SERVICE MANUAL

TD3.50

Tractor

Part number 48012910
English
May 2016

© 2016 CNHI International. All Rights Reserved.

Order the manual at mid-west-tech.com >

Contents

INTRODUCTION

Engine 10

[10.001] Engine and crankcase 10.1

[10.102] Pan and covers 10.2

[10.106] Valve drive and gears 10.3

[10.101] Cylinder heads 10.4

[10.105] Connecting rods and pistons 10.5

[10.103] Crankshaft and flywheel 10.6

[10.218] Fuel injection system 10.7

[10.400] Engine cooling system 10.8

[10.414] Fan and drive 10.9

[10.304] Engine lubrication system 10.10

Clutch 18

[18.110] Clutch and components 18.1

Transmission 21

[21.114] Mechanical transmission 21.1

[21.140] Mechanical transmission internal components 21.2

Four-Wheel Drive (4WD) system 23

[23.314] Drive shaft 23.1

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

Rear axle system 27

[27.100] Powered rear axle 27.1

[27.106] Rear bevel gear set and differential 27.2

MidWestTech | New Holland TD3.50 Tractor Service Manual | Publication 48012910 Order the manual at mid-west-tech.com >

[27.120] Planetary and final drives 27.3

Power Take-Off (PTO) 31

[31.101] Rear mechanical control 31.1

[31.110] One-speed rear Power Take-Off (PTO) 31.2

Wheels 44

[44.511] Front wheels 44.1

Electrical systems 55

[55.000] Electrical system 55.1

[55.100] Harnesses and connectors 55.2

[55.201] Engine starting system 55.3

[55.301] Alternator 55.4

[55.302] Battery 55.5

[55.408] Warning indicators, alarms, and instruments 55.6

MidWestTech | New Holland TD3.50 Tractor Service Manual | Publication 48012910 Order the manual at mid-west-tech.com >

Final drive housing - Troubleshooting

Problem	Possible Cause	Correction
Noisy final drives when the tractor is moving and also with transmission in neutral	1. Wheel axle shaft bearing misadjusted	Remove final drive case and adjust bearings
	2. Faulty or defective inner components.	Remove final drive case and replace damaged parts
	3. Excess bull and pinion gear backlash	Remove final drive case and replace damaged parts

MidWestTech | New Holland TD3.50 Tractor Service Manual | Publication 48012910 Order the manual at mid-west-tech.com >

2.	Engine shut off solenoid	24	Regulator
3.	Grid heater	26	26D- Glow plug relay
7.	Starter inhibitor unit	30.	Starter switch
8.	Starter motor	32A.	Instrument connectors
9.	Main fuse		4- Engine rpm
14.	Battery		7- Battery charge indicator
23.	Alternator	34.	Starter switch

MidWestTech | New Holland TD3.50 Tractor Service Manual | Publication 48012910 Order the manual at mid-west-tech.com >

