

TC30 REPAIR MANUAL COMPLETE CONTENTS

SECTION 00 - GENERAL INFORMATION	2
SECTION 10 - ENGINE SYSTEMS	3
SECTION 18 - CLUTCHES	7
SECTION 21 - GEAR TRANSMISSION	8
SECTION 25 - FRONT-WHEEL DRIVE FRONT AXLE	8
SECTION 27 - DIFFERENTIAL, REAR AXLE	9
SECTION 29 - HYDROSTATIC TRANSMISSION	9
SECTION 31 - POWER TAKE-OFF SYSTEMS	11
SECTION 33 - BRAKES	12
SECTION 35 - HYDRAULIC SYSTEM	12
SECTION 41 - STEERING SYSTEMS POWER STEERING	14
SECTION 44 - WHEELS AND TIRES	16
SECTION 55 - ELECTRICAL SYSTEM	17
SECTION 72 - SEPARATING THE TRACTOR	20
SECTION 90 - PLATFORM	20

The following pages are the collation of the contents pages from each section and chapter of the TC30 Tractor Repair manual. Complete Repair part # 87021725.

The sections used through out all New Holland product Repair manuals may not be used for each product. Each Repair manual will be made up of one or several books. Each book will be labeled as to which sections are in the overall Repair manual and which sections are in each book.

The sections listed above are the sections utilized for the TC30 Tractors.

Sample of manual. Download All 592 pages at:

<https://www.aresairmanual.com/downloads/new-holland-tc30-tractor-service-repair-manual/>

BOOK 1 - 87021726

Chapter 1 - General Information

CONTENTS

Section	Description	Page
	Introduction	2
	Precautionary Statements	3
	Safety	4
	The Tractor	4
	Servicing the Tractor	4
	Operating the Tractor	5
	Driving the Tractor	5
	Operating the PTO	6
	Diesel Fuel	6
	Safety Frame (ROPS)	6
	Safety Decals	7
	Instruction Decals	8
	Product Identification Plate	11
	International Symbols	12
	Specifications	13
	General Dimensions	19
	Minimum Hardware Tightening Torques	22
	Lubricants	24
	Adjustments	25
	Tire Inflation Pressure	25

SECTION 10 - ENGINE SYSTEMS

BOOK 1 - 87021726

Chapter 1 - Engine

CONTENTS

Section	Description	Page
10 000	Specifications	4
	Metric Bolt Torque Specifications	11
	Special Tools	12
	Compression Test and Tools	12
	General Information	13
	Description of Operation	13
	Cylinder Head and Valve Train Components	14
	Cylinder Block Assembly	14
	Troubleshooting	15
	Engine Overhaul	20
	Engine Disassembly	20
	Fuel Injector and Glow Plug Removal	21
	Oil Pressure Switch	21
	Temperature Sending Switch and Alternator Removal	22
	Fan, Water Pump, and External Oil Tube Removal	22
	Air Inlet Manifold Removal	22
	Valve Cover Removal	23
	Rocker Arm Shaft and Support Bracket Removal	23
	Cylinder Head Removal	23
	Valve Tappet Removal	24
	Fuel Shutoff Solenoid Removal	24
	Engine Timing Gear Cover, Timing Gears, and Cam Shaft	24
	Disassembly, Inspection, Fits, Clearances and Assembly of Component Assemblies	30
10 101	Cylinder Head Disassembly	30
	Cylinder Head Inspection and Repair	30
	Valve Seats	31
	Valves	32
	Valve Guides	33
	Valve Springs	34
	Rocker Arms	34
Push Rods	35	

SECTION 10 - ENGINE SYSTEMS

BOOK 1 - 87021726

Chapter 1 - Engine (Continued)

CONTENTS

Section	Description	Page
	Cylinder Head Assembly	36, 54
	Cylinder Block	36
10 105	Pistons, Piston Rings, and Connecting Rods Disassembly and Inspection	37
	Pistons, Rings, and Connecting Rod Assembly	42
10 103	Crankshaft	43
	Crankshaft Bearing (bushing) Inspection	44
	Crankshaft Bearing (bushing) Replacement	45
	Crankshaft Main Bearing Assembly	45
	Port Block Removal	46
	Port Block Installation	46
10 106	Timing Gear	46
	Camshaft Disassembly	47
	Camshaft Inspection	47
	Camshaft Assembly	47
10 103	Flywheel	48, 50
	Timing Gear Housing	48
	Engine Reassembly	49
	Crankshaft and Bearing Holder Reassembly	49
	Rear Oil Seal and Backplate Assembly	49
	Pistons and Connecting Rods	50
	Oil Suction Pipe and Suction Strainer	51
	Oil Sump	51
	Timing Gear Cover, Timing Gears, and Camshaft Assembly	51
	Idler Gear, Oil Pump, and Injection Timing	52
	Timing Gear Cover	52
	Crankshaft Pulley	52
	Fuel Injection Pump Assembly	53
	Power Steering Pump	53
	Head Gasket Selection	54
	Head Gasket Selection Chart	54
	Valve Clearance Adjustment	55
	Valve Cover	55

SECTION 10 - ENGINE SYSTEMS

BOOK 1 - 87021726

Chapter 1 - Engine (Continued)

CONTENTS

Section	Description	Page
	Water Pump and Cooling Fan Assembly	56
	Air Intake Manifold Assembly	56
	External Oil Tube	56
	Glow Plug and Connector	56
	Fuel Injector	57
	Fuel Piping	57
	Alternator and Temperature Sender Switch	57
	Exhaust Manifold	58
	Engine Lubrication System	58
10 304	Description	58
	Model TC30 Oil Flow Chart	60
10 206	Oil Filter	61
10 304	Oil Pump	61
	Engine Oil Pressure Check	62
	Oil Pressure Relief Valve	64
	Oil Consumption	64
	Cooling System	65
10 400	Description of Operation	65
	Maintenance	66
	Coolant	66
	Radiator Cap	66
10 402	Thermostat	67, 73
10 402	Water Pump	67
10 414	Cooling Fan	67
	Cooling System Overhaul	68
10 406	Radiator	68
10 402	Water Pump	71

