

FARMALL® 85C
FARMALL® 95C
FARMALL® 105C
FARMALL® 115C
With Hi-Lo Transmission
With Mechanical or Power Shuttle Transmission
Tractor

With Hi-Lo Transmission PIN ZxJV0xxxx and above
With Mechanical or Power Shuttle Transmission PIN ZxJV5xxxx and above

SERVICE MANUAL

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CASE II
AGRICULTURE



SERVICE MANUAL

Farmall® 105C less cab, with hi-lo transmission [ZxJV0xxxx] , Farmall® 105C less cab, with mechanical or power shuttle transmission [ZxJV5xxxx] , Farmall® 105C with cab, with hi-lo transmission [ZxJV0xxxx] , Farmall® 105C with cab, with mechanical or power shuttle transmission [ZxJV5xxxx] , Farmall® 115C less cab, with hi-lo transmission [ZxJV0xxxx] , Farmall® 115C less cab, with mechanical or power shuttle transmission [ZxJV5xxxx] , Farmall® 115C with cab, with hi-lo transmission [ZxJV0xxxx] , Farmall® 115C with cab, with mechanical or power shuttle transmission [ZxJV5xxxx] , Farmall® 85C less cab, with hi-lo transmission [ZxJV0xxxx] , Farmall® 85C less cab, with mechanical or power shuttle transmission [ZxJV5xxxx] , Farmall® 85C with cab, with hi-lo transmission [ZxJV0xxxx] , Farmall® 85C with cab, with mechanical or power shuttle transmission [ZxJV5xxxx] , Farmall® 95C less cab, with hi-lo transmission [ZxJV0xxxx] , Farmall® 95C less cab, with mechanical or power shuttle transmission [ZxJV5xxxx] , Farmall® 95C with cab, with hi-lo transmission [ZxJV0xxxx] , Farmall® 95C with cab, with mechanical or power shuttle transmission [ZxJV5xxxx]

Link Product / Engine

Product	Market Product	Engine
Farmall® 105C less cab, with mechanical or power shuttle transmission [ZxJV5xxxx]	North America	F5DFL413J*A002
Farmall® 105C with cab, with mechanical or power shuttle transmission [ZxJV5xxxx]	North America	F5DFL413J*A002
Farmall® 105C less cab, with hi-lo transmission [ZxJV0xxxx]	North America	F5DFL413A*A001
Farmall® 105C with cab, with hi-lo transmission [ZxJV0xxxx]	North America	F5DFL413A*A001
Farmall® 85C less cab, with mechanical or power shuttle transmission [ZxJV5xxxx]	North America	F5DFL413L*A002
Farmall® 85C with cab, with mechanical or power shuttle transmission [ZxJV5xxxx]	North America	F5DFL413L*A002
Farmall® 85C less cab, with hi-lo transmission [ZxJV0xxxx]	North America	F5DFL413J*A001
Farmall® 85C with cab, with hi-lo transmission [ZxJV0xxxx]	North America	F5DFL413J*A001
Farmall® 95C less cab, with mechanical or power shuttle transmission [ZxJV5xxxx]	North America	F5DFL413K*A002
Farmall® 95C with cab, with mechanical or power shuttle transmission [ZxJV5xxxx]	North America	F5DFL413K*A002
Farmall® 95C less cab, with hi-lo transmission [ZxJV0xxxx]	North America	F5DFL413K*A001
Farmall® 95C with cab, with hi-lo transmission [ZxJV0xxxx]	North America	F5DFL413K*A001

Contents

INTRODUCTION

Engine.....	10
[10.001] Engine and crankcase	10.1
[10.216] Fuel tanks	10.2
[10.501] Exhaust Gas Recirculation (EGR) - Diesel Particulate Filter (DPF) exhaust treatment	10.3
[10.400] Engine cooling system	10.4
[10.414] Fan and drive	10.5
[10.310] Aftercooler.....	10.6
Clutch	18
[18.100] Clutch mechanical release control	18.1
[18.104] Clutch hydraulic release control.....	18.2
[18.110] Clutch and components	18.3
Transmission.....	21
[21.130] Mechanical transmission external controls.....	21.1
[21.112] Power shuttle transmission.....	21.2
[21.110] Master clutch housing	21.3
[21.134] Power shuttle transmission external controls	21.4
[21.154] Power shuttle transmission internal components	21.5
[21.160] Creeper	21.6
[21.162] Reverser	21.7
[21.168] Hi-Lo unit.....	21.8
[21.109] Transmission cooler and lines.....	21.9
[21.118] Transmission/Rear drive	21.10
[21.148] Transmission/Rear drive internal components	21.11
[21.AAA] Transmission generic sub-group	21.12
Four-Wheel Drive (4WD) system	23

