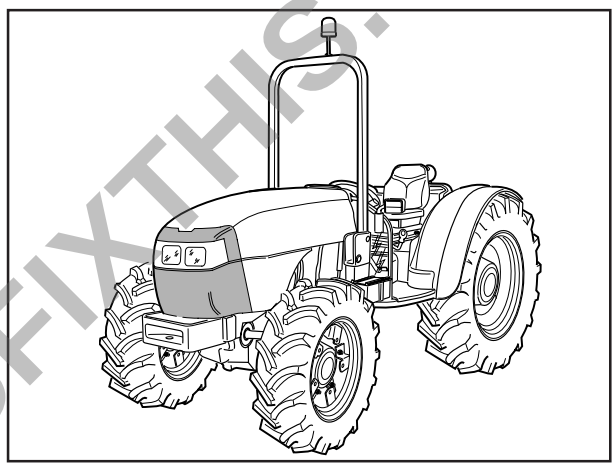
Series F

F 60-70-80

F 75-85-95-105 GE-XL



Training Manual

P/N° 3676090M1

McCORMICK

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

CONTENTS

Chap. 1 INTRODUCTION

Chap. 2 ENGINE

Chap. 3 CLUTCH

Chap. 4 STANDARD TRANSMISSION

Cap. 5 4WD FRONT AXLE

Chap. 6 POWER TAKE-OFF

Chap. 7 HYDRAULIC CIRCUIT - ORCHARD TRACTORS

Chap. 8 HYDRAULIC CIRCUIT - VINEYARD TRACTORS

Chap. 9 MECHANICAL POWER LIFT

Chap. 10 ELECTRONIC POWER LIFT

Chap. 11 ELECTRICAL SYSTEM - ORCHARD TRACTORS

Chap. 12 ELECTRICAL SYSTEM - VINEYARD TRACTORS

Chap. 13 CALIBRATION

Chap. 14 TROUBLESHOOTING

Chap. 16 SPECIAL TOOLS

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

Sect.3 - Working in safety

3-1 Essential rules for prevention

The structures, systems and equipment in repair shops must conform to the current laws governin Fig.11-1g labour safety in order to safeguard the health and safety of each worker.
Although they are obviously only partial, the regulations given in this section inform the workers about the dangers they may encounter on the job.

Always bear your safety and that of others in mind whenever you work on a machine, whichever type it may be.
To work in complete safety, it is essential to know the nature of the job, to correctly use the tools and materials required and to rely on your common sense.

To prevent accidents, it is important to:

- **BEHAVE** correctly and act with caution;
- Pay **ATTENTION** and keep your actions under control;
- Comply with the **REGULATIONS** and rules of behaviour of a general character.



Fig.12-1



This is the warning symbol. Any time you see it, either on the machine or in the manual, pay attention to the possible danger of accidents.

PREVIEW - YOUFIXTHIS.COM
Download full manual at youfixthis.com

Pre-delivery inspections and maintenance

4-3 Routine maintenance guide

Work hours	Operation number	Description	Top up level	Clean	Adjust	Replace	Check for function	Lubrication
Variable maintenance (5)	1	Engine oil level	●					
	2	Oil level in gearbox, power lift and steering systems	●					
	3	Battery	●					
	4	Fuel filter		●				
	5	Engine coolant expansion tank	●					
	6	Engine collant radiator		●				
	7	Gearbox and hydraulic circuits oil radiator		●				
	8	Air conditioning system condenser		●				
	9	Dry air filter discharge valve		●				
	10	Dry air filter outer cartridge		●				
	11	Alternator and fan belt			●			
	12	Air conditioning compensator belt (cab version)			●			
	13	Mechanical clutch pedal - Speed Five			●			
	14	Mechanical PTO clutch hand lever			●			
	15	Brake oil level	●					
	16	Brake pedals (3)			●			
	17	Parking brake			●			
	18	Oil level in rear final drives	●					
	19	Oil level in front axle and front final drives	●					
	20	Tyre pressure					●	
	Miscellaneous	Wheel nut tightness					●	
	Miscellaneous	Tightness of nuts and bolts in general					●	
	Miscellaneous	Tightness of safety frame fixing pins					●	
	Miscellaneous	Windscreen wash liquid	●					
Every 100 hours service	21	General lubrication						●
	22	Lubrication of 4WD front axle						●
	23	Lubrication of 2WD front axle (if mounted)						●
Every 250 hours service	24	Engine oil sump				●		
	25	Engine oil filter				●		
	26	Oil filter on the intake (2) of steering and power lift circuits				●		
	27	Oil filter on the delivery (2) of the steering circuit and Power Shuttle (if mounted)				●		

(4)

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

Tractor identification

2-3 Engine specifications

Engine		Series F 60	Series F 70	Series F 80
Type		Perkins 4-stroke diesel engine with direct injection		
Model		1103C-33	1103C-33T	1103C-33T
Fuelling		Natural	Turbo	Turbo
Number of cylinders		3	3	3
Bore	mm	105	105	105
Stroke	mm	127	127	127
Swept volume	liters	3.3	3.3	3.3
Compression ratio		19.3 : 1	18.2 : 1	18.2 : 1
ISO power rating	HP/kW	58,5/43	65,3/48	74,8/55
Max. speed under load	RPM	2200	2200	2200
Max. speed with no load	RPM	2310	2310	2310
Max. torque (DIN 70020)	Nm	222	-	291
Max. torque speed	RPM	1400	1400	1400
Idling speed	RPM	750	750	750
Valve gear				
Type		Overhead valves controlled by tappets		
Tappet gap with engine cold				
Intake	mm	0.20	0.20	0.20
Exhaust	mm	0.45	0.45	0.45
Fuel system				
Fuel pump		AC-DELCO, diaphragm type		
Injection pump		LUCAS rotary		
Filter on injection pump delivery		C.A.V with replaceable cartridge and bleeding plug		
Injection order		1-2-3	1-2-3	1-2-3
Injectors		Perkins	Perkins	Perkins
Injector pressure setting	Bar	-	-	-
Cold starting device		Thermostarter		
Air filter		dry with two removable elements for maintenance purposes		

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

Sect. 7 - Driving torques

MATERIAL	8.8		10.9		12.9	
BOLT	Z	B	Z	B	Z	B
M 8 x 1	25	27	36	38	43	46
M 8 (1.25)	23	25	33	35	40	42
M 10 x 1.25	50	55	70	75	85	90
M 10 (1.5)	46	50	66	70	80	85
M 12 x 1.25	90	97	127	135	143	155
M 12 (1.75)	82	86	115	120	138	145
M 14 x 1.5	142	153	200	215	240	260
M 14 (2)	130	140	182	195	220	235
M 16 x 1.5	215	230	300	320	360	390
M 16 (2)	200	215	280	300	340	360
M 18 x 1.5	310	330	435	470	520	560
M 18 (2.5)	270	295	385	415	460	495
M 20 x 1.5	430	460	610	660	720	770
M 20 (2.5)	390	415	550	585	660	705
3/8" -24 UNF	44	47	62	67	75	80
3/8" -16 UNC	40	43	56	60	68	72
1/2" -20 UNF	105	112	147	157	175	190
1/2" -13 UNC	95	102	135	145	160	173
9/16" -18 UNF	150	160	210	225	250	270
9/16" -12 UNC	135	145	190	205	230	245
5/8" -18 UNF	205	215	285	305	345	365
5/8" -11 UNC	185	200	260	280	315	335
3/4" -16 UNF	355	380	500	535	600	645
3/4" -10 UNC	325	345	455	490	550	585

Torque values in Nm Z = galvanized bolt B = burnished bolt

TORQUING TOLERANCES

Critical assembly	**+5% / -5%**
Important assembly	**+5% / -15%**
Secondary assembly	**+5% / -30%**

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

Sect.1 - General description

1-1 Drawing of assembly (Speedfive version)