SECTION 10 - ENGINE SYSTEMS

BOOK 1 - 87021726

Chapter 2 - Fuel System

CONTENTS

Section	Description	Page
10 000	Specifications	2
	Fuel Injection Pump Specifications	3
	Special Tools	4
	Injection Pump	5
10 242	Description of Operation	5
	Troubleshooting - General	6
10 244	Fuel Variation Mechanism	9
10 236	Pumping Elements	12
10 214	Delivery Valves	13
10 214	Injection Pump Removal	15
	Injection Pump Repair	16
	Injection Pump Installation	16
	Timing and Governor Adjustment	17
10 230	Installation using Original Pump and Drive Components	17
	Installation using a New Pump or Drive Component	18
	Spill-Timing Procedure	19
	Bleeding the Fuel System	23
	Fuel Settings	25
	Fuel Screw/High Idle Adjustment	25
	Troubleshooting - Governor System	26
	Governor	27
10 230	Description of Operation	27
	Governor Disassembly	29
	Governor Assembly	30
	Troubleshooting - Fuel Injectors	32
	Injectors	33
10 218	Description of Operation	33
	Injectors Removal	34
	Injectors Disassembly	35
	Injectors Assembly and Adjustment	35

SECTION 18 - CLUTCHES

BOOK 1 - 87021726

Chapter 1 - Clutches

CONTENTS

Section	Description	Page
18 000	Single Clutch - 2WD 9 x 3 and HST Models	2
	Overhaul	4
	Single Clutch Adjustments	6
	Single Clutch Free-play Adjustment	6
	Single Clutch Stop Adjustment	7
	Double Clutch Model 9 x 3 Gear Transmission (4WD)	8
	Overhaul	8
18 110	Disassembly	8
18 110	Assembly	10
	Double Clutch Adjustments	11
	Double Clutch Free-play Adjustment	12
	Double Clutch Stop Adjustment	13
	Servicing Clutch-Related Components	14
18 110	Clutch Pilot Bearing	14
	Clutch Release Bearing	15
	Clutch Linkage Components	16
	Clutch Cross Shaft Bushings Assembly	16
	Clutch Pedal Bushings Removal	17
	Clutch Pedal Bushings Assembly	17
	Troubleshooting	18
	Specifications	19
	Special Tools	20

SECTION 21 - GEAR TRANSMISSION

BOOK 1 - 87021726

Chapter 1 - Gear Transmission 9x3

CONTENTS

Section	Description	Page
21 000	9 x 3 Gear Transmission	2
	Description of Operation	2
21 148 63	Input Shaft Removal (single clutch)	10
	Main Transmission Shift Lever	18
21 130	Lever Overhaul	18
	Specifications	20
	General Bolt Torque Specifications	21
	Special Tools	22

SECTION 25 - FRONT-WHEEL DRIVE FRONT AXLE

BOOK 1 - 87021726

Chapter 1 - Front-wheel Drive Front Axle

CONTENTS

Section	Description	Page
25 000	Front-wheel Drive Front Axle	2
25 100	Description of Operation	2
	Overhaul	3
25 108	Reduction Gear - Drop Box Disassembly	5
25 102	Front Axle and Differential Disassembly	6
	Drive Pinion Assembly	7
	Inspection and Repair	8
	Front Axle and Differential Assembly	9
	Differential Gear Assembly	10
	Axle and Differential Assembly	10
	Assembly Procedure	10
	Differential Case Bearing Pre-load Check and Adjustment	11
	Ring Gear-to-pinion Backlash Check and Adjustment	11
25 108	Reduction Gear Box Assembly	13
	Bevel Gear-to-pinion Backlash Check	16
	Troubleshooting	16
	Specifications	17
	Bolt Torque Specifications	18
	Special Tools	19

SECTION 27 - DIFFERENTIAL, REAR AXLE

BOOK 1 - 87021726

Chapter 1 - Differential, Rear Axle

CONTENTS

Section	Description	Page
27 000	Introduction	2
27 110	Description of Operation	3
27 000	Differential Lock	4
27 106	Differential Overhaul	5
27 126	Rear Axle Overhaul	14
	Seal Installation	17
	Specifications	19
	Bolt Torque Specifications	20

SECTION 29 - HYDROSTATIC TRANSMISSION

BOOK 1 - 87021726

Chapter 1 - Hydrostatic Transmission

CONTENTS

Section	Description	Page
29 000	Hydrostatic Transmission	3
29 202	Description of Operation	3
29 212	Variable Displacement Pump Operation	5
29 212	Fixed Displacement Motor Operation	5
	Fluid Flow Neutral Position	6
	Fluid Flow Forward Position	7
	Fluid Flow Reverse Position	8
	Overhaul	9
29 202	Removal	9
	Precautions Before Disassembly	10
	Inspection	18
	Assembly	20
29 130	Port Block	25
	Charge Pump Relief Valve	26
	High Pressure Relief Valve	26
	Hydrostatic Pump and Port Block Assembly	27

SECTION 29 - HYDROSTATIC TRANSMISSION

BOOK 1 - 87021726

Chapter 1 - Hydrostatic Transmission (Continued)