[23.101] Mechanical control	23.1
[23.202] Electro-hydraulic control	23.2
[23.314] Drive shaft.....	23.3
Front axle system	25
[25.100] Powered front axle	25.1
[25.102] Front bevel gear set and differential	25.2
[25.108] Final drive hub, steering knuckles, and shafts	25.3
[25.400] Non-powered front axle	25.4
Rear axle system.....	27
[27.106] Rear bevel gear set and differential.....	27.1
[27.120] Planetary and final drives	27.2
[27.100] Powered rear axle.....	27.3
Power Take-Off (PTO).....	31
[31.101] Rear mechanical control	31.1
[31.104] Rear electro-hydraulic control.....	31.2
[31.110] One-speed rear Power Take-Off (PTO)	31.3
[31.114] Two-speed rear Power Take-Off (PTO)	31.4
[31.146] Front Power Take-Off (PTO)	31.5
Brakes and controls	33
[33.202] Hydraulic service brakes	33.1
[33.110] Parking brake or parking lock	33.2
Hydraulic systems.....	35
[35.000] Hydraulic systems.....	35.1
[35.104] Fixed displacement pump.....	35.2
[35.160] Front hitch controls and lines	35.3
[35.204] Remote control valves	35.4
[35.114] Three-point hitch control valve	35.5
[35.116] Three-point hitch cylinder	35.6

[35.701] Front loader arm hydraulic system	35.7
[35.723] Front loader bucket hydraulic system	35.8
Hitches, drawbars, and implement couplings.....	37
[37.100] Drawbars and towing hitches	37.1
[37.110] Rear three-point hitch	37.2
[37.120] Rear three-point hitch linkage.....	37.3
[37.162] Front hitch.....	37.4
[37.166] Front hitch linkage.....	37.5
Steering.....	41
[41.101] Steering control	41.1
[41.106] Tie rods.....	41.2
[41.200] Hydraulic control components.....	41.3
[41.206] Pump	41.4
[41.216] Cylinders	41.5
Wheels.....	44
[44.511] Front wheels.....	44.1
[44.520] Rear wheels	44.2
Cab climate control	50
[50.100] Heating	50.1
[50.104] Ventilation	50.2
[50.200] Air conditioning.....	50.3
Electrical systems	55
[55.100] Harnesses and connectors.....	55.1
[55.201] Engine starting system	55.2
[55.301] Alternator.....	55.3
[55.302] Battery.....	55.4
[55.640] Electronic modules	55.5
[55.048] Rear Power Take-Off (PTO) control system	55.6

[55.408] Warning indicators, alarms, and instruments	55.7
[55.DTC] FAULT CODES.....	55.8
Front loader and bucket.....	82
[82.100] Arm.....	82.1
[82.300] Bucket.....	82.2
[82.AAA] Front loader and bucket generic sub-group	82.3
Platform, cab, bodywork, and decals	90
[90.150] Cab.....	90.1
[90.151] Cab interior.....	90.2
[90.160] Cab interior trim and panels.....	90.3
[90.154] Cab doors and hatches	90.4
[90.110] Operator platform less cab	90.5
[90.100] Engine hood and panels	90.6
[90.102] Engine shields, hood latches, and trims	90.7



INTRODUCTION

Contents

INTRODUCTION

Advice	3
Note to the Owner WARNINGS FOR AIR CONDITIONING SYSTEM REPAIR OPERATIONS	4
Safety rules SAFETY REGULATIONS	5
Personal safety CAB AIR CONDITIONING SYSTEM	8
Basic instructions	9
Special tools NOTES FOR EQUIPMENT	11
Consumables	12
Part identification	13

Advice

IMPORTANT NOTICE

All maintenance and repair work described in this manual must be performed exclusively by CASE IH service technicians, in strict accordance with the instructions given and using any specific tools necessary.

