

Rowtrac™ 420 / 470 / 500
Steiger® 370 / 420 / 470 / 500 / 540 / 580 / 620
Quadtrac® 470 / 500 / 540 / 580 / 620
Tier 4B (final)
Tractor

PIN JEEZ00000FF314001 and above

SERVICE MANUAL

Part number 48193194

1st edition English

October 2017





SERVICE MANUAL

Steiger® 370 CVT, TIER 4B [JEEZ00000FF314001 -], Steiger® 370 Powershift, TIER 4B [JEEZ00000FF314001 -], Steiger® 420 CVT, TIER 4B [JEEZ00000FF314001 -], Steiger® 420 Powershift, TIER 4B [JEEZ00000FF314001 -], Steiger® 420 Rowtrac™ CVT, TIER 4B [JEEZ00000FF314001 -], Steiger® 420 Rowtrac™ Powershift, TIER 4B [JEEZ00000FF314001 -], Steiger® 470 CVT, TIER 4B [JEEZ00000FF314001 -], Steiger® 470 CVT, scraper, TIER 4B [JEEZ00000FF314001 -], Steiger® 470 Powershift, TIER 4B [JEEZ00000FF314001 -], Steiger® 470 Powershift, scraper, TIER 4B [JEEZ00000FF314001 -], Steiger® 470 Quadtrac® CVT, TIER 4B [JEEZ00000FF314001 -], Steiger® 470 Quadtrac® Powershift, TIER 4B [JEEZ00000FF314001 -], Steiger® 470 Rowtrac™ CVT, TIER 4B [JEEZ00000FF314001 -], Steiger® 470 Rowtrac™ Powershift, TIER 4B [JEEZ00000FF314001 -], Steiger® 500 CVT, TIER 4B [JEEZ00000FF314001 -], Steiger® 500 CVT, scraper, TIER 4B [JEEZ00000FF314001 -], Steiger® 500 Powershift, TIER 4B [JEEZ00000FF314001 -], Steiger® 500 Powershift, scraper, TIER 4B [JEEZ00000FF314001 -], Steiger® 500 Quadtrac® CVT, TIER 4B [JEEZ00000FF314001 -], Steiger® 500 Quadtrac® CVT, scraper, TIER 4B [JEEZ00000FF314001 -], Steiger® 500 Quadtrac® Powershift, TIER 4B [JEEZ00000FF314001 -], Steiger® 500 Quadtrac® Powershift, scraper, TIER 4B [JEEZ00000FF314001 -], Steiger® 500 Rowtrac™ CVT, TIER 4B [JEEZ00000FF314001 -], Steiger® 500 Rowtrac™ Powershift, TIER 4B [JEEZ00000FF314001 -], Steiger® 540 CVT, TIER 4B [JEEZ00000FF314001 -], Steiger® 540 CVT, scraper, TIER 4B [JEEZ00000FF314001 -], Steiger® 540 Powershift, TIER 4B [JEEZ00000FF314001 -], Steiger® 540 Powershift, scraper, TIER 4B [JEEZ00000FF314001 -], Steiger® 540 Quadtrac® CVT, TIER 4B [JEEZ00000FF314001 -], Steiger® 540 Quadtrac® CVT, scraper, TIER 4B [JEEZ00000FF314001 -], Steiger® 540 Quadtrac® Powershift, TIER 4B [JEEZ00000FF314001 -], Steiger® 540 Quadtrac® Powershift, scraper, TIER 4B [JEEZ00000FF314001 -], Steiger® 580 Powershift, TIER 4B [JEEZ00000FF314001 -], Steiger® 580 Powershift, scraper, TIER 4B [JEEZ00000FF314001 -], Steiger® 580 Quadtrac® Powershift, TIER 4B [JEEZ00000FF314001 -], Steiger® 580 Quadtrac® Powershift, scraper, TIER 4B [JEEZ00000FF314001 -], Steiger® 620 Powershift, TIER 4B [JEEZ00000FF314001 -], Steiger® 620 Powershift, scraper, TIER 4B



[JEEZ00000FF314001 -], Steiger® 620 Quadtrac® Powershift, TIER 4B
[JEEZ00000FF314001 -]