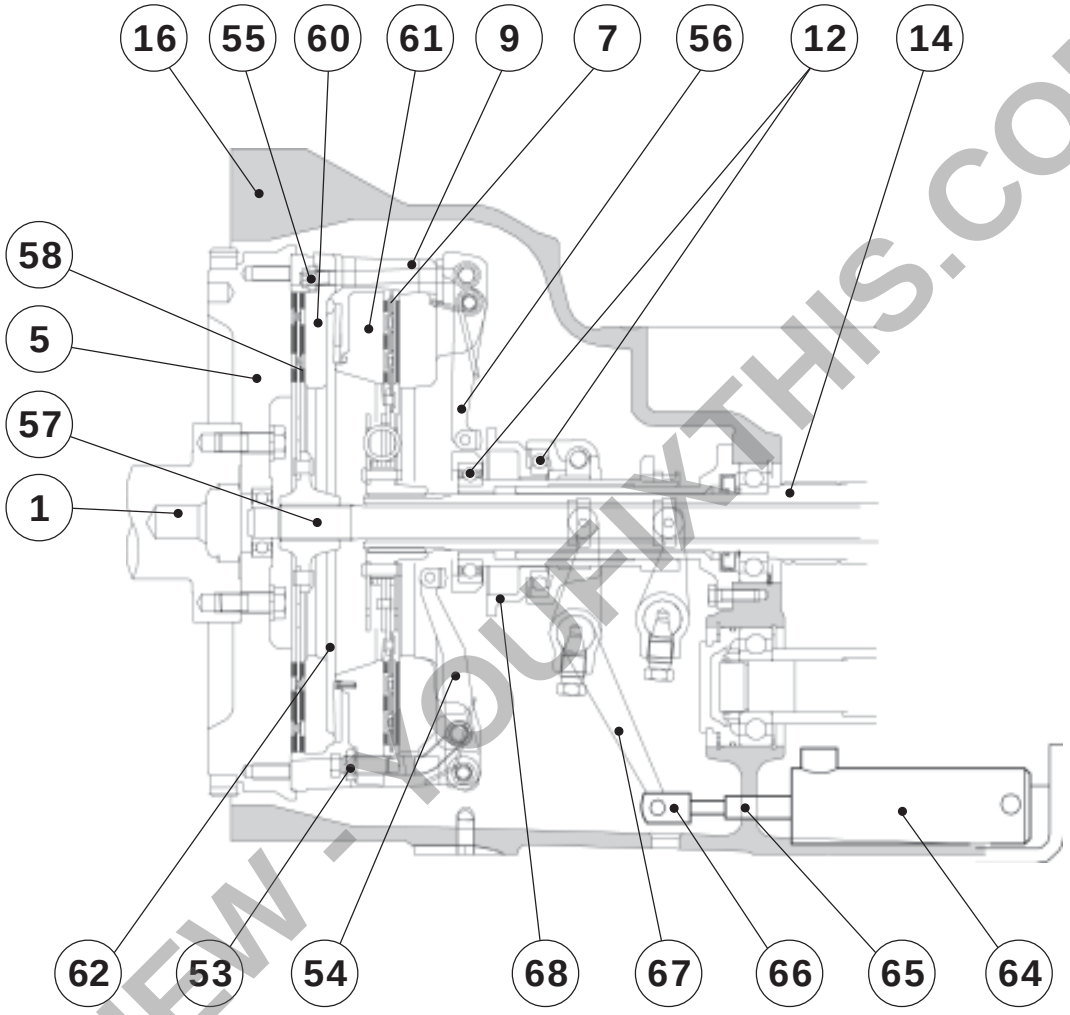


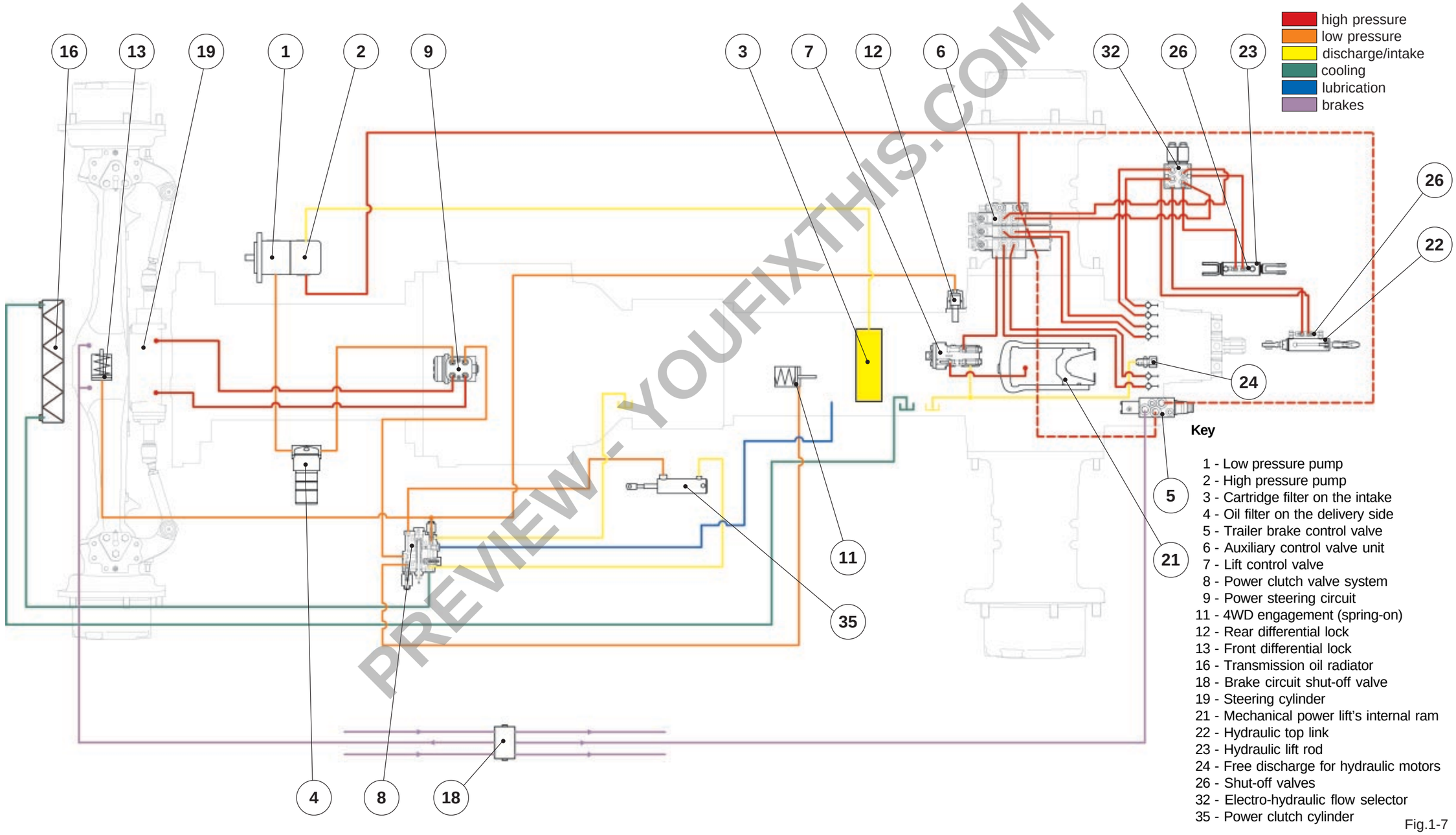
Fig.1-3

1 - Drive shaft
5 - Flywheel
7 - Gearshift clutch disc
9 - Clutch unit
12 - Bearing
14 - Gearshift main shaft
16 - Axle housing
53 - Lock nut for gearshift lever adjuster screw
54 - Levers for gearbox disc disengaging
55 - Nut to adjust PTO control levers
56 - Lever for PTO disc disengaging
57 - PTO shaft
58 - PTO disc
60 - PTO disc pressure plate
61 - Gearshift clutch disc pressure plate
62 - Belleville washer
64 - Power clutch cylinder
65 - Cylinder stem
66 - Fork
67 - Lever
68 - Collar
69 - Rod to adjust PTO control levers

PREVIEW - YOUFIXTHIS.COM
Download full manual at youfixthis.com

Sect.1 - General hydraulic circuit (Speedfive version)