Anyone performing the operations described herein without strictly following the instructions is personally responsible for any eventual injury or damage to property.

Note to the Owner WARNINGS FOR AIR CONDITIONING SYSTEM REPAIR OPERATIONS

Starting the system at low temperatures can damage the compressor. Only operate the air conditioner when the engine is hot and the temperature inside the cab is at least **20 °C (68.00 °F)**.

When disconnecting the hoses, close the ends with plastic caps to prevent foreign matter and humidity from getting inside the hoses.

Handle the thermostatic sensor carefully to avoid damage that may prevent efficient system operation.

Always use two spanners to unscrew the hose fittings to avoid twisting the fitting.

Do not use any type of engine oil to lubricate the compressor and the system.

Never leave the compressor oil container open, always make sure that it is tightly closed. If left exposed the oil will absorb humidity from the air and may, subsequently, damage the system.

Do not transfer compressor oil from the original container to another container.

Do not introduce any additives to the compressor oil. Any additional substances could contain elements which are incompatible with the chemical base of the refrigerant and thus alter its characteristics.

Check that the thermostatic sensor is correctly inserted in the fins on the evaporator to ensure efficient system operation.

Safety rules SAFETY REGULATIONS

TO PREVENT ACCIDENTS

Most accidents or injuries that occur in workshops are the result of non-observance of simple and fundamental safety regulations.

For this reason, IN MOST CASES THESE ACCIDENTS CAN BE AVOIDED: by foreseeing possible causes and consequently acting with the necessary caution and care.

Accidents may occur with all types of vehicle, regardless of how well it was designed and built.

A careful and judicious service technician is the best guarantee against accidents.

Precise observance of the most basic safety rule is normally sufficient to avoid many serious accidents.

DANGER: Never carry out any cleaning, lubrication or maintenance operations when the engine is running.

GENERAL

- Carefully follow specified repair and maintenance procedures.
- Do not wear rings, wristwatches, jewellery, unbuttoned or loose articles of clothing such as: ties, torn clothing, scarves, open jackets or shirts with open zips that may remain entangled in moving parts.
It is advised to wear approved safety clothing, e.g: non-slip footwear, gloves, safety goggles, helmets, etc.
- Do not carry out repair operations with someone sitting in the driver's seat, unless the person is a trained technician who is assisting with the operation in question.
- Operate the vehicle and use the implements exclusively from the driver's seat.
- Do not carry out operations on the vehicle with the engine running, unless specifically indicated.
- Stop the engine and ensure that all pressure is relieved from hydraulic circuits before removing caps, covers, valves, etc.
- All repair and maintenance operations must be carried out using extreme care and attention.
- Service steps and platforms used in a workshop or in the field should be built in compliance with the safety rules in force.
- Disconnect the batteries and label all controls to indicate that the vehicle is being serviced. Block the machine and all equipment which should be raised.
- Do not check or fill fuel tanks, accumulator batteries, nor use starting liquid when smoking or near naked flames, as these fluids are inflammable.
- Brakes are inoperative if manually released for repair or maintenance purposes.
In such cases, the machine should be kept constantly under control using blocks or similar devices.
- The fuel nozzle should always be in contact with the filling aperture. Maintain this position until filling operations are completed in order to avoid possible sparks caused by the accumulation of static electricity.
- Only use specified towing points for towing the tractor, connect parts carefully. Make sure that all pins and/or locks are secured in position before applying traction.
Never remain near the towing bars, cables or chains that are operating under load
- Transport vehicles that cannot be driven using a trailer or a low-loading platform trolley, if available.
- When loading or unloading the vehicle from the trailer (or other means of transport), select a flat area capable of sustaining the trailer or truck wheels, firmly secure the tractor to the truck or trailer and lock the wheels in the position.
- Electric heaters, battery-chargers and similar equipment must only be powered by auxiliary power supplies with efficient ground insulation to avoid electrical shock hazards.
- Always use suitable hoisting or lifting devices when raising or moving heavy parts.
- Take extra care if bystanders are present.
- Never pour gasoline or diesel oil into open, wide and low containers.
- Never use gasoline, diesel oil or other inflammable liquids as cleaning agents. Use non-flammable non-toxic proprietary solvents.
- Wear safety goggles with side guards when cleaning parts with compressed air.
- Limit the air pressure to a maximum of **2.1 bar (30.5 psi)**, according to local regulations.