Link Product / Engine

Product	Market Product	Engine
Steiger® 370 Powershift, TIER 4B [JEEZ00000FF314001 -]	North America	F2CFE614A*B
Steiger® 370 CVT, TIER 4B [JEEZ00000FF314001 -]	North America	F2CFE614A*B
Steiger® 420 Powershift, TIER 4B [JEEZ00000FF314001 -]	North America	F3HFE613G*B001
Steiger® 420 CVT, TIER 4B [JEEZ00000FF314001 -]	North America	F3HFE613G*B001
Steiger® 420 Rowtrac™ Powershift, TIER 4B [JEEZ00000FF314001 -]	North America	F3HFE613G*B001
Steiger® 420 Rowtrac™ CVT, TIER 4B [JEEZ00000FF314001 -]	North America	F3HFE613G*B001
Steiger® 470 Powershift, TIER 4B [JEEZ00000FF314001 -]	North America	F3HFE613D*B001
Steiger® 470 Powershift, scraper, TIER 4B [JEEZ00000FF314001 -]	North America	F3HFE613D*B001
Steiger® 470 CVT, TIER 4B [JEEZ00000FF314001 -]	North America	F3HFE613D*B001
Steiger® 470 CVT, scraper, TIER 4B [JEEZ00000FF314001 -]	North America	F3HFE613D*B001
Steiger® 470 Quadtrac® Powershift, TIER 4B [JEEZ00000FF314001 -]	North America	F3HFE613D*B001
Steiger® 470 Quadtrac® CVT, TIER 4B [JEEZ00000FF314001 -]	North America	F3HFE613D*B001
Steiger® 470 Rowtrac™ Powershift, TIER 4B [JEEZ00000FF314001 -]	North America	F3HFE613D*B001
Steiger® 470 Rowtrac™ CVT, TIER 4B [JEEZ00000FF314001 -]	North America	F3HFE613D*B001
Steiger® 500 Powershift, TIER 4B [JEEZ00000FF314001 -]	North America	F3HFE613B*B001
Steiger® 500 Powershift, scraper, TIER 4B [JEEZ00000FF314001 -]	North America	F3HFE613B*B001
Steiger® 500 CVT, TIER 4B [JEEZ00000FF314001 -]	North America	F3HFE613B*B001
Steiger® 500 CVT, scraper, TIER 4B [JEEZ00000FF314001 -]	North America	F3HFE613B*B001
Steiger® 500 Quadtrac® Powershift, TIER 4B [JEEZ00000FF314001 -]	North America	F3HFE613B*B001
Steiger® 500 Quadtrac® Powershift, scraper, TIER 4B [JEEZ00000FF314001 -]	North America	F3HFE613B*B001
Steiger® 500 Quadtrac® CVT, TIER 4B [JEEZ00000FF314001 -]	North America	F3HFE613B*B001

Product	Market Product	Engine
Steiger® 500 Quadtrac® CVT, scraper, TIER 4B [JEEZ00000FF314001 -]	North America	F3HFE613B*B001
Steiger® 500 Rowtrac™ Powershift, TIER 4B [JEEZ00000FF314001 -]	North America	F3HFE613B*B001
Steiger® 500 Rowtrac™ CVT, TIER 4B [JEEZ00000FF314001 -]	North America	F3HFE613B*B001
Steiger® 540 Powershift, TIER 4B [JEEZ00000FF314001 -]	North America	F3DFE613J*B001
Steiger® 540 Powershift, scraper, TIER 4B [JEEZ00000FF314001 -]	North America	F3DFE613J*B001
Steiger® 540 CVT, TIER 4B [JEEZ00000FF314001 -]	North America	F3DFE613J*B001
Steiger® 540 CVT, scraper, TIER 4B [JEEZ00000FF314001 -]	North America	F3DFE613J*B001
Steiger® 540 Quadtrac® Powershift, TIER 4B [JEEZ00000FF314001 -]	North America	F3DFE613J*B001
Steiger® 540 Quadtrac® Powershift, scraper, TIER 4B [JEEZ00000FF314001 -]	North America	F3DFE613J*B001
Steiger® 540 Quadtrac® CVT, TIER 4B [JEEZ00000FF314001 -]	North America	F3DFE613J*B001
Steiger® 540 Quadtrac® CVT, scraper, TIER 4B [JEEZ00000FF314001 -]	North America	F3DFE613J*B001
Steiger® 580 Powershift, TIER 4B [JEEZ00000FF314001 -]	North America	F3DFE613G*B001
Steiger® 580 Powershift, scraper, TIER 4B [JEEZ00000FF314001 -]	North America	F3DFE613G*B001
Steiger® 580 Quadtrac® Powershift, TIER 4B [JEEZ00000FF314001 -]	North America	F3DFE613G*B001
Steiger® 580 Quadtrac® Powershift, scraper, TIER 4B [JEEZ00000FF314001 -]	North America	F3DFE613G*B001
Steiger® 620 Powershift, TIER 4B [JEEZ00000FF314001 -]	North America	F3DFE613F*B001
Steiger® 620 Powershift, scraper, TIER 4B [JEEZ00000FF314001 -]	North America	F3DFE613F*B001
Steiger® 620 Quadtrac® Powershift, TIER 4B [JEEZ00000FF314001 -]	North America	F3DFE613F*B001