CIRCUIT DIAGRAM



Key

1 - Low pressure pump
2 - High pressure pump
3 - Cartridge filter on the intake
4 - Oil filter on the delivery side
5 - Trailer brake control valve
6 - Auxiliary control valve unit
7 - Lift control valve
8 - Power clutch valve system
9 - Power steering circuit
11 - 4WD engagement (spring-on)
12 - Rear differential lock
13 - Front differential lock
16 - Transmission oil radiator
18 - Brake circuit shut-off valve
19 - Steering cylinder
21 - Mechanical power lift's internal ram
22 - Hydraulic top link
23 - Hydraulic lift rod
24 - Free discharge for hydraulic motors
26 - Shut-off valves
32 - Electro-hydraulic flow selector
35 - Power clutch cylinder

Fig.1-7

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

A - Series F Speedfive Footstep version

A.1-3 Wiring diagram

PART 1

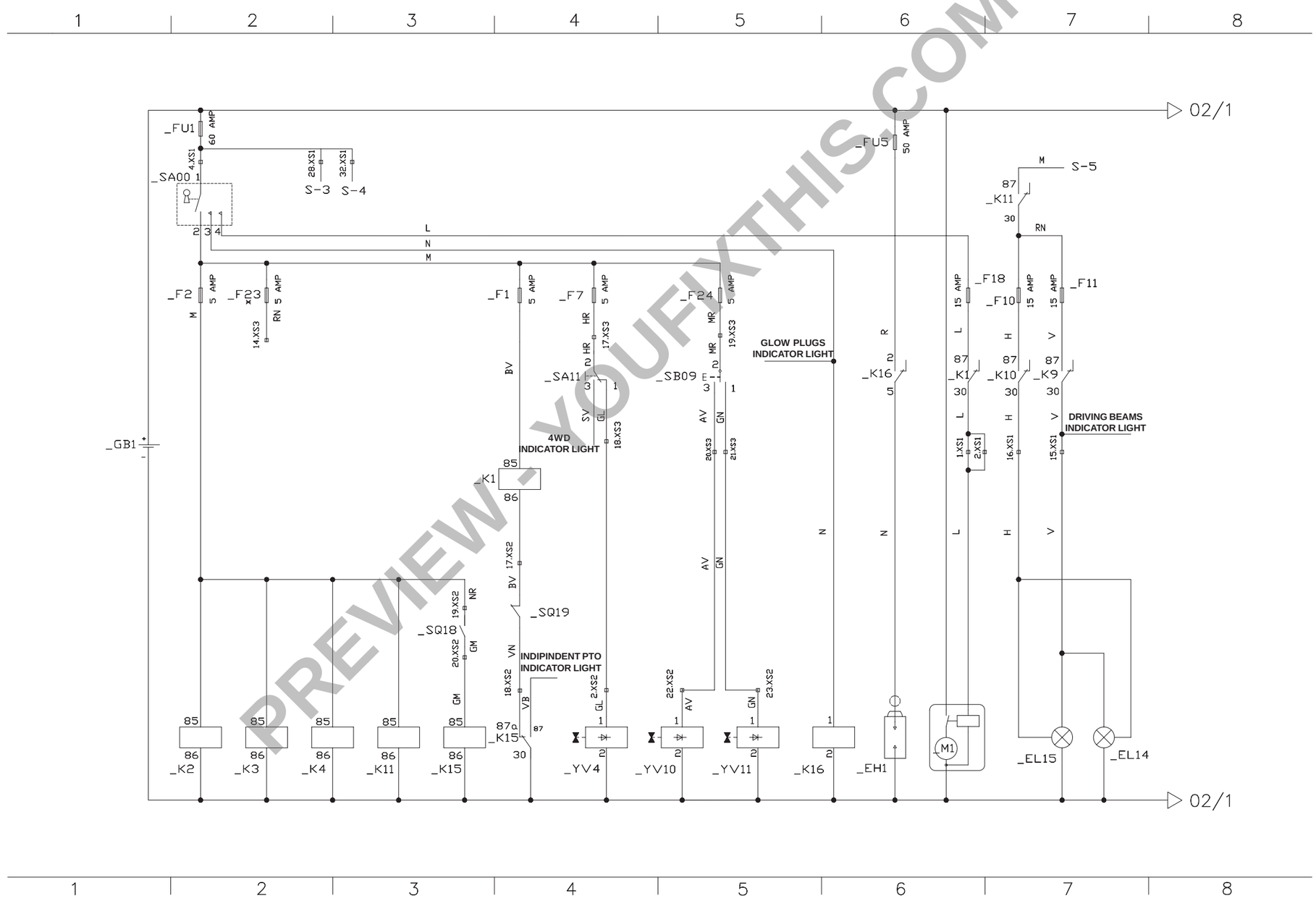


Fig.28-11

PREVIEW - YOUFIXTHIS.COM
Download full manual at youfixthis.com

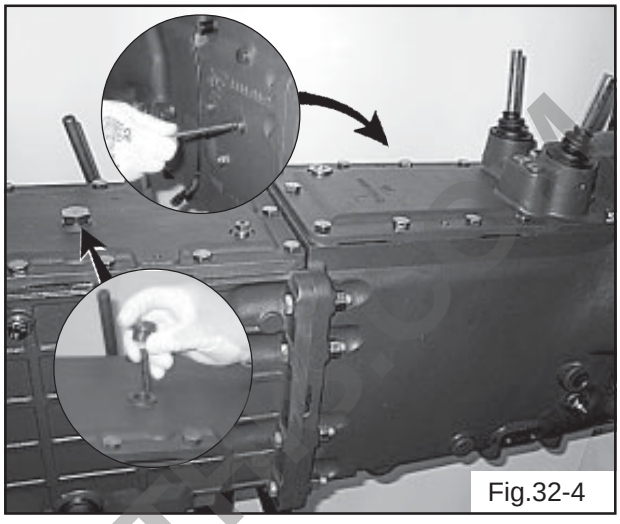
Engine-gearbox assembly (Speedfive version)

A3 - Guidelines for disassembly

HOW TO REMOVE THE ENGINE-GEARBOX ASSEMBLY

WARNING: Lift and handle all heavy parts with lifting means of adequate carrying capacity. Make sure that the assemblies or parts are supported by appropriate harness and hooks. Make sure that there are no bystanders near the load being lifted.

- split the engine from the axle;
- unscrew the fixing screws from the covers of the axle housing and of the gearbox housing (Fig.32-4);

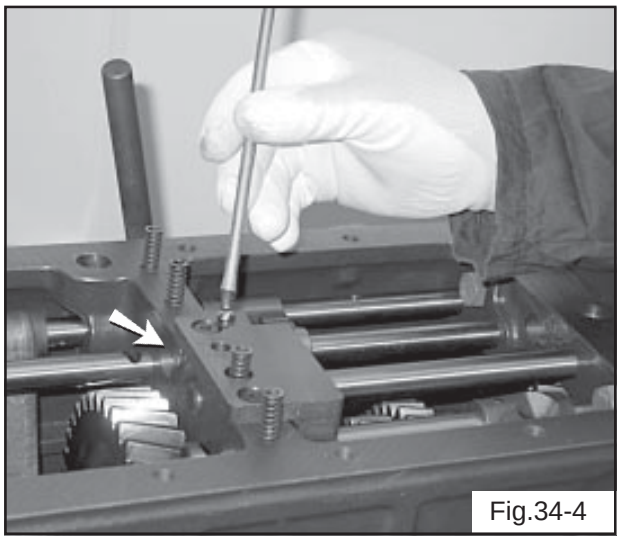

Fig.32-4

NOTE: *Remove the 5th speed plug, spring and ball from the gearbox cover. Remove the lubrication tube from the union housing, on the left side (Fig.32-4);*

- remove the cover from the axle and the gearbox (Fig.33-4);


Fig.33-4

NOTE: *All balls and springs removed from the gearbox housing must be set aside (Fig.34-4);*


Fig.34-4

PREVIEW - YOUFIXTHIS.COM
Download full manual at youfixthis.com

Alarm codes

2-2 Alarm code autodiagnosis

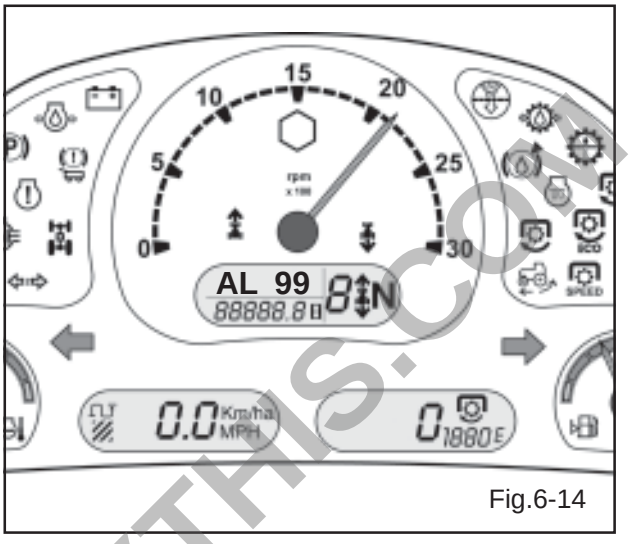


Fig.6-14

Alarm code (99)

FINAL COMPONENT CONCERNED
Electronic control unit

CAUSE
Short-circuit/open circuit in the control unit.