INTRODUCTION

- Do not run the engine in confined spaces without suitable ventilation.
- Do not smoke, use naked flames, or cause sparks in the area when fuel filling or handling highly inflammable liquids.
- Never use naked flames for lighting when working on the machine or checking for leaks.
- All movements must be carried out carefully when working under, on or near the vehicle and wear protective equipment: helmets, goggles and special footwear.
- When carrying out checks with the engine running, request the assistance of an operator in the driver's seat. The operator must maintain visual contact with the service technician at all times.
- If operating outside the workshop, position the vehicle on a flat surface and lock in position. If working on a slope, lock the vehicle in position and move to a flat area as soon as is safely possible.
- Damaged or bent chains or cables are unreliable. Do not use them for lifting or towing. Always use suitable protective gloves when handling chains or cables.
- Chains should always be safely secured. Ensure that fastening device is strong enough to hold the load foreseen. No persons should stop near the fastening point, trailing chains or cables.
- Maintenance and repair operations must be carried out in a CLEAN and DRY area, eliminate any water or oil spillage immediately.
- Do not create piles of oil or grease--soaked rags as they represent a serious fire hazard; store them in a closed metal container.
Before starting the vehicle or implements, make sure that the driver's seat is locked in position and always check that the area is free of persons or obstacles.
- Empty pockets of all objects that may fall unobserved into the vehicle parts when disassembled.
- In the presence of protruding metal parts, use protective goggles or goggles with side guards, helmets, special footwear and gloves.
- Handle all parts carefully, do not put your hands or fingers between moving parts, wear suitable safety clothing -- safety goggles, gloves and shoes.

WELDING OPERATIONS

- When welding, use protective safety devices: tinted safety goggles, helmets, special overalls, gloves and footwear. All persons present in the area where welding is taking place must wear tinted goggles.
NEVER LOOK AT THE WELDING ARC IF YOUR EYES ARE NOT SUITABLY PROTECTED.
- Where possible, remove the part or tool that requires arc welding from the tractor.
- Disconnect both battery leads. Isolate the cable ends to avoid contact with each other and the tractor.
- Position the welder ground clamp as near as possible to the area where welding is taking place.
- Remove the electronic control units located on the tractor if welding is to be carried out near these control units.
- Never allow welding cables to lay on, near or across any electrical wiring or electronic component while welding is in progress.
- Metal cables tend to fray with repeated use. Always use suitable protective devices (gloves, goggles, etc.) when handling cables.

START UP

- Never start the engine in confined spaces that are not equipped with adequate ventilation for exhaust gas extraction.
- Never place the head, body, limbs, feet, hands or fingers near fans or rotating belts.

ENGINE

- Always loosen the radiator cap slowly before removing it to allow any remaining pressure in the system to be discharged. Coolant should be topped up only when the engine is stopped or idle if hot.
- Never fill up with fuel when the engine is running, especially if hot, in order to prevent the outbreak of fire as a result of fuel spillage
- Never check or adjust fan belt tension when the engine is running.
Never adjust the fuel injection pump when the vehicle is moving.

- Never lubricate the vehicle when the engine is running.

ELECTRICAL SYSTEMS

- If it is necessary to use auxiliary batteries, remember that both ends of the cables must be connected as follows: (+) with (+) and (-) with (-).
- Avoid short-circuiting the terminals. **GAS RELEASED FROM BATTERIES IS HIGHLY INFLAMMABLE.**
- During charging, leave the battery compartment uncovered to improve ventilation.
- Never check the battery charge using "jumpers" (metal objects placed on the terminals).
- Avoid sparks or flames near the battery zone to prevent explosion hazards.
- Before servicing operations, check for fuel or current leaks. Eliminate any eventual leaks before starting work.
- Never charge batteries in confined spaces. Make sure that there is adequate ventilation in order to prevent accidental explosion hazards as a result of the accumulation of gases released during charging operations.
- Always disconnect the battery before performing any kind of servicing on the electrical system.