Contents

INTRODUCTION

Engine.....	10
[10.001] Engine and crankcase	10.1
[10.216] Fuel tanks	10.2
[10.202] Air cleaners and lines	10.3
[10.500] Selective Catalytic Reduction (SCR) exhaust treatment.....	10.4
[10.400] Engine cooling system	10.5
[10.414] Fan and drive	10.6
[10.310] Aftercooler.....	10.7
Power coupling.....	19
[19.100] Drive shaft.....	19.1
[19.110] Flywheel damper	19.2
Transmission.....	21
[21.113] Powershift transmission	21.1
[21.135] Powershift transmission external controls.....	21.2
[21.155] Powershift transmission internal components.....	21.3
[21.504] Continuously Variable Transmission (CVT)	21.4
[21.505] Continuously Variable Transmission (CVT) external controls.....	21.5
[21.506] Continuously Variable Transmission (CVT) hydraulic components	21.6
[21.507] Continuously Variable Transmission (CVT) internal components.....	21.7
Front axle system	25
[25.100] Powered front axle	25.1
[25.102] Front bevel gear set and differential	25.2
[25.310] Final drives	25.3
[25.500] Front axle track yoke assembly	25.4
Rear axle system.....	27

[27.100] Powered rear axle.....	27.1
[27.106] Rear bevel gear set and differential.....	27.2
[27.120] Planetary and final drives	27.3
[27.610] Rear axle track yoke assembly	27.4
Power Take-Off (PTO).....	31
[31.104] Rear electro-hydraulic control.....	31.1
[31.110] One-speed rear Power Take-Off (PTO)	31.2
[31.220] Gearbox	31.3
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
[35.300] Reservoir, cooler, and filters.....	35.2
[35.106] Variable displacement pump	35.3
[35.102] Pump control valves.....	35.4
[35.105] Charge pump.....	35.5
[35.304] Combination pump units	35.6
[35.204] Remote control valves	35.7
[35.600] High flow hydraulics	35.8
Hitches, drawbars, and implement couplings.....	37
[37.100] Drawbars and towing hitches	37.1
Frames and ballasting	39
[39.100] Frame	39.1
Steering.....	41
[41.101] Steering control	41.1
[41.200] Hydraulic control components.....	41.2
[41.206] Pump	41.3

Wheels	44
[44.511] Front wheels	44.1
[44.520] Rear wheels	44.2
Tracks and track suspension	48
[48.130] Track frame and driving wheels	48.1
[48.100] Tracks	48.2
[48.134] Track tension units	48.3
[48.138] Track rollers	48.4
Cab climate control	50
[50.104] Ventilation	50.1
[50.200] Air conditioning	50.2
[50.300] Cab pressurizing system	50.3
Electrical systems	55
[55.000] Electrical system	55.1
[55.100] Harnesses and connectors	55.2
[55.640] Electronic modules	55.3
[55.201] Engine starting system	55.4
[55.301] Alternator	55.5
[55.302] Battery	55.6
[55.010] Fuel injection system	55.7
[55.014] Engine intake and exhaust system	55.8
[55.988] Selective Catalytic Reduction (SCR) electrical system	55.9
[55.640] Electronic modules	55.10
[55.024] Transmission control system	55.11
[55.045] Front axle control system	55.12
[55.046] Rear axle control system	55.13
[55.522] Cab Power Take-Off (PTO) controls	55.14
[55.048] Rear Power Take-Off (PTO) control system	55.15

