NEW HOLLAND TC31DA TC35DA Tractor

SERVICE MANUAL



87537118

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NEW HOLLAND

Repair Manual – TC 31/35DA Series Tractors

CONTENTS

SECTION 00 - GENERAL INFORMATION

Chapter 1 - General Information

Section	Description	Page
	Precautionary Statements	2
	Personal Safety	2
	Machine Safety	2
	Information	2
	Safety	3
	Decals	6
	Ecology and the Environment	12
	International Symbols	13
	Specifications	14
	General Dimensions	20
	Minimum Hardware Tightening Torques	23
00 400	Lubrication and Maintenance	25

SECTION 10 - ENGINE

Chapter 1 - Engine Systems

Section	Description	Page
	Specifications	6
	Engine Bolt Torque Specifications	14
	Engine Fuel System Bolt Torque Specifications	14
	Metric Bolt Torque Specifications	15
	Special Tools	16
	Description of Operation – General Information	17
	Troubleshooting	20
	Overhaul	24

87537118 -03-2006

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Contents Continued:

Section	Description	Page
10 304	Description of Operation – Engine Lubrication System	63
10 400	Description of Operation – Cooling System	70
	Overhaul	74

Chapter 2 - Fuel System

Section	Description	Page
	Specifications	3
	Fuel Injection Pump Specifications	4
	Special Tools	4
	Troubleshooting – General	5
	Troubleshooting – Fuel Injectors	8
	Troubleshooting – Governor	9
10 242	Description of Operation – Injection Pump	10
	Timing and Governor Adjustment	20
	Fuel Setting – Adjustment	28
10 230	Description of Operation – Governor	29
10 218	Description of Operation – Injectors	34
	Troubleshooting	39

SECTION 18 - CLUTCH

Chapter 1 - Clutch

Section	Description	Page
	Troubleshooting	3
	Specifications	4
	Special Tools	5
	Description of Operation – Single Clutch	6
	Adjustments	8
	Overhaul	9
	Description of Operation – Double Clutch	11
	Adjustments	12
	Overhaul	13
	Servicing Clutch-Related Components	16
	Clutch Dimensions	17
	Clutch Linkage Components	20

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Contents Continued:

SECTION 21 - GEAR TRANSMISSION

Chapter 1 - Gear Transmission

Section	Description	Page
	Specifications	3
	General Bolt Torque Specifications	4
	Special Tools	5
	Description of Operation	6
	Powerflow	9
21 110 10	Overhaul	14
	Overhaul	46

SECTION 25 - FWD AXLE

Chapter 1 - SuperSteer

Section	Description	Page
	Specifications	3
	Torque Specifications	4
	Front to Rear Axle Ratio	5
	Special Tools	7
25 100	Description of Operation – SuperSteer, Front Axle and Sensitrack	7
	SuperSteer Axle Components	20

Chapter 2 - Standard FWD Axle

Section	Description	Page
	Specifications	2
	Bolt Torque Specifications	3
	Troubleshooting	4
	Description of Operation	5

SECTION 27 - DIFFERENTIAL, REAR AXLE

Chapter 1 - Differential, Rear Axle

Section	Description	Page
	Specifications	2
	Ring Gear and Pinion Gear Pattern Specification and Adjustment	2
	Bolt Torque Specifications	3
	Special Tools	3
	Introduction	4
27 110	Description of Operation – Differential Assembly	5
	Overhaul	7
	Description of Operation – Rear Axle	15
	Overhaul	16