CONTENTS

Section	Description	Page
29 204	Check Valve	29
	Pressure Tests	30
	High Pressure Relief Valve Test	30
	Charge Pump Relief Valve Test	31
	Hydrostatic Transmission Gearbox Description of Operation	32
29 300	Hydrostatic Transmission Gearbox	32
	HST	33
	Gearbox Power Flow	33
	Overhaul	37
	Transmission Case Removal	38
	PTO Input Shaft Removal	38
	Transmission Input Shaft Removal	38
	FWD Shift Rod Removal	39
	Rear Main Shaft Removal	39
	Range Gear Shifter Rod Removal	40
	Drive Pinion Shaft Removal	40
	PTO Countershaft Removal	40
	Drive Pinion Assembly	41
	PTO Countershaft Assembly	41
	Range Gear Shifter Rod Assembly	42
	Rear Main Shaft Assembly	42
	FWD Main Shaft	42
	FWD Shift Rod Assembly	43
	Transmission Input Shaft Assembly	43
	PTO Input Shaft Assembly	43
	Transmission Case Assembly	44
	Mid-PTO Link	44
	Pedal Forward Stop Adjustment	45
	HST Control Linkage	45
29 200	The HST Control Linkage	45
	HST Neutralizer (Spring Holder)	45
	HST Neutral Adjustment	47
	Troubleshooting	48
	Specifications	49
	Special Tools	50

SECTION 31 - POWER TAKE-OFF SYSTEMS

BOOK 2 - 87021727

Chapter 1 - Power Take-off Systems

CONTENTS

Section	Description	Page
31 000	Description of Operation	2
31 110	Transmission Drive Power Take-off	2
	Live Power Take-off	4
31 110	Power Take-off Drive - Hydrostatic Transmission	5
31 114 42	Power Take-off Overhaul	6
	Power Take-off Output Shaft Removal	6
31 114 46	Power Take-off Center Countershaft Removal	7
	One-way Clutch Disassembly	7
	Power Take-off Rear Countershaft Removal	8
	Power Take-off Front Countershaft Removal	8
	Power Take-off Shifter Removal	8
	Power Take-off Shifter Assembly	10
	Power Take-off Front Countershaft Assembly	11
	Power Take-off Rear Countershaft Assembly	11
	Power Take-off Center Countershaft Assembly	12
	Power Take-off Output Shaft Assembly	13
	Mid-mount Power Take-off	13
	Description of Operation	13
	Overhaul	14
	Mid-mount PTO Countershaft Removal	14
	Mid-mount PTO Shifter Arm Removal	15
31 120	Mid-mount PTO Gearbox Disassembly	16
	Mid-mount PTO Gearbox Assembly	17
	Mid-mount PTO Shifter Arm Assembly	18
	Mid-mount PTO Countershaft Assembly	18
	Rear PTO Components Assembly	18
	Specifications	19
	Bolt Torque Specifications	20

SECTION 33 - BRAKES

BOOK 2 - 87021727

Chapter 1 - Brakes

CONTENTS

Section	Description	Page
33 120	Rear Axle and Brakes	2
33 110	Parking Brake	3
33 120	Brakes and Final Pinion Overhaul	3
	Specifications	6

SECTION 35 - HYDRAULIC SYSTEM

BOOK 2 - 87021727

Chapter 1 - Hydraulic System

CONTENTS

Section	Description	Page
35 000	Introduction	3
35 000	Description	3
	Hydraulic Fluid Filter	4
35 080	Combination System Relief - Diverter Valve Manifold Assembly	4
35 200	Control Valve Assembly (HPL)	5
35 210	Neutral Position - Fluid Flow	6
35 210	Raising Position - Fluid Flow	7
35 210	Lowering Position - Fluid Flow	8
35 200	Bypass Spool - Fluid Flow - Closed Position	9
35 200	Bypass Spool - Fluid Flow - Open Position	9
35 200	Flow Control Valve	9
	Linkage Operation - Single Lever - Position Control	10
	Position Control Operation - Neutral Position to Raise	10
	Raise Position to Neutral Position	10
	Neutral Position to Lowering Position	11
	Overhaul	11
35 110	Lift Cylinder Removal	11
	Disassembly	13

SECTION 35 - HYDRAULIC SYSTEM

BOOK 2 - 87021727

Chapter 1 - Hydraulic System (Continued)

CONTENTS

Section	Description	Page
	Inspection and Repair	14
	Assembly	15
35 183	Flow Control Valve	17
35 200	Hydraulic Control Valve	18
	Installation	22
35 180	Combination System Relief Valve and Diverter Valve Assembly	22
	Adjustments	24
35 124	HPL Linkage Adjustments	24
	Adjustment Procedure	24
	Control Lever Adjustment	24
	Hydraulic Pump and Filter	25
35 304	Description	25
	Hydraulic Pump	25
35 204	Remote Valves	27
	Description of Operation	27
35 184	Front (double spool) Remote Valve	28
	Fluid Flow - Neutral Position - Rear (single-spool) Remote System	30
	Fluid Flow - Remote Cylinder Extending - Rear (single-spool) Remote System	31
	Fluid Flow - Remote Cylinder Retracting - Rear (single-spool) Remote System	32
	Front (double-spool) Remote Control System	33
	Fluid Flow - Bucket Control - Dumping and Lift Control - Neutral	34
	Fluid Flow - Bucket Control - Dumping Regen and Lift Control - Neutral	35
	Fluid Flow - Bucket Control - Roll Back and Lift Control - Neutral	36
	Fluid Flow - Bucket Control - Neutral and Lift Control - Raising	37
	Fluid Flow - Bucket Control - Neutral and Lift Control - Lowering	38
	Fluid Flow - Bucket Control - Neutral and Lift Control - Float	39
	Overhaul	40
	Rear (single-spool) Remote Valve Removal	40
	Rear (single-spool) Remote Valve Disassembly	40
	Inspection	41
	Rear (single-spool) Remote Valve Assembly	41
	Front (double-spool) Remote Control Valve Removal	42

SECTION 35 - HYDRAULIC SYSTEM

BOOK 2 - 87021727

Chapter 1 - Hydraulic System (Continued)

CONTENTS

Section	Description	Page
	Front (double-spool) Remote Control Valve Disassembly	42
	Inspection	44
	Front (double-spool) Remote Valve Assembly	44
	Relief Valve Disassembly	45
	Inspection	45
	Relief Valve Assembly	45
	Relief Valve Adjustment	45
	Troubleshooting	46
	Pressure Testing	47
	Main System Relief Valve	47
	Front (double-spool) Remote Control Valve	47
	Inlet Restriction Test	48
	Pump Efficiency Test	49
	Specifications	50
	Bolt Torque Specifications	51
	Special Tools	52