TERMINALS INVOLVED
PINS 1 and 14 of terminal board E11.

REMEDY
Replace the electronic control unit (D02).

The clutches handling the engagement of the Powershuttle unit must be calibrated again if the electronic control unit is replaced.
In the Powershuttle version the (_D02) control unit is mounted in the rear part inside the cab, just behind the driver's seat. The protective panel (P Fig.7-14) must be removed to access the control unit.
It is connected to the dashboard line by the 42-pin connector (E11 Fig.8-14).

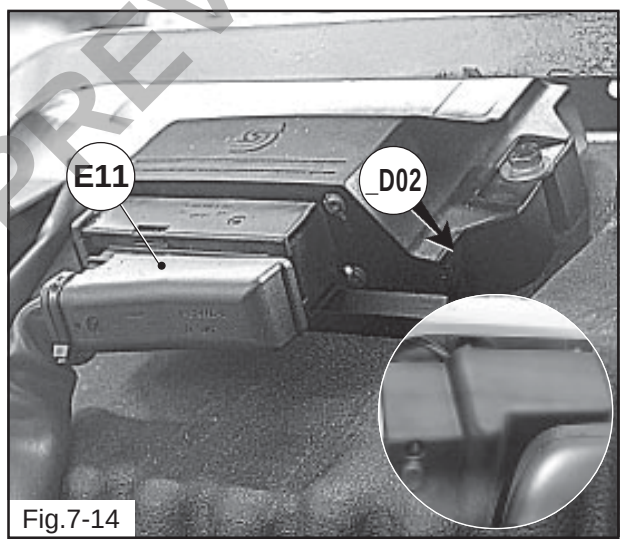


Fig.7-14

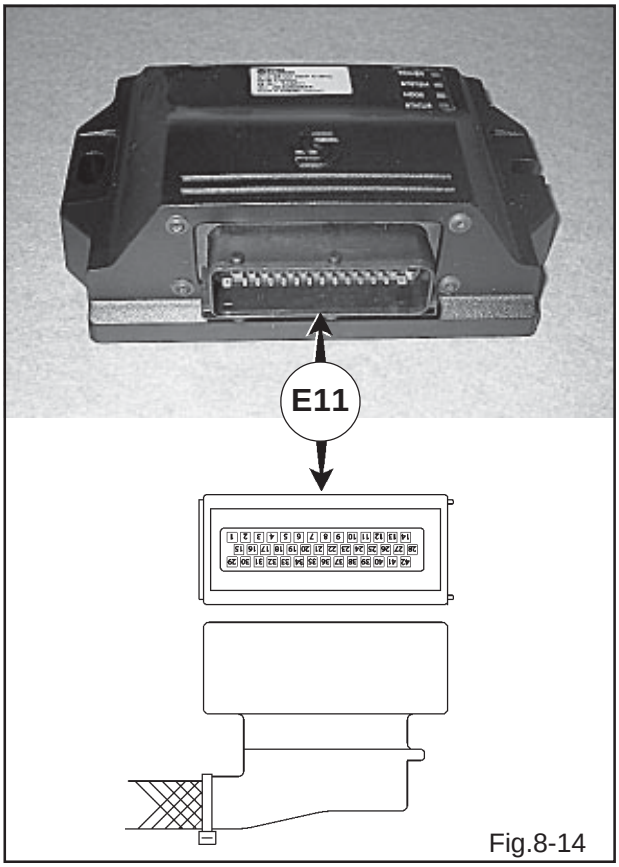


Fig.8-14

PREVIEW - YOUFIXTHIS.COM
Download full manual at youfixthis.com

Introduction

1-2 Conventional troubleshooting

The purpose of troubleshooting is to establish what has caused the tractor to operate in a faulty way.
It is first necessary to find out whether the origin of the fault is of a mechanical, hydraulic or electrical nature.
It is the repair technician's experience that allows him to identify many of the mechanical faults, as he is able to recognize when certain components begin to seize and prevent other parts from engaging properly, or create noise.
To identify the nature of faults in the hydraulic circuit, the technician must check the pressure of the oil in the circuit of the component in question, as described in chapter 3.
Identification of electrical faults must begin by analysing the most probable causes through to the least probable ones. We suggest that these inspections be carried out in the following order:

1 - Switches, sensors, potentiometers;
2 - Connectors and wiring;
3 - Electronic control unit

To efficiently identify and repair faults, it is advisable to:

1 - Have the tractor in the workshop;
2 - Have previously checked the battery charge;
3 - Have spare sensors in stock, particularly the ones that cannot be checked with a normal tester.

OPERATING FAULTS IN ELECTRICAL CIRCUITS

There are four types of operating faults that may occur in electrical circuits:

1 - excessive resistance in the circuit (high resistance);
2 - broken circuit (open circuit);
3 - grounded circuit;
4 - short-circuit.

In a simple circuit like the one shown in Fig.2-14, there are only three parts in which these operating faults can occur:
- prior to the control switch (A);
- between the control switch (A) and the load (B);
- after the load (B);

It is easy to mistake the operating fault of a component with that of a circuit. Great care must therefore be taken when the cause of a fault is identified, so as to ensure that it can be correctly and quickly resolved.

Example: a component may not operate before a connector is connected and operate after the same connector has been re-connected. The reason for this could be excessive resistance, which created a drop in the voltage supplied to the connector terminals, thus preventing the right amount of current to flow towards the component.

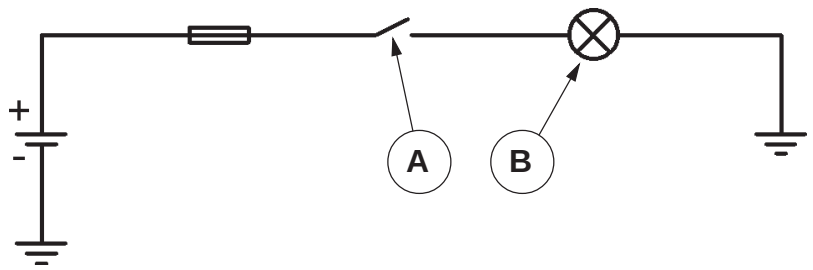


Fig.2-14

PREVIEW - YOUFIXTHIS.COM
Download full manual at youfixthis.com

Sect.2 - Calibration procedure

2-1 Safety notes



Before beginning to calibrate, read and strictly comply with the safety notes given below.

1 - The tractor could move accidentally during the calibration operations. It is therefore important that the tractor is safely parked on level ground and there are no hindrances both in front of and behind the tractor.
The operator should be ready to switch the engine off with the ignition key and to use the brakes to immediately stop the tractor.

2 - When calibrations are carried out with the engine running, make sure that there are no bystanders in the vicinity, just the technician sitting in the driving seat

3 - Make sure that the ambient temperature is between 20 and 30 °C.

4 - Comply with the instructions described in point 2-3 in detail and in the given order.

5 - Do not make unnecessary calibrations or when not indicated.

6 - Repeat the calibration operations without testing the tractor if the calibration values differ from those indicated.

7 - Repeat the calibration operations if the tractor operates in an unsatisfactory way.