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TROUBLESHOOTING

PROBLEM	POSSIBLE CAUSE	CORRECTION
HST Transmission fails to operate. HST Erratic operation. HST Abnormal noise.	Clutch or input shaft failure. Low fluid pressure. Low charge pressure. Clogged suction strainer. Clogged HST filter. Fluid viscosity high. Charge pump defective. Defective charge pump relief valve. Defective cylinder block.	Repair or replace as required. Fill to proper level. Check charge relief valve. Clean strainer. Replace HST filter. Replace fluid. Replace pump kit. Replace relief valve. Replace cylinder block.
HST Tractor fails to stop at neutral.	Linkage out of adjustment. Neutral cannot be adjusted. Defective neutral valve.	Adjust neutral position. Replace trunnion shaft joint. Replace neutral valve.
HST Fluid leakage.	Charge pressure too high (above 6.6 bar (95 psi). Return oil line restricted.	Check charge pressure, repair as needed. Repair as required.
HST Low power.	Low fluid pressure. Internal fluid leakage.	Replace high pressure relief valve. Remove assembly. Overhaul HST.
HST is slow to return to neutral position.	Binding in linkage. Tight swash plate trunnion bearing cover.	Inspect, lubricate or replace linkage parts as necessary. Replace trunnion bearing covers. Check swash plate trunnion surface for rough finish polish if needed.
HST filter O ring leakage or filter element implosion.	Excessive fluid viscosity. Hydraulic fluid is contaminated with water.	Replace Hydraulic fluid. Replace hydraulic filter. Replace HST filter.

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LIQUID BALLAST (OPTIONAL)

It is a common practice to add weight to the tractor by filling the rear Tyres with liquid. A calcium chloride ($CaCl_2$) and water solution is recommended due to its low freezing point and greater density (weight per gallon) than pure water.

Never exceed the total recommended weight for the tractor. Because special equipment is required to fill the Tyres, consult your New Holland Dealer.

Tyres should never be filled beyond 75%. At 75% full, the liquid will come to the valve stem when the valve stem is at its highest point at the top of the wheel.

TYRE PRESSURE

Tyre pressure must be considered when adding weights, implements, or attachments to the tractor or damage to the tractor may occur.

The chart below outlines Tyre inflation pressures.

FRONT Tyre INFLATION PRESSURES		
Tyre Type	**Tyre Size**	**Inflation Pressure**
Agricultural: FWD	7-14, 4PR, R1	0.6-1.8 bar (8-26 PSI)
Turf: FWD	27 x 10.5-15, 4PR, R3 25/10.50LL x 15 - 6PR, R3	0.6-15 bar (8-22 PSI) 0.6 bar (8 PSI)
Industrial (R4)	25 x 8.50-14, 6PR, R4	0.6-2.2 bar (8-32 PSI)
REAR Tyre INFLATION PRESSURES		
Agricultural	11.2-24, 4PR, R1	0.8-1.2 bar (12-18 PSI)
Turf	41 x 14-20, 4PR, R3 41/18LL x 16.1, 6 PR, R3	0.8-1.0 bar (12-14 PSI) 0.4 bar (6 PSI)
Industrial (R4)	15-19.50, 6PR, R4	0.8-1.4 bar (12-20 PSI)

NOTE: *Do not underinflate or overinflate Tyres. Do not exceed maximum inflation pressure listed.*

REAR TYRE LIQUID

Ballast Weights (Per Tyre) 600 g/5 lbs. Gal Solution/CaCl2

Tyre Type	Tyre Size	Approximate Added Weight
Agricultural	11.2 x 24, 4PR, R1	115 kg (253 lbs.)
Turf	41 x 14-20, 4PR, R3 41/18LL x 16.1, 6PR, R3	157 kg (347 lbs.) NA
Industrial (R4)	19.50 x 15, 6PR, R4	152 kg (334 lbs.)

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AUXILIARY POWER SOCKET CIRCUIT

NOTE: *The auxiliary power socket has current provided in any ignition key position. The power socket has a 15-amp maximum load rating.*

1. Current starts at the battery, and flows through the positive (+) battery cable to the engine starter motor.
2. From the starter motor, current flows through the 40-amp fuse to a wire splice.
   The wire splice sends current to:
   - Fuse #6, 15-amp
3. Fuse #6, 15-amp provides current to the power socket.
4. Ground source to the power socket is provided by the chassis ground, located at the left side of the HPL housing.

TROUBLESHOOTING
AUXILIARY POWER SOCKET CIRCUIT

CONDITION	POSSIBLE CAUSE	REMEDY
Power socket does not have current present	Blown #6 15-amp Fuse	Inspect and replace fuse as needed
	Blown 40-amp Fuse	Inspect and replace fuse as needed
	Faulty Wiring or Ground Terminal	Inspect tractor wiring harness and ground terminals for damage, corrosion, loose connectors or short circuits. Repair or replace as necessary
	Corroded Power Socket	Check socket for corrosion, repair or replace as necessary

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