SECTION 41 - STEERING SYSTEMS POWER STEERING

BOOK 2 - 87021727

Chapter 1 - Steering Systems Power Steering

CONTENTS

Section	Description	Page
41 000	Power Steering System	2
	Description of Operation	2
	Power-Steering Control Motor	3
41 204	Spool and Sleeve	3
41 206	Power Steering Pump	5
41 216	Power Steering Cylinder	6

SECTION 41 - STEERING SYSTEMS POWER STEERING

BOOK 2 - 87021727

Chapter 1 - Steering Systems Power Steering (Continued)

CONTENTS

Section	Description	Page
41 200	Power Steering Operation	7
	Manual Operation	10
	Power Steering System Overhaul	11
41 204	Steering Control Motor Removal	11
	Disassembly	12
	Inspection	15
	Assembly	15
	Steering Control Motor Installation	20
41 216	Steering Cylinder Removal	21
	Disassembly	22
	Inspection	23
	Assembly	23
	Installation	23
	Power Steering Pump and Reservoir Tank	24
	Power Steering Tubes	26
	Troubleshooting	29
	Pressure Testing	31
	Pump, Steering Motor and Relief Valve	31
	Steering Cylinder Test	32
	Specifications	33
	Special Tools	34
Bolt Torque Specifications	35	

SECTION 44 - WHEELS AND TIRES

BOOK 2 - 87021727

Chapter 1 - 2WD Front Axle and Related Parts

CONTENTS

Section	Description	Page
44 000	Two-wheel Drive	2
44 101	Description of Operation	2
	Overhaul	3
	Spindle Removal and Disassembly	4
44 103	Inspection and Repair	5
	Assembly	6
	Troubleshooting	7
	Specifications	8
	Bolt Torque Specifications	9

SECTION 44 - WHEELS AND TIRES

BOOK 2 - 87021727

Chapter 2 - Tread Settings and Ballasting

CONTENTS

Section	Description	Page
44 000	Wheels and Tires	2
	2WD Tread Setting	2
	FWD Tread Setting	2
	Rear Axle Tread Setting	3
	Tractor Weighting	3
	Weighting for Stability	3
	Weighting Limitations	3
	Rear Wheel Weight Installation	5
	Liquid Ballast	6
	Tire Pressure	6
	Wheel Nut Torque Specification	6

SECTION 55 - ELECTRICAL SYSTEM

BOOK 2 - 87021727

Chapter 1 - Electrical

CONTENTS

Section	Description	Page
55 000	Introduction	4
55 100	Component Location and Function	4
	Electrical System Components	7
	Description & Testing, Battery	7
	Fusible Link	9
	Fuse Block	9
	Key Switch	10
	Heat Position	11
	Light Switch	14
	Headlights	15
55 404	Description	15
	Taillights	16
55 404	Description	16
	Hazard/Turn Signal Combination Switch	17
	Hazard/Turn Signal Lights	20
	Transmission Range Safety Switch	21
55 408	Description	21
	Rear PTO Safety Switch	22
	Mid PTO Safety Switch (standard on HST Models / optional for 9 x 3 Models)	24
55 408	Description	24
55 408	Seat Safety Switch	26
	Seat Safety Switch Timer	27
	Parking Brake Safety Switch	28
55 408	Description	28
	Relays	30
	Safety Start Relay	30
	Kill Relay	31
	Diode	33
	Engine Glow Plug Indicator Light Timer	35
	Engine Glow Plugs	36
55 201	Description	36
	Hazard Flasher/Turn Signal Control Module	37

SECTION 55 - ELECTRICAL SYSTEM

BOOK 2 - 87021727

Chapter 1 - Electrical (Continued)

CONTENTS

Section	Description	Page
	Fuel Level Sender	40
55 410	Description	40
	Fuel Shutoff Solenoid	42
	Air Filter Restriction Switch	44
55 414	Description	44
	Oil Pressure Switch	45
55 414	Description	45
	Coolant Temperature Sending Unit	47
55 414	Description	47
	Instrument Panel	48
55 418	Description	48
	Instrument Panel Components	50
	Coolant Temperature Gauge	51
	Fuel Gauge	52
	Tachometer/Hourmeter	54
	Alternator Specifications - TC30	56
	Charging System for TC30 Tractors	57
55 301	Description of Operation	57
	Alternator Troubleshooting - TC30	60
	Preliminary Alternator Tests	62
	Alternator Component Testing and Inspection	68
	Assembly	73
	Alternator Bench Check	77
	Installation	78
	TC30 Starter Motor Specifications	76
	Starting System - TC30	80
55 201	Description of Operation	80
	Components	80
	Starter Motor Troubleshooting	83
	Removal	85
	Disassembly	85
	Inspection	87

SECTION 55 - ELECTRICAL SYSTEM

BOOK 2 - 87021727

Chapter 1 - Electrical (Continued)

CONTENTS

Section	Description	Page
	Electrical Testing	91
	Assembly	94
	No Load Test	97
	Installation	97
	Electrical Diagrams	98
	TC30 Starting Circuit (operator present)	101
	Troubleshooting	103
	TC30 Starting Circuit (no operator present)	104
	Troubleshooting	107
	TC30 Safe Operation Circuit (operator present)	108
	Troubleshooting	110
	TC30 Safe Operation Circuit (no operator present)	111
	Troubleshooting	113
	TC30 Charge Circuit	114
	Troubleshooting	116
	TC30 Engine Glow Plug Circuit	118
	Troubleshooting	119
	TC30 Engine Temperature Circuit	120
	Troubleshooting	122
	TC30 Fuel Level Circuit	123
	Troubleshooting	125
	TC30 Low Oil Pressure Circuit	126
	Troubleshooting	128
	TC30 Air Restriction Circuit	129
	Troubleshooting	131
	TC30 Lighting Circuit	132
	Troubleshooting	134
	TC30 Hazard Flasher Circuit	135
	Troubleshooting	137
	TC30 Right Turn Signal Circuit	138
	Troubleshooting	140
	TC30 Left Turn Signal Circuit	141
	Troubleshooting	143