WARNING: The tractor could accidentally move during this procedure. Make sure that the tractor is safely parked on level ground and there are no hindrances both in front of and behind it. Be ready to use the brake pedals to stop the tractor.



WARNING: Exhaust gas contains carbon monoxide which can cause diseases and even death. Make sure that there is a suitable ventilation.



WARNING: If one of the sensors breaks, the tractor could move forwards or in reverse whilst it is being calibrated. If this happens, turn off the ignition key and stop the tractor with the brake pedals.

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

Instrument

3D-4 Model and tyre tables

The following tables show the identificazion numbers of the tractor models. Such numers are required to configurate the instrument (see page 11-240).

SERIES F - SPEEDFIVE VERSION				
Commercial name	**Bevel gear Side final drives**	**PTO type**	**Market**	**Number (LCD1)**
Series F - 105	CC=9/44 RL=13/53	540 - 540E	st.	8
Series F - 105	CC=9/44 RL=13/53	540 - 540E	nao	7
Series F - 105	CC=9/44 RL=13/53	540 - 1000	st.	6
Series F - 105	CC=9/44 RL=13/53	540 - 1000	nao	5
Series F - 60	CC=9/44 RL=15/63	540 - 540E	st.	12
Series F - 60	CC=9/44 RL=15/63	540 - 540E	nao	11
Series F - 60	CC=9/44 RL=15/63	540 - 1000	st.	10
Series F - 60	CC=9/44 RL=15/63	540 - 1000	nao	9
Series F - 80	CC=9/44 RL=13/53	540 - 540E	st.	8
Series F - 80	CC=9/44 RL=13/53	540 - 540E	nao	7
Series F - 80	CC=9/44 RL=13/53	540 - 1000	st.	6
Series F - 80	CC=9/44 RL=13/53	540 - 1000	nao	5
Series F - 85	CC=9/44 RL=13/53	540 - 540E	st.	8
Series F - 85	CC=9/44 RL=13/53	540 - 540E	nao	7
Series F - 85	CC=9/44 RL=13/53	540 - 1000	st.	6
Series F - 85	CC=9/44 RL=13/53	540 - 1000	nao	5
Series F - 95	CC=9/44 RL=13/53	540 - 540E	st.	8
Series F - 95	CC=9/44 RL=13/53	540 - 540E	nao	7
Series F - 95	CC=9/44 RL=13/53	540 - 1000	st.	6
Series F - 95	CC=9/44 RL=13/53	540 - 1000	nao	5
Series F - 105 GE	CC=9/37 RL=13/53	540 - 540E	st.	20
Series F - 105 GE	CC=9/37 RL=13/53	540 - 540E	nao	19
Series F - 105 GE	CC=9/37 RL=13/53	540 - 1000	st.	18
Series F - 105 GE	CC=9/37 RL=13/53	540 - 1000	nao	17
Series F - 105 GT	CC=9/44 RL=13/53	540 - 540E	st.	8
Series F - 105 GT	CC=9/44 RL=13/53	540 - 540E	nao	7
Series F - 105 GT	CC=9/44 RL=13/53	540 - 1000	st.	6
Series F - 105 GT	CC=9/44 RL=13/53	540 - 1000	nao	5
Series F - 60 GE	CC=9/37 RL=15/63	540 - 540E	st.	16
Series F - 60 GE	CC=9/37 RL=15/63	540 - 540E	nao	15
Series F - 60 GE	CC=9/37 RL=15/63	540 - 1000	st.	14
Series F - 60 GE	CC=9/37 RL=15/63	540 - 1000	nao	13
Series F - 80 GE	CC=9/37 RL=13/53	540 - 540E	st.	20
Series F - 80 GE	CC=9/37 RL=13/53	540 - 540E	nao	19
Series F - 80 GE	CC=9/37 RL=13/53	540 - 1000	st.	18
Series F - 80 GE	CC=9/37 RL=13/53	540 - 1000	nao	17
Series F - 85 GE	CC=9/37 RL=13/53	540 - 540E	st.	20
Series F - 85 GE	CC=9/37 RL=13/53	540 - 540E	nao	19
Series F - 85 GE	CC=9/37 RL=13/53	540 - 1000	st.	18
Series F - 85 GE	CC=9/37 RL=13/53	540 - 1000	nao	17
Series F - 85 GT	CC=9/44 RL=13/53	540 - 540E	st.	8
Series F - 85 GT	CC=9/44 RL=13/53	540 - 540E	nao	7

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com



CHAP.1

CONTENTS

Sect. 1 Reading the manual. 1-3
1-1 Introduction 1-4
1-2 Structure of the manual 1-4

Sect. 2 Tractor identification and technical specifications. 1-5
2-1 Tractor identification 1-6
2-2 Weights and dimensions 1-7
2-3 Engine specifications 1-13

Sect. 3 Working in safety. 1-15
3-1 Essential rules for accident prevention 1-16
3-2 Danger decals 1-22
3-3 Replacing tractor parts 1-30
3-4 Safe use of the tractor 1-30

Sect. 4 Pre-delivery inspections and maintenance. 1-33
4-1 General information 1-34
4-2 Inspections before delivery 1-34
4-3 Routine maintenance guide 1-35

Sect. 5 Conversion tables. 1-37
5-1 Length 1-38
5-2 Area 1-41
5-3 Volume 1-42
5-4 Weight 1-45
5-5 Pressure 1-47
5-6 Moment of rotation 1-49
5-7 Temperature 1-51

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

Precautions and safety warnings

Certain precautions and safety recommendations are described in this section. It is important for operators to comply with these instructions in order to prevent accidents. Moreover, always bear in mind the safety measures described in the Operation and Maintenance Manual and in chapter 1 of this manual.
Carefully comply with the Warnings indicated by means of this symbol:

WARNING: treat the clutch with caution to avoid injuries to the hands.

WARNING: if the bolts that fix the safety frame or cab are loosened or if the actual safety frame or cab are removed, make sure that the parts are re-installed correctly so that adequate protection is provided for the operator.

WARNING: make sure that all persons keep a due distance away from the danger zone. Avoid vibrations when bolts are loosened.

WARNING: lift and handle all heavy parts with lifting means of adequate carrying capacity. Make sure that the assemblies or parts are supported by appropriate harness and hooks. Make sure that there are no bystanders near the load as it is lifted.

WARNING: avoid twisting the chains or metal ropes used for lifting purposes. Always wear safety gloves when handling cables or chains.

WARNING: use the right tools to align holes. NEVER USE YOUR FINGERS OR HANDS.

WARNING: handle all parts with the greatest care. Do not insert your hands or fingers between one part and another.

WARNING: if you remove the bolts from parts that are liable to drop, always leave two opposed bolts in place for safety reasons. Only remove these bolts after you have hooked the assembly to a lifting means or after you have positioned bearing blocks underneath the actual part itself.

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

Engine-gearbox assembly (Powershuttle version)

- replace the seals (248 Fig.113-4);

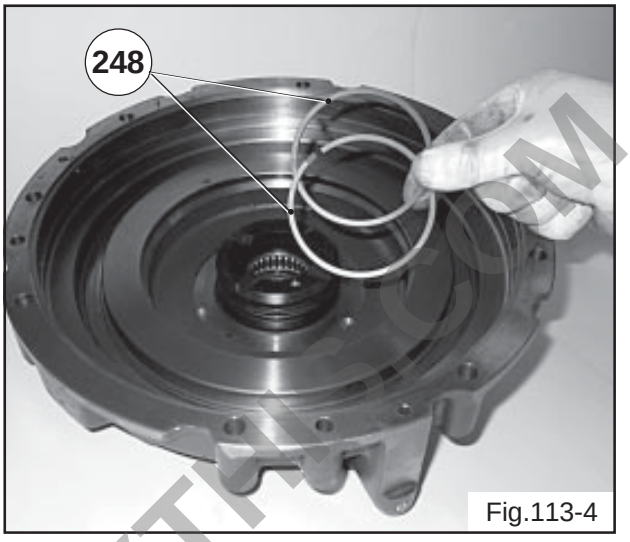


Fig.113-4

HOW TO RE-ASSEMBLE THE POWERFIVE UNIT

- Assemble the planetary gear pins (266) with the lubrication hole positioned as shown in Fig.114-4;