[55.035] Remote control valve electric control	55.16
[55.051] Cab Heating, Ventilation, and Air-Conditioning (HVAC) controls.....	55.17
[55.050] Heating, Ventilation, and Air-Conditioning (HVAC) control system.....	55.18
[55.130] Rear three-point hitch electronic control system	55.19
[55.DTC] FAULT CODES.....	55.20
Platform, cab, bodywork, and decals	90
[90.150] Cab.....	90.1
[90.151] Cab interior.....	90.2
[90.124] Pneumatically-adjusted operator seat.....	90.3
[90.100] Engine hood and panels	90.4
[90.102] Engine shields, hood latches, and trims	90.5



INTRODUCTION

Contents

INTRODUCTION

Foreword - Important notice regarding equipment servicing	3
Safety rules - Personal safety	4
Safety rules - Ecology and the environment	16
Torque - Minimum tightening torques for normal assembly	17
Torque - Standard torque data for hydraulics	20
Basic instructions - Shop and assembly	22
Maintenance chart	24
Hydraulic contamination	26
Capacities	27
Power specification - Engine specifications	28
General specification - Power train and hydraulics	30
Product identification	33
Product identification - Machine orientation	36

Foreword - Important notice regarding equipment servicing

All repair and maintenance work listed in this manual must be carried out only by qualified dealership personnel, strictly complying with the instructions given, and using, whenever possible, the special tools.

Anyone who performs repair and maintenance operations without complying with the procedures provided herein shall be responsible for any subsequent damages.

The manufacturer and all the organizations of its distribution chain, including - without limitation - national, regional, or local dealers, reject any responsibility for damages caused by parts and/or components not approved by the manufacturer, including those used for the servicing or repair of the product manufactured or marketed by the manufacturer. In any case, no warranty is given or attributed on the product manufactured or marketed by the manufacturer in case of damages caused by parts and/or components not approved by the manufacturer.

The manufacturer reserves the right to make improvements in design and changes in specifications at any time without notice and without incurring any obligation to install them on units previously sold. Specifications, descriptions, and illustrative material herein are as accurate as known at time of publication but are subject to change without notice.

In case of questions, refer to your CASE IH Sales and Service Networks.

Safety rules - Personal safety

General safety rules

Use caution when operating the machine on slopes. Raised equipment, full tanks and other loads will change the center of gravity of the machine. The machine can tip or roll over when near ditches and embankments or uneven surfaces.

Stay off slopes too steep for safe operation. Shift down before you start up or down a hill with a heavy load. Avoid “free wheeling.”

Never permit anyone other than the operator to ride on the machine.

Never operate the machine under the influence of alcohol, drugs, or while otherwise impaired.

While driving on the road, the seat swivel position must always be straight forward and locked in position with no rotation. The seat swivel should only be rotated for in field operation.

Do not drive on roads, or at high speed anywhere, with the differential lock engaged. Difficult steering will occur, and can result in an accident. In field operation, use the differential lock for traction improvement, but release for turning at row ends.

Do not exceed implement transport speed or the speed rating on the implement tires. Review the implements Operator's Manual for specifications. Failure to comply could result in death or serious injury.

For speeds up to **16 km/h (10 mph)**, make sure that the weight of a trailed vehicle that is not equipped with brakes does NOT EXCEED 1.5 times the Tractor weight. For speeds up to **40 km/h (25 mph)**, make sure that the weight of the trailed vehicle that is not equipped with brakes, does NOT EXCEED the weight of the Tractor. Stopping distance increases with increasing speed as the weight of the towed load increases, especially on hills and slopes.

Rear upset can result if pulling from wrong location on tractor. Hitch only to the drawbar. Use three-point hitch only with the implements designed for its use – not as a drawbar.

Modifications made to this machine may increase the likelihood or potential for debris accumulations that would normally not be present. Modifications include frame-mounted attachments, plates, screens, or other aftermarket equipment. Operators of modified machines must be aware of accumulations of organic debris and/or material and overall machine cleanliness.