SECTION 72 - SEPARATING THE TRACTOR

BOOK 2 - 87021727

Chapter 1 - Separating the Tractor

CONTENTS

Section	Description	Page
72 000	Front Axle Removal	2
	Separating the Tractor Between the Front Axle Support and the Engine	4
	Separating the Tractor Between the Engine and Clutch Housing	6
	Transmission Removal and Installation	9
	Separating the Tractor Between the Clutch Housing, Hydrostatic Transmission and the Rear Axle Center Housing	10
	Hydrostatic Gearbox Removal	11
	Hydrostatic Unit and Gearbox Installation	12
	Separating the Tractor Between the Rear Axle and the Center Housing	12
	Rear Axle and Center Housing Removal	12
	Rear Axle and Center Housing Installation	14

SECTION 90 - PLATFORM

BOOK 2 - 87021727

Chapter 1 - Platform

CONTENTS

Section	Description	Page
	Hood	2
	Side Covers	3
	Steering Wheel	3
	Dash Panel	4
	Seat	5
	Roll Over Protection System (ROPS)	9
	Fuel Tank	10
	Rear Fenders	12
	Operator Platform	14

SECTION 00 - GENERAL INFORMATION

Chapter 1 - General Information

CONTENTS

Section	Description	Page
	Introduction	2
	Precautionary Statements	3
	Safety	4
	The Tractor	4
	Servicing the Tractor	4
	Operating the Tractor	5
	Driving the Tractor	5
	Operating the PTO	6
	Diesel Fuel	6
	Safety Frame (ROPS)	6
	Safety Decals	7
	Instruction Decals	8
	Product Identification Plate	11
	International Symbols	12
	Specifications	13
	General Dimensions	19
	Minimum Hardware Tightening Torques	22
	Lubricants	24
	Adjustments	25
	Tire Inflation Pressure	25

INTRODUCTION

This repair manual provides the technical information needed to properly service the New Holland TC30 tractor. Use this manual in conjunction with the operator's manual for complete operation, adjustment, and maintenance information.

On New Holland equipment, left and right are determined by standing behind the unit, looking in the direction of travel.

PRECAUTIONARY STATEMENTS

PERSONAL SAFETY

Throughout this manual and on machine decals, you will find precautionary statements (“**DANGER**”, “**WARNING**”, and “**CAUTION**”) followed by specific instructions. These precautions are intended for the personal safety of you and those working with you. Please take the time to read them.



DANGER



This word “**DANGER**” indicates an immediate hazardous situation that, if not avoided, will result in death or serious injury. The color associated with Danger is RED.



WARNING



This word “**WARNING**” indicates a potentially hazardous situation that, if not avoided, could result in death or serious injury. The color associated with Warning is ORANGE.



CAUTION



This word “**CAUTION**” indicates a potentially hazardous situation that, if not avoided, may result in minor or moderate injury. It may also be used to alert against unsafe practices. The color associated with Caution is YELLOW.

FAILURE TO FOLLOW THE “DANGER”, “WARNING”, AND “CAUTION” INSTRUCTIONS MAY RESULT IN SERIOUS BODILY INJURY OR DEATH.

MACHINE SAFETY

The precautionary statement (“**IMPORTANT**”) is followed by specific instructions. This statement is intended for machine safety.

IMPORTANT: *The word “IMPORTANT” is used to inform the reader of something he needs to know to prevent minor machine damage if a certain procedure is not followed.*

INFORMATION

NOTE: *Instructions used to identify and present supplementary information.*

SAFETY

PRECAUTIONARY STATEMENTS

A careful operator is the best operator. Most accidents can be avoided by observing certain precautions. To help prevent accidents, read and take the following precautions before operating this equipment. Equipment should be operated only by those who are responsible and instructed to do so.

Carefully review the procedures given in this manual with all operators. It is important that all operators be familiar with and Follow safety precautions.

THE TRACTOR

1. Read the Operator's Manual carefully before using the tractor. Lack of operating knowledge can lead to accidents.
2. Use an approved roll bar and seat belt for safe operation. Overturning a tractor without a roll bar can result in death or injury. If your tractor is not equipped with a roll bar and seat belt, see your New Holland Dealer.
3. Always use the seat belt. The only instance when the seat belt should not be used is if the roll bar has been removed from the tractor.
4. If a front end loader is to be installed, always use a FOPS (Falling Object Protective Structure) canopy to avoid injury from falling objects.
5. Use the handholds and step plates when getting on and off the tractor to prevent falls. Keep steps and platform cleared of mud and debris.
6. Do not permit anyone but the operator to ride on the tractor. There is no safe place for extra riders.
7. Keep all safety decals clean of dirt and grime, and replace all missing, illegible, or damaged safety decals. See the list of decals in the Decal section of this manual.
3. Keep the tractor and equipment, particularly brakes and steering, maintained in a reliable and satisfactory condition to ensure your safety and comply with legal requirements.
4. Keep open flame or cold weather starting aids away from the battery to prevent fires or explosions. Use jumper cables according to instructions to prevent sparks which could cause explosion.
5. Stop the engine before performing any service on the tractor.
6. Escaping hydraulic/diesel fluid under pressure can penetrate the skin causing serious injury. If fluid is injected into the skin, obtain medical attention immediately or gangrene may result.
 - DO NOT use your hand to check for leaks. Use a piece of cardboard or paper to search for leaks.
 - Stop the engine and relieve pressure before connecting or disconnecting lines.
 - Tighten all connections before starting the engine or pressurizing lines.
7. Do not modify or permit anyone else to modify or alter this tractor or any of its components or functions without first consulting a New Holland Dealer.