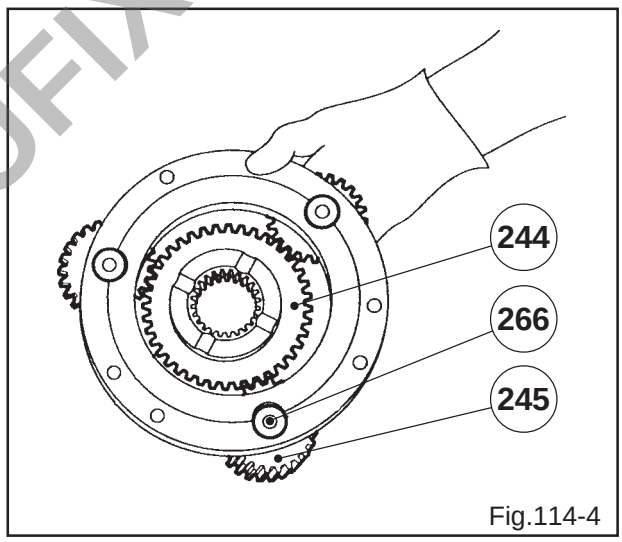


Fig.114-4

- Before the third planetary gear is assembled, fit on the input crown wheel (244), making sure that the mark on the tooth of all three planetary gears (245) is positioned so as to converge towards the center at 120°, as shown in Fig.115-4;
  once the third planetary gear has been fixed (245) with the relative pin (266), check again to make sure that the three marks point towards the center. Repeat the assembly operations if this is not the case;

NOTE: ***A timing error involving one tooth will make the unit noisy, while a timing error involving two teeth will lead to a mechanical block.***

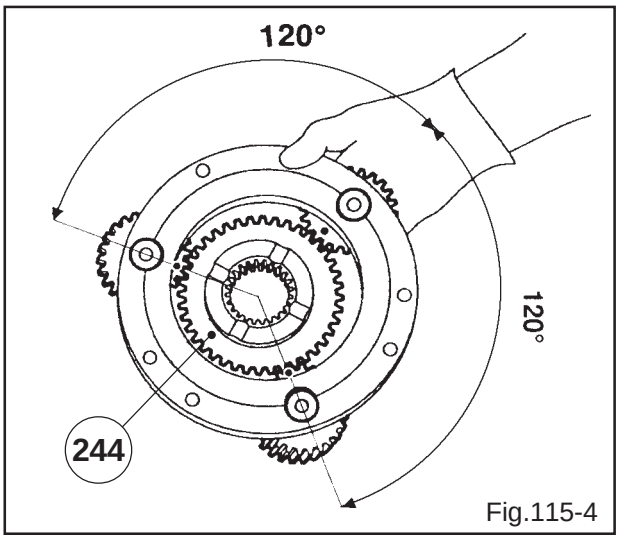


Fig.115-4

PREVIEW - YOUFIXTHIS.COM
Download full manual at youfixthis.com

Notes

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

Sect.3 - Guidelines for disassembly, re-assembly and adjustments

Hydraulic power take-off

3-1 Guidelines for disassembling

HOW TO REMOVE THE CLUTCH UNIT

NOTE: *The clutch unit may be disassembled with the hydraulic lift unit assembled.*

- remove the cover (506 Fig.19-6);

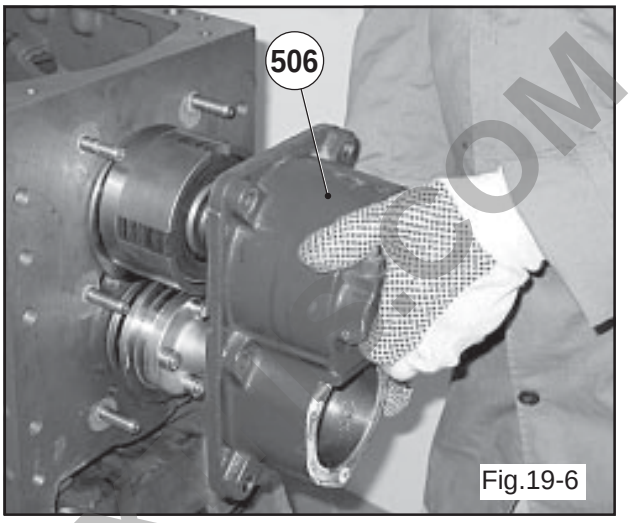


Fig.19-6

- remove the spring ring (574 Fig.20-6);

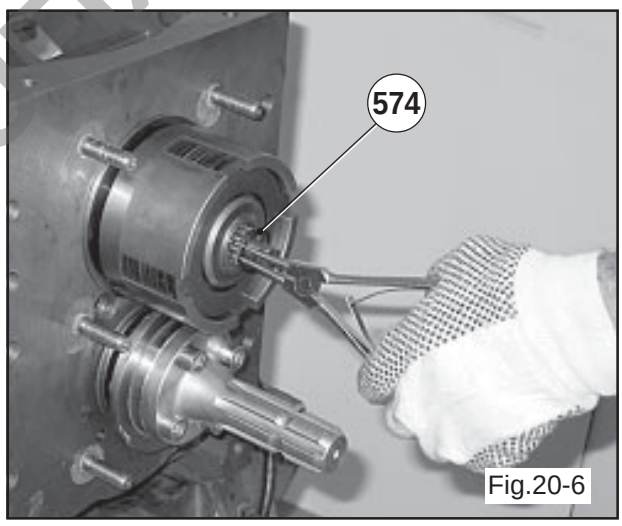


Fig.20-6

- remove the clutch unit while maintaining the rear shaft (502) inserted in the gearbox housing (Fig.21-6);

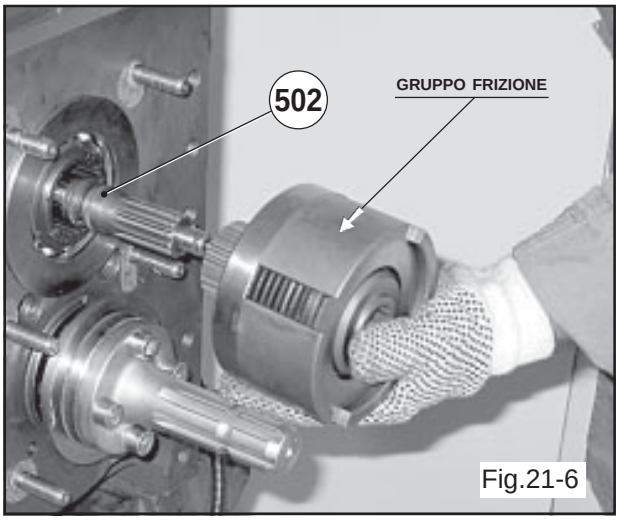


Fig.21-6

PREVIEW - YOUFIX.COM
Download full manual at youfixthis.com

Block for forced lubrication valve

MAIN COMPONENTS OF THE LUBRICATION CIRCUIT

Fig.55-7 shows the main components of the lubrication circuit of Series F Powershuttle tractors. The cooled down oil (16) enters the valve (17) at a 9.5 bar pressure, and leaves then the valve towards the lubrication circuits of the lay shaft (49) and of the gearbox, and towards the block (15) to lubricate the main and secondary clutches and the input shaft (21).
Exceeding oil in the valve (17) discharges to the 4WD housing. The same valve is also reached by the oil discharged by the 9.5 bar valve in the users hydraulic power pack (10).