Modified machines require additional and more frequent inspection and cleaning during usage. The machine may require inspection and cleaning multiple times per day during usage. Operators must be aware of the operating environment and conditions. Operators must take appropriate actions to maintain the machines during use. In particular, pay attention to the following machine areas:

- In and around the engine compartment
- Hot exhaust components
- Moving, turning, or rotating machine components

Operators that operate the machine in atypical applications and/or conditions must be aware of accumulations of organic debris and/or material and overall machine cleanliness. Pay particular attention where material accumulations are possible or may result.

Machines that operate in atypical applications or conditions require additional and more frequent inspection and cleaning during usage. The machine may require inspection and cleaning multiple times per day during usage. Operators must be aware of the operating environment and conditions. Operators must take appropriate actions to maintain the machines during use. In particular, pay attention to the following machine areas:

- In and around the engine compartment
- Hot exhaust components
- Moving, turning, or rotating machine components

Do not look directly into the front or rear work lamps. Eye damage can occur.

INTRODUCTION

Do not tamper with the ballast on the front or rear High Intensity Discharge (HID) lamp since it uses high voltage. Personal injury or death can occur.

To avoid possible eye damage from microwave signals emitted by the radar sensor, do not look directly into the sensor face.

When digging or using ground engaging attachments be aware of buried cables. Contact local utilities to determine the locations of services.

Pay attention to overhead power lines and hanging obstacles. High voltage lines may require significant clearance for safety.

Hydraulic oil or diesel fuel leaking under pressure can penetrate the skin, causing serious injury or infection.

- DO NOT use your hand to check for leaks. Use a piece of cardboard or paper.
- Stop engine, remove key and relieve the pressure before connecting or disconnecting fluid lines.
- Make sure all components are in good condition and tighten all connections before starting the engine or pressurizing the system.
- If hydraulic fluid or diesel fuel penetrates the skin, seek medical attention immediately.
- Continuous long term contact with hydraulic fluid may cause skin cancer. Avoid long term contact and wash the skin promptly with soap and water.

Keep clear of moving parts. Loose clothing, jewelry, watches, long hair, and other loose or hanging items can become entangled in moving parts.

Wear protective equipment when appropriate.

DO NOT attempt to remove material from any part of the machine while it is being operated or components are in motion.

Make sure all guards and shields are in good condition and properly installed before operating the machine. Never operate the machine with shields removed. Always close access doors or panels before operating the machine.

Dirty or slippery steps, ladders, walkways, and platforms can cause falls. Make sure these surfaces remain clean and clear of debris.

A person or pet within the operating area of a machine can be struck or crushed by the machine or its equipment. DO NOT allow anyone to enter the work area.

Raised equipment and/or loads can fall unexpectedly and crush persons underneath. Never allow anyone to enter the area underneath raised equipment during operation.

Never operate engine in enclosed spaces as harmful exhaust gases may build up.

Before starting the machine, be sure that all controls are in neutral or park lock position.

Start the engine only from the operator's seat. If the safety start switch is bypassed, the engine can start with the transmission in gear. Do not connect or short across terminals on the starter solenoid. Attach jumper cables as described in the manual. Starting in gear may cause death or serious injury.

Always keep windows, mirrors, all lighting, and Slow Moving Vehicle (SMV) emblem clean to provide the best possible visibility while operating the machine.

Operate controls only when seated in the operator's seat, except for those controls expressly intended for use from other locations.

Before leaving the machine:

1. Park machine on a firm level surface.
2. Put all controls in neutral or park lock position.
3. Engage park brake. Use wheel chocks if required.
4. Lower all hydraulic equipment — Implements, header, etc.

5. Turn off engine and remove key.

When, due to exceptional circumstances, you would decide to keep the engine running after leaving the operator's station, then the following precautions must be followed:

1. Bring the engine to low idle speed.
2. Disengage all drive systems.

3. **⚠ WARNING**

**Some components may continue to run down after you disengage drive systems.
Make sure all drive systems are fully disengaged.
Failure to comply could result in death or serious injury.**

W0113A

Shift the transmission into park.

4. Apply the parking brake.

Click on the image link below for the full
version of the service manual