SERVICING THE TRACTOR

1. The cooling system operates under pressure which is controlled by the radiator cap. It is dangerous to remove the cap while the system is hot. Always turn the cap slowly to the first stop and allow pressure to escape before removing the cap entirely.
2. Keep any type of open flame away from the tractor and do not smoke while refueling. Wait for the engine to cool before refueling.
8. The fuel oil in the injection system is under high pressure and can penetrate the skin. Unqualified persons should not remove or attempt to adjust a pump, injector, nozzle, or any other part of the fuel injection system. Failure to follow these instructions can result in serious injury.
9. Continuous long-term contact with used engine oil may cause skin cancer. Avoid prolonged contact with used engine oil. Wash skin promptly with soap and water.

10. Some components of your tractor, such as gaskets and friction surfaces (brake linings, clutch linings, etc.) may contain asbestos. Breathing asbestos dust is dangerous to your health. You are advised to have any maintenance or repair on such components carried out by an authorized New Holland Dealer. However, if service operations are to be undertaken on parts that contain asbestos, the essential precautions listed below must be observed:
 - Work out of doors or in a well ventilated area.
 - Dust found on the tractor or produced during work on the tractor should be removed by extraction, not by blowing.
 - Dust waste should be dampened, placed in a sealed container, and marked to ensure safe disposal.
 - If any cutting, drilling, etc. is attempted on materials containing asbestos, the item should be dampened and only hand tools or low speed power tools used.
9. Pull only from the drawbar or the lower link drawbar in the down position. Use only a drawbar pin that locks in place. Pulling from the tractor rear axle or any point above the axle may cause the tractor to upset.
10. If the front end of the tractor tends to rise when heavy implements are attached to the three-point hitch, install front end or front wheel weights. Do not operate the tractor with a light front end.
11. Always set the hydraulic selector lever in position control when attaching or transporting equipment. Ensure hydraulic couplers are properly mounted and will disconnect safely in case of accidental detachment of implement.
12. Do not leave equipment in the raised position.
13. Use the flasher/turn signal lights and SMV signs when traveling on public roads both day and night (unless prohibited by law).
14. When operating at night, adjust lights to prevent blinding oncoming drivers.

OPERATING THE TRACTOR

1. Before starting the tractor, apply the parking brake, place the PTO lever in the "OFF" position, the lift control lever in the down position, the remote control valve levers in the neutral position, and the transmission in neutral.
2. Always sit in the tractor seat when starting the engine or operating controls. Do not start the engine or operate controls while standing beside the tractor.
3. Do not bypass the neutral start switches. Consult your New Holland Dealer if your neutral start controls malfunction. Use jumper cables only in the recommended manner. Improper use can result in tractor runaway.
4. Avoid accidental contact with the gear shift lever while the engine is running, as this can cause unexpected tractor movement.
5. Before getting off the tractor, disengage the PTO, turn the engine off, and apply the parking brake. Never get off the tractor while it is in motion.
6. Do not park the tractor on a steep incline.
7. Do not operate the tractor engine in an enclosed building without adequate ventilation. Exhaust fumes can cause death or illness.
8. If the power steering or engine ceases operating, stop the tractor immediately.

DRIVING THE TRACTOR

1. Watch where you are going, especially at row ends, on roads, around trees and low hanging obstacles.
2. To avoid upsets, drive the tractor with care and at a safe speed. Use extra caution when operating over rough ground, when crossing ditches or slopes, and when turning corners.
3. To provide two-wheel braking, lock tractor brake pedals together when transporting on roads.
4. Do not coast or free wheel down hills. Use the same gear when going downhill as is used when going uphill.
5. Any towed vehicle with a total weight exceeding that of the towing tractor should be equipped with brakes for safe operation.
6. If the tractor becomes stuck or the tires become frozen to the ground, back up the tractor to prevent upset.
7. Always check overhead clearance, especially when transporting the tractor.
8. When operating at night, adjust lights to prevent blinding oncoming drivers.

OPERATING THE PTO

1. When operating PTO driven equipment, shut off the engine and wait until the PTO stops before getting off the tractor and disconnecting the equipment.
2. Do not wear loose clothing when operating the power take-off or when near rotating equipment.
3. When operating stationary PTO driven equipment, always place both gear shift levers in neutral, apply the tractor parking brake, and block the rear wheels front and back.
4. To avoid injury, do not clean, adjust, unclog, or service PTO driven equipment when the tractor engine is running.
5. Ensure the PTO master shield is installed at all times. Always replace the PTO shield cap when the PTO is not in use.

DIESEL FUEL

1. UNDER NO CIRCUMSTANCES should gasoline, alcohol, or blended fuels be added to diesel fuel. These combinations can create an increased fire or explosive hazard. Such blends are more explosive than pure gasoline in a closed container such as a fuel tank. DO NOT USE THESE BLENDS.
2. Never remove the fuel cap or refuel with the engine running or hot.
3. Do not smoke while refueling or when standing near fuel.
4. Maintain control of the fuel filler pipe nozzle when filling the tank.
5. Do not fill the fuel tank to capacity. Allow room for expansion.

6. Wipe up spilled fuel immediately.
7. Always tighten the fuel tank cap securely.
8. If the original fuel tank cap is lost, replace it with a New Holland approved cap. A non-approved, proprietary cap may not be safe.
9. Keep equipment clean and properly maintained.
10. Do not drive equipment near open fires.
11. Never use fuel for cleaning purposes.
12. Arrange fuel purchases so that winter grade fuels are not held over and used in the spring.

SAFETY FRAME (ROPS)

Your New Holland tractor is equipped with a safety frame. It must be maintained in a serviceable condition. Be careful when driving through doorways or working in confined spaces with low headroom.

UNDER NO CIRCUMSTANCES should you:

- modify, drill, or alter the safety frame in any way. Doing so may render you liable to legal prosecution.
- attempt to straighten or weld any part of the main frame or retaining brackets which have suffered damage. Doing so may weaken the structure and endanger your safety.
- secure any parts on the main frame or attach your safety frame with anything other than the special high tensile bolts and nuts specified.
- attach chains or ropes to the main frame for pulling purposes.
- take unnecessary risks even though your safety frame affords you the maximum protection possible.