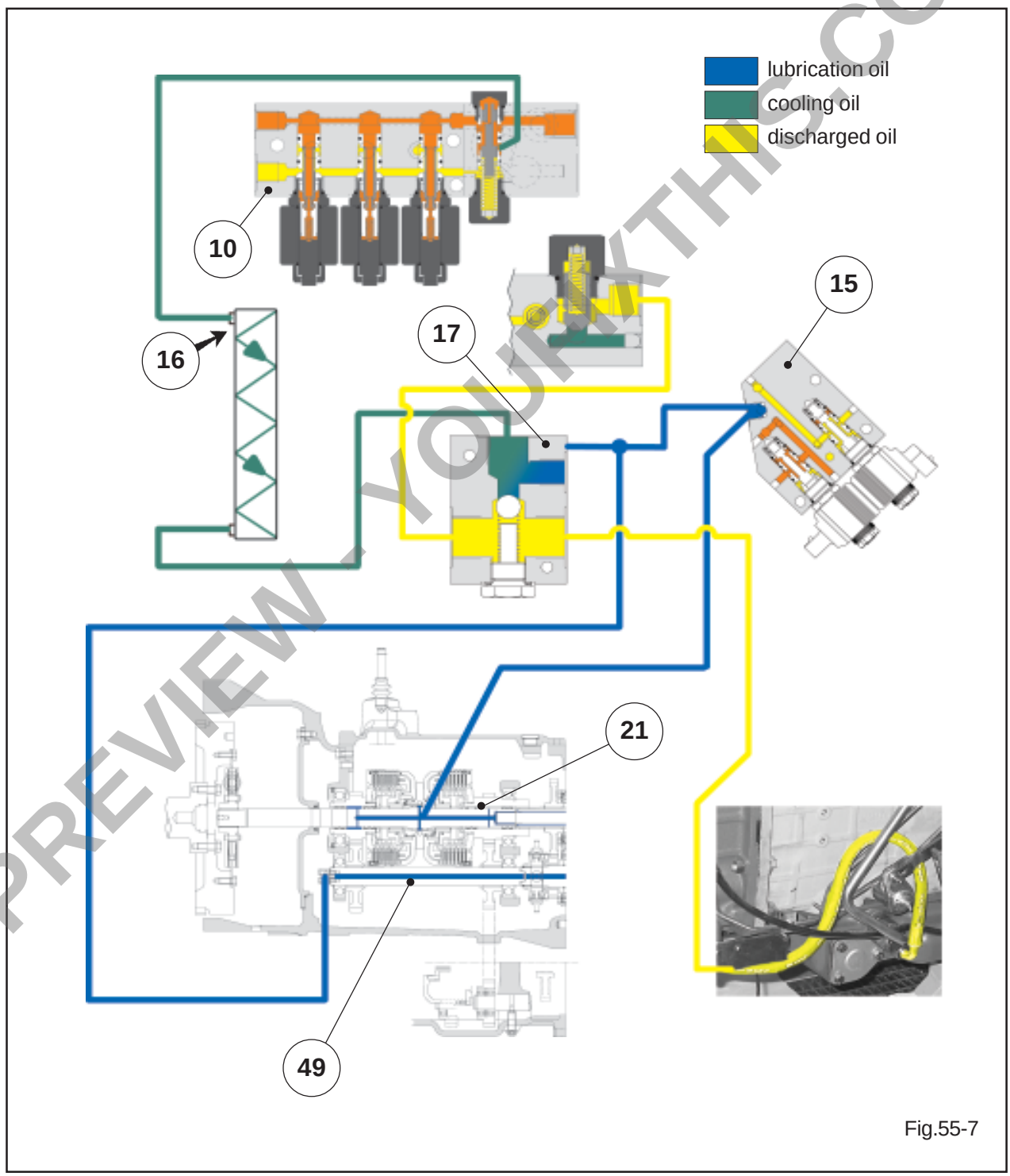


Fig.55-7

PREVIEW - YOUFIXTHIS.COM
Download full manual at youfixthis.com

Auxiliary control valves (with flow divider)

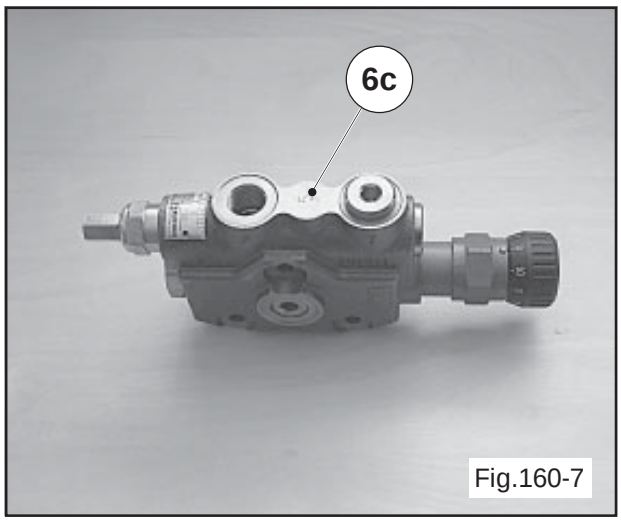


Fig.160-7

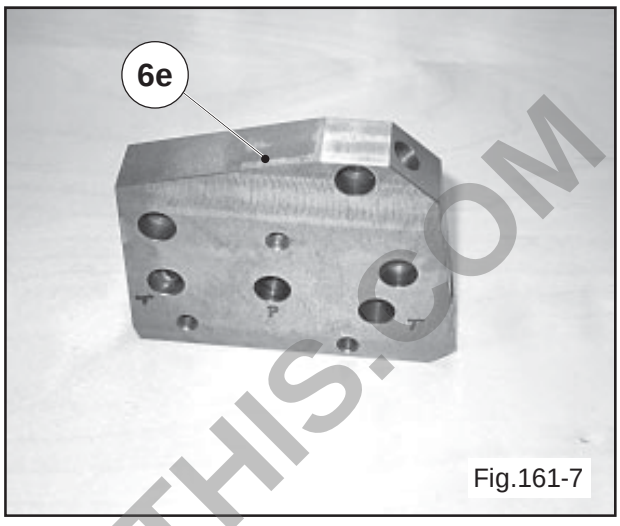


Fig.161-7

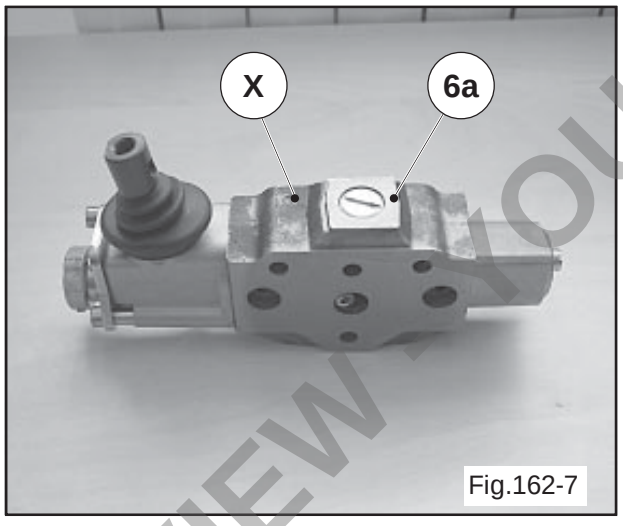


Fig.162-7

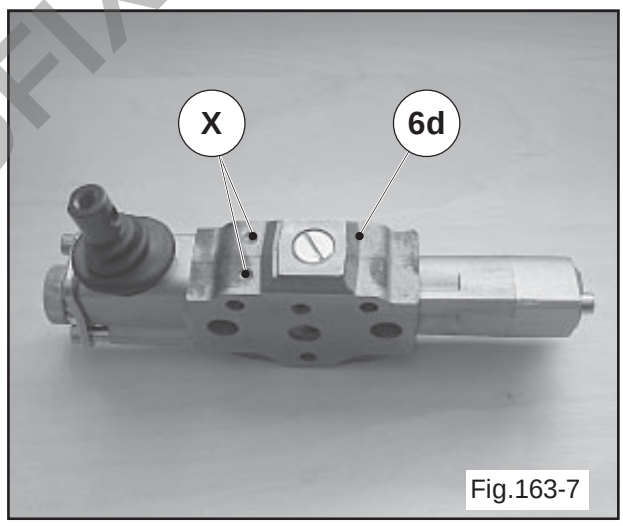
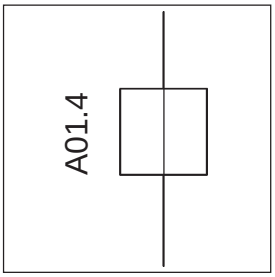