HYDRAULIC SYSTEMS

- Some fluid slowly coming out from a very small port can be almost invisible and be strong enough to penetrate the skin. Check for leaks using a piece of cardboard, **NEVER USE HANDS.**
- If any liquid penetrates skin tissue, call for medical aid immediately
- Serious skin infections may result if medical attention is not given.
- Use the specific tools when checking pressure values on the hydraulic system.

WHEELS AND TYRES

- Check that the tyres are correctly inflated at the pressure specified by the manufacturer. Periodically check possible damages to the rims and tyres.
- Stand away from (at the side of) the tire when checking inflation pressure.
- Only check pressure when the vehicle is unloaded and the tires are cold, to avoid incorrect readings as a result of over--pressure.
- Do not re--use parts of recovered wheels as incorrect welding or brazing may heat the material, causing it to weaken and eventually damage or break the wheel.
- Never cut, nor weld a rim with the inflated tyre assembled.
- When removing the wheels, lock both the front and rear vehicle wheels.
- Always position support stands when raising the vehicle, in order to conform to current safety regulations.
- Deflate the tyre before removing any object caught into the tyre tread.
- Never inflate tires using inflammable gases; this could cause an explosion and put operator safety at risk.

REMOVAL AND RE-FITTING

- Lift and handle all heavy parts using suitable lifting equipment and make sure that all slings and hooks are correctly secured.
- Handle all parts carefully during lifting operations, keep an eye on the personnel working near the load to be lifted. Never insert hands or fingers between parts, always wear approved accident prevention clothing (goggles, gloves and work boots).
- Avoid twisting chains or metal cables and always wear safety gloves when handling cables or chains.

Personal safety CAB AIR CONDITIONING SYSTEM

SAFETY REGULATIONS

- The refrigerant must be handled with great care in order to avoid personal injury; always use safety goggles and gloves.
- Liquid refrigerant can cause freezing of the skin and serious damage to the eyes, sometimes resulting in permanent blindness.
- Keep the refrigerant container away from heat sources. Heat will cause an increase in pressure of the refrigerant and could cause the container to explode.
- If refrigerant comes into contact with a naked flame or a hot metal surface it produces a toxic gas, which is dangerous if inhaled.
- In order to avoid accidents follow the simple precautions described below.
- The operation of emptying and charging the system must be carried out in a well-ventilated area, well away from any naked flames.
- During the charging and emptying operations, take the necessary precautions to protect the face and above all the eyes from accidental contact with refrigerant.
- In the event of an accident, proceed as follows:
 - if refrigerant splashes into the eyes, wash immediately with a few drops of mineral oil, then wash them thoroughly with a solution of boric acid and water (one spoonful of acid in 1/4 cup of water) and seek medical assistance immediately.
 - freezing of the skin caused by contact with liquid refrigerant may be treated by gradually warming the injured area with cold water, followed by the application of a greasy cream. Request medical assistance.
 - the air conditioning system contains a mixture of refrigerant and oil under high pressure; under no circumstances loosen pipe fittings/unions or work on the pipes without having first drained the system.
 - do not loosen or remove the compressor oil level check cap with the system pressurized.
 - do not heat the refrigerant container. If the temperature exceeds **50 °C (122.00 °F)** the pressure will increase very rapidly.
 - keep the air conditioning system away from heat sources to prevent explosions as a result of an increase in pressure in the system piping.
- When transferring refrigerant from one container to another, only use homologated liquid refrigerant containers equipped with safety valves.
- Never fill liquid refrigerant containers over **80 % (80.0 %)** of their maximum capacity.
- Do not modify the settings of safety valves and the control devices.
- Never connect the recovery/recycling and evacuation/charging stations to electrical power outlets with voltages other than those specified; do not leave the stations powered up unless they are to be used immediately.

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