WHEN YOU SEE THIS SYMBOL

IT MEANS:

ATTENTION!

BECOME ALERT!

YOUR SAFETY IS INVOLVED!

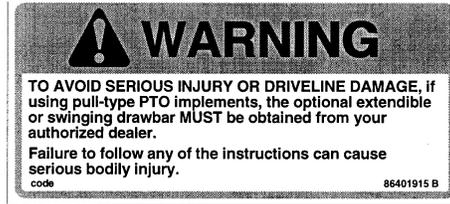
SAFETY DECALS

The following safety decals have been placed on your machine in the areas indicated. They are intended for your personal safety and for those working with you. Please take this manual and walk

around your machine to note the content and location of these warning signs. Review these warning signs and the operating instructions detailed in this manual with your machine operators.



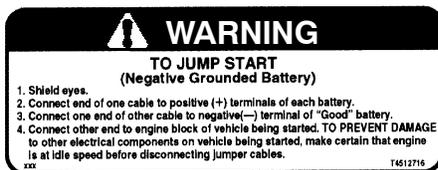
DANGER: Explosive/Acid - Poison
PART NO: SBA390197660
LOCATION: Top of Battery



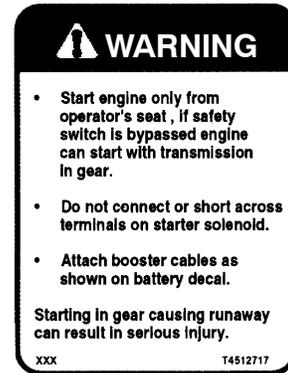
WARNING: Drawbar
PART NO: 86401915
LOCATION: Top PTO Shield



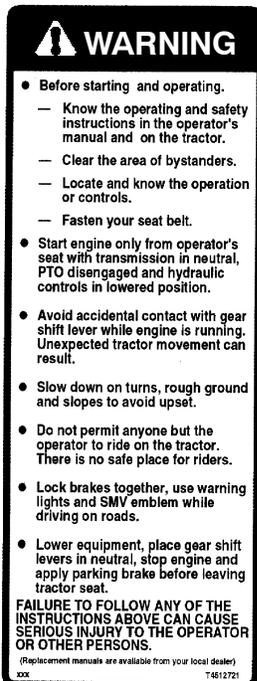
WARNING: Pull Only From Drawbar
PART NO: SBA390192292
LOCATION: Right Side of PTO Shield



WARNING: To Jump Start
PART NO: SBA490990571
LOCATION: Left Side of Radiator Screen



WARNING: Start Engine Only From Operator's Seat
PART NO: SBA190196682
LOCATION: On Starting Motor



WARNING: Before Starting and Operating
PART NO: SBA390198380
LOCATION: Center of Right Fender



WARNING: Rotating Fan and Belts
PART NO: SBA390191352
LOCATION: Both Sides of Radiator

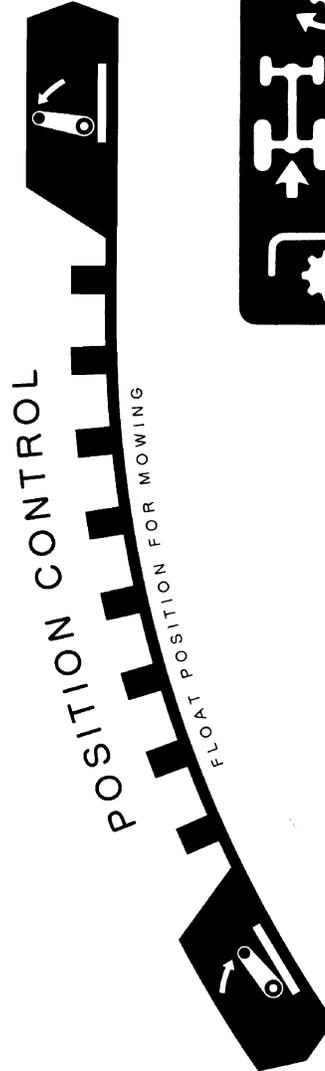
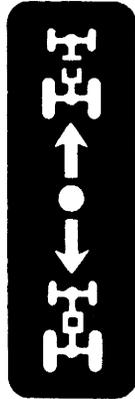
INSTRUCTION DECALS

Range Selector
Lever
(Manual)
PART NO:
SBA390173900
LOCATION:
Left Side Quadrant



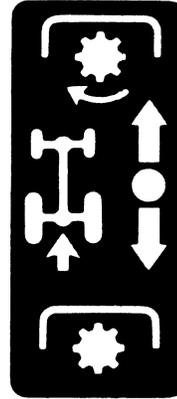
Range Selector Lever
- Hydrostatic
PART NO:
SBA390173910
LOCATION:
On the Lever Guide

Front-Wheel
Drive Control
Lever
PART NO:
SBA390173870
LOCATION:
Below Seat Pan
Back of Lever

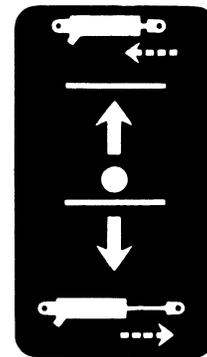
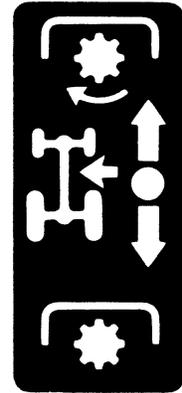


Position Control
Lever
PART NO:
SBA390372490
LOCATION:
Right Side Fender

PTO Control
Lever (Rear)
PART NO:
SBA390173880
LOCATION:
Inside of Left Fender



PTO Control
Lever (Mid)
PART NO:
SBA390173890
LOCATION:
Inside of Left Fender

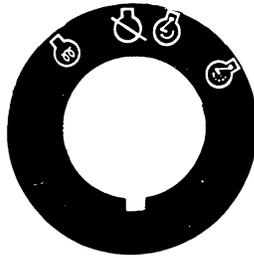


Operating Remote
Control
Valve-Single
Spool (optional)
PART NO:
SBA390372500
LOCATION:
Right Side Quadrant