Fig.163-7

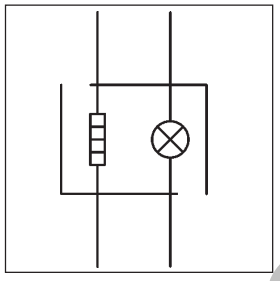
PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

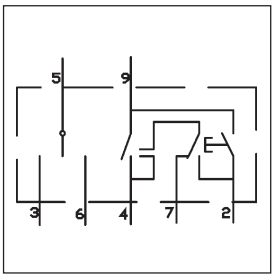
General description



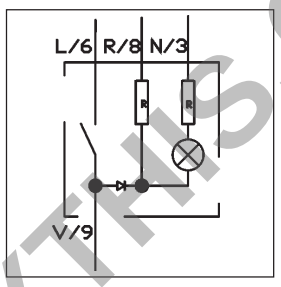
Instrument connector



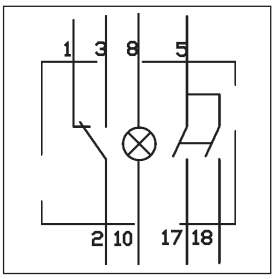
Cigarette lighter



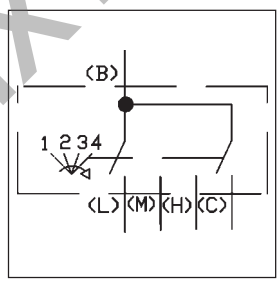
Selector



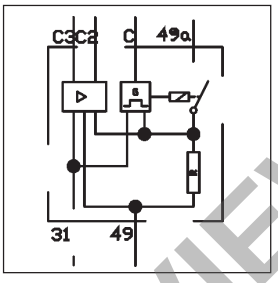
A/C switch



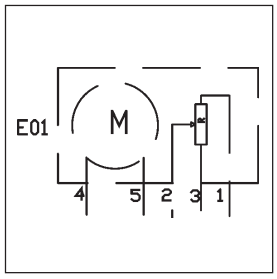
Selector



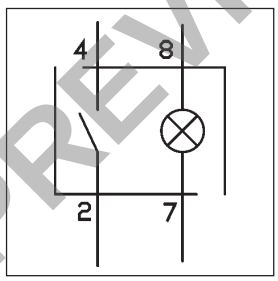
A/C fan switch



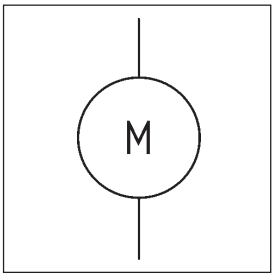
Blinker



A/C temperature and regulating water cock



Revolving beacon switch



Window washer motor

Fig.11-11

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com



B - Series F Powershuttle Footstep version

CONTENTS

B.1 Technical specifications

B.1-1 Main technical specifications 11-102
B.1-2 Relays and fuse boxes 11-103
B.1-3 Main wiring diagram 11-106

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com



Main components

CONTENTS

Sect.3 Main components

3-1 Introduction 11-188
3A - Sensors and potentiometers 11-189
3B - Solenoid valves 11-203
3C - Switches and buttons 11-217
3D - Instrument 11-227
3E - Reverse shuttle lever (Powershuttle version) 11-247
3F - Electronic control unit (Powershuttle version) 11-251

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

Calibration procedure

2-2 When to calibrate and in which conditions

Calibration is carried out accurately in the production plant and need not be done again, unless one or both of the proportional solenoid valves (_YV1/_YV2 Fig.15-13) of the electronic control unit _D02 (Fig.16-13) are replaced.

Proceed in the following way to calibrate:

1 - Strictly comply with the safety notes given in section 2-1;

2 - Make sure that the ambient temperature is between 20 and 30 °C.

3 - if one or both the solenoid valves have been replaced, use a tester to make sure that the resistance between the two terminals is between 8 - 9 Ohm (Fig.17-13). If differences are detected, replace the solenoid valve that fails to correspond to the prescribed value.

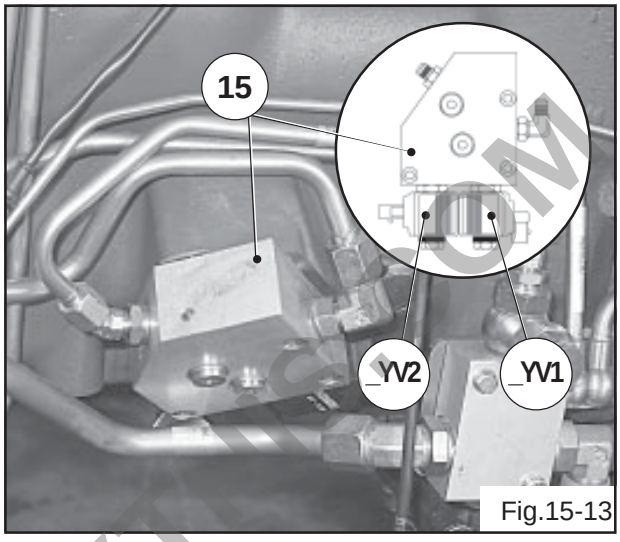


Fig.15-13

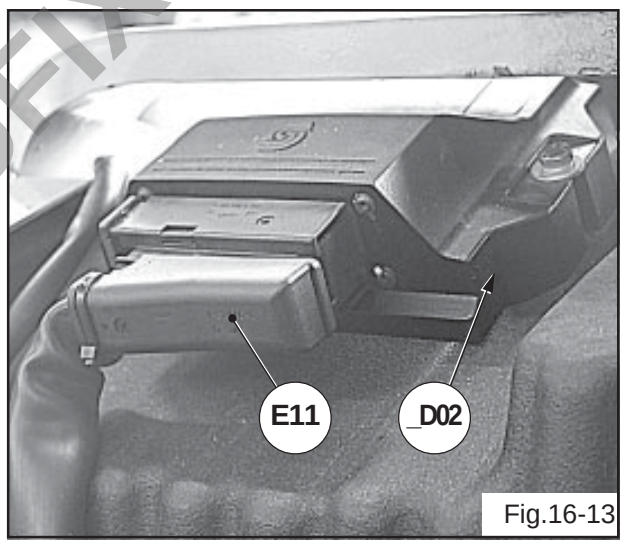


Fig.16-13

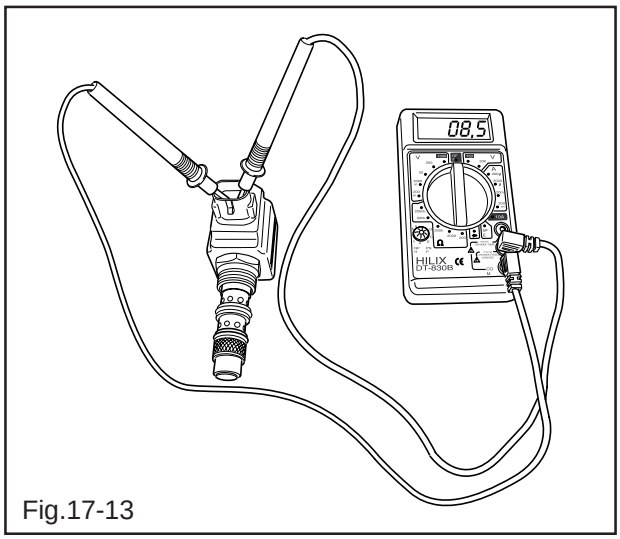


Fig.17-13

PREVIEW - YOUFIXTHIS.COM
Download full manual at youfixthis.com

PREVIEW ONLY

You're viewing 25 of 951 pages

The full manual includes:

- All 951 pages, complete
- Searchable PDF (find any keyword)
- No watermarks
- Instant download
- Print-ready quality

GET FULL MANUAL NOW

Mccormick F 60, F 70, F 80, F 75, F 85, F 95, F 105, F 60 GE, F 70 GE, F 80 GE, F 85 GE, F 95 GE, F 105 GE, F 75 XL, F 85 XL, F 95 XL, F 105 XL, F 85 GT, F 95 GT, F 105 GT, F 60-70-80, F 75-85-95-105 GE-XL Training Manual

Scan or click anywhere
youfixthis.com

Click anywhere on this page to get the full manual