SECTION 00 - GENERAL INFORMATION - CHAPTER 1



Hyd. Manifold Operation
(See Operator's Manual)
PART NO: SBA390198320
LOCATION:
Right-Hand Side of Hyd.
Manifold/Air Filter Cap



Starter Switch
PART NO: SBA390194290
LOCATION: Starter Switch,
Right Side of Instrument Panel



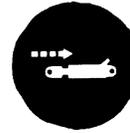
Engine Oil
PART NO: SBA390230220
LOCATION: Engine Oil
Filler Cap



Diesel Fuel
PART NO: SBA390198340
LOCATION: Under the Fuel Fill Lid



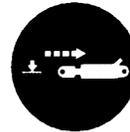
Coupler-Extending
(With double spool control valve)
PART NO: 86532920



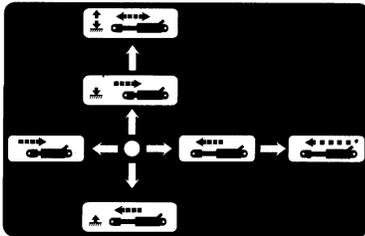
Coupler-Retracting
(With double spool control valve)
PART NO: 86532919



Coupler-Extending
(With double spool control valve)
PART NO: 86532921



Coupler-Retracting
(With double spool control valve)
PART NO: 86532922



Operating Remote
Control Valve-
Double Spool (optional)
PART NO:
86532911
LOCATION:
Cover of 2-Spool
Remote Valve



Power Steering Fluid
PART NO:
SBA390230230
LOCATION:
Top of P.S. Reservoir

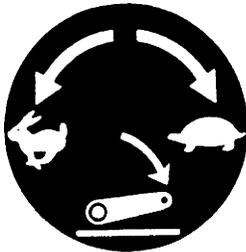
Lubrication and
Maintenance Intervals
PART NO:
SBA390198350
LOCATION:
Underside of Hood

WATCH YOUR PROOF METER HOURS LUBRICATION AND MAINTENANCE SERVICE INTERVALS				
LUBRICATION AND MAINTENANCE ITEM	CHECK	CLEAN	LUBE	SERVICE INTERVAL
Radiator Coolant	•			Every 10 Hours or Daily
Engine Oil Level	•			
Air Cleaner	•			
Transmission Oil Level	•			
Power Steering Oil Level	•			
Front Diff Oil Level	•			
Front Axle Oil Level	•			
Tires				
Clutch Pedal			•	
Battery			•	
Lubrication Fittings				Every 50 Hours
Steering Linkage			•	
2-Wheel Drive King Pins			•	
3-Point Linkage			•	
Pivot Shaft			•	
Pedal Shaft			•	
Brake Pedal			•	
Drive Shaft Cover			•	
H.S.T Foot Pedal Shaft			•	
Power Steering			•	
Engine Oil				Every 100 Hours
Engine Oil Filter			•	
Fuel Filter			•	
Air Cleaner			•	
Fuel Filter			•	Every 200 Hours
Fan Belt			•	
Brakes			•	
H.S.T Cartridge Filter			•	
Front Axle Oil			•	Every 300 Hours
Front Diff Oil			•	
Hydraulic Filter			•	
Transmission Oil			•	
Fuel Injectors			•	Every 600 Hours
Valve Clearance			•	
Front Wheel Bearings			•	
Power Steering Oil			•	
Radiator Coolant			•	Seasonal
Air Cleaner Element			•	

Refer to your Operator's Manual for additional information



Differential Lock
 PART NO: SBA390198300
 LOCATION: Above Pedal



Flow Control Valve
 PART NO: SBA390372470
 LOCATION: Top of Flow Control Knob

IMPORTANT

- For normal operation on firm soil, hard surfaces and roading the unit, front wheel drive should be disengaged to maximize tire and driveline life and fuel economy
- Only use front wheel drive when additional traction is required while operating in loose soil, wet, slippery conditions or on slopes

IMPORTANT - For Normal Operation
 PART NO: SBA390198310
 LOCATION: Center Panel of Steering Column Console



Parking Brake
 PART NO: SBA390198360
 LOCATION: Center of Instrument Panel

DIESEL ENGINE OIL INFORMATION

Service Grade CD
 SAE 10W30, 10W40 for year around use
 OR
 SAE 10W in severe cold below 32° F
 SAE 20W for winter use 32° to 50° F
 SAE 30W for summer use above 50° F
 Change interval every 100 hours

Diesel Engine Oil Information
 PART NO: SBA390198370
 LOCATION: On Engine Filler Neck

SPEED SET CONTROL INSTRUCTIONS

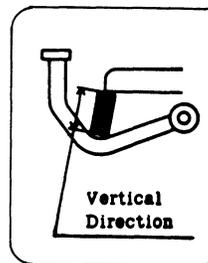
- Before starting engine, be sure speed set control is unlocked.
- To engage speed set control
 - Attain desired speed with forward pedal.
 - Move control to "LOCK" position.
 - Tractor will maintain set speed even if pedal is released.
- Speed may be increased with forward pedal.
- To cancel speed setting or stop tractor, move control to "UNLOCK" position.
- Speed can not be locked in reverse.

Speed Set Control Instructions (optional)
 PART NO: SBA390198330
 LOCATION: Top of L. H. Fender

USAGE

Tractors that are to be stored for an extended period should have this part between clutch pedal and platform to prevent clutch from adhering.

USAGE - Tractors That Are to Be Stored
 PART NO: SBA390194690
 LOCATION: On Clutch Pedal Spacer Block



Installing Pedal Spacer
 PART NO: SBA390194700
 LOCATION: On Clutch Pedal Spacer Block