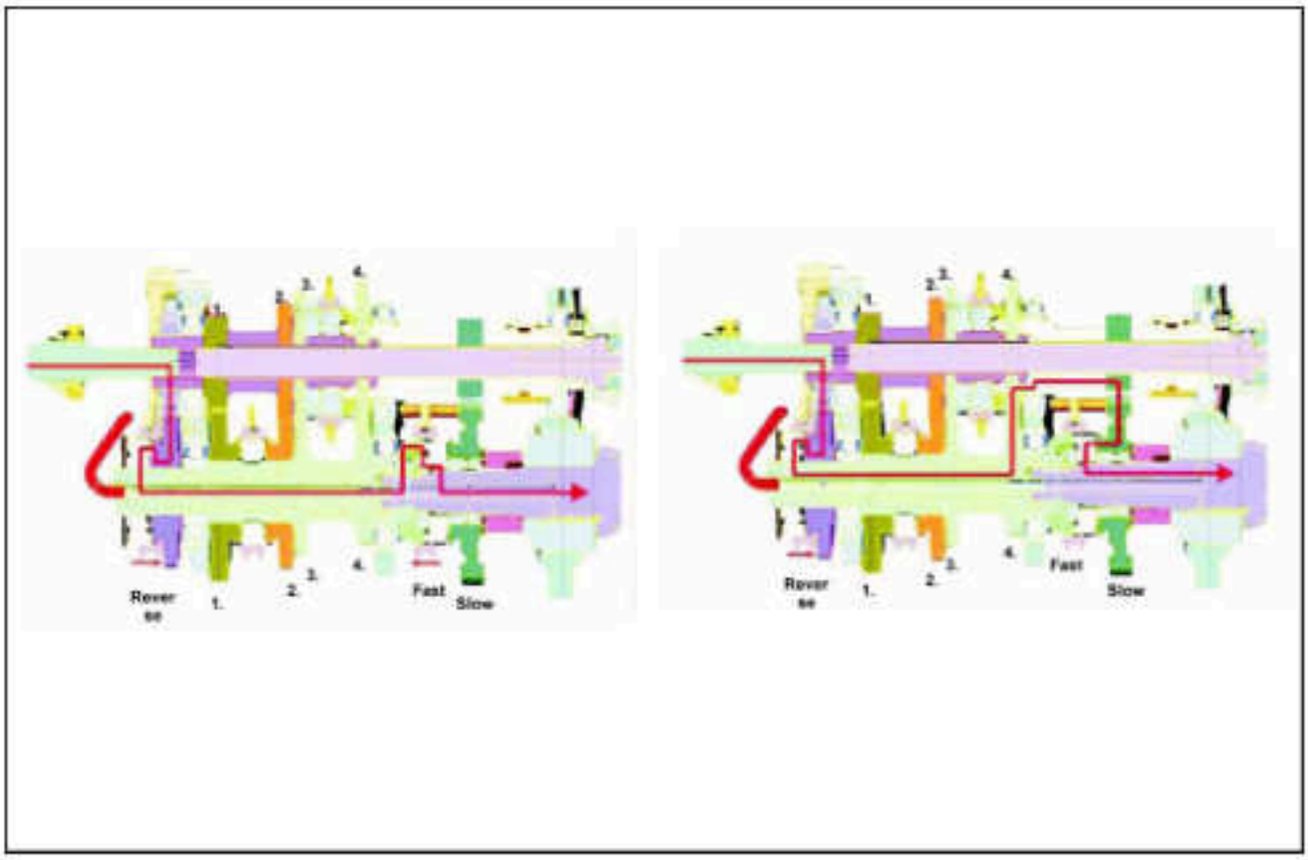
Engine starter - General specification

Power		**2.5 kW (3.4 Hp)**	**3.2 kW (4.4 Hp)**	**3.5 kW (4.8 Hp)**
Nominal voltage		**12 V**		
Direction of rotation (viewed from pinion side)		Clockwise		
Number of teeth		10		
Nominal current at **12 V**	When the solenoid is about to push or pull		**< 68 A**	
	Only in case of holding (connected position)		**< 20 A**	
		0.5 - 0.8		0.4

Engine starter - Torque

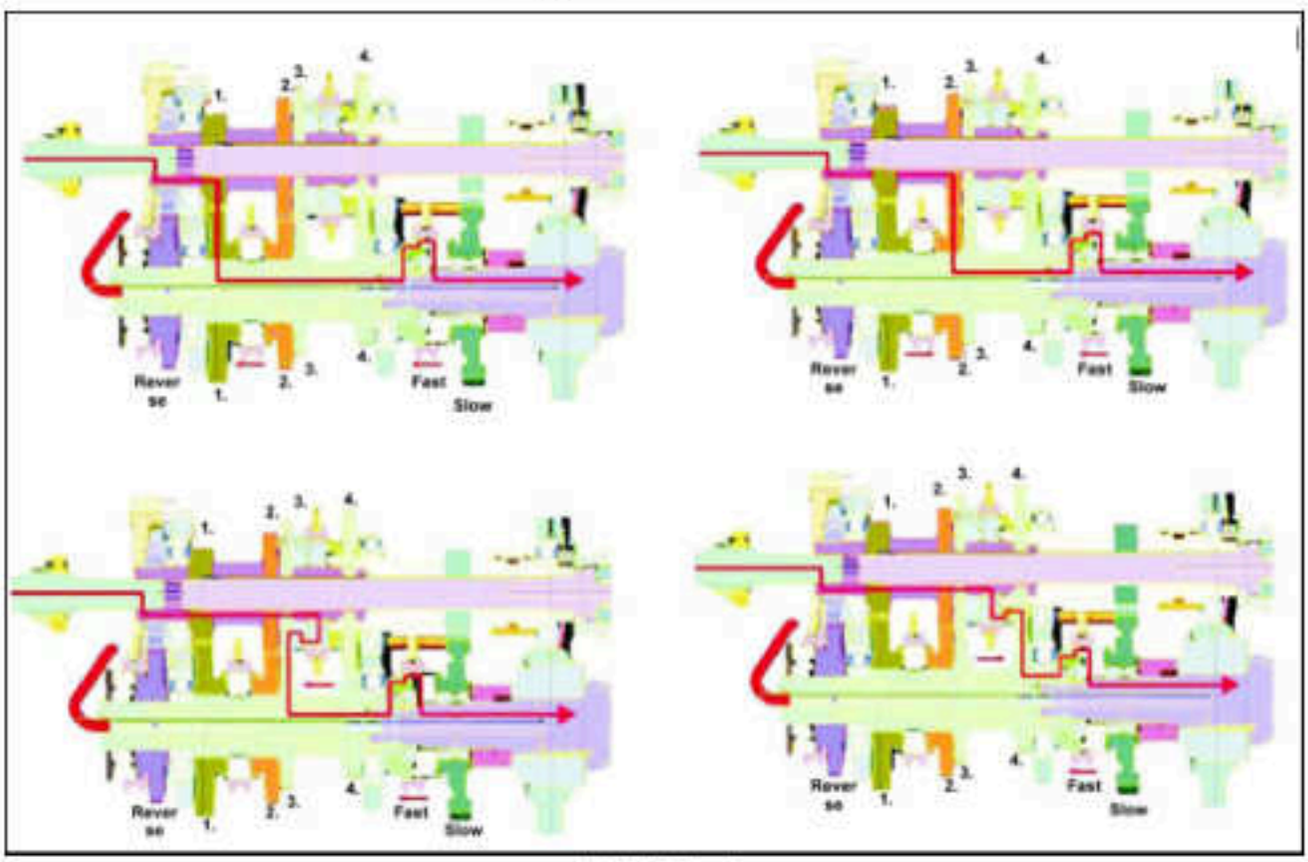
Component	Torque
Starter motor - crankcase fixing nut	**34 N·m (25 lb ft)**
Starter motor box - ground cable side	**16 N·m (12 lb ft)**
Solenoid valve nut	**7 N·m (5 lb ft)**
Nut on the starter motor	**10 N·m (7 lb ft)**
Solenoid valve fixing bolts	**5 N·m (4 lb ft)**

MidWestTech | New Holland TD3.50 Tractor Service Manual | Publication 48012910 Order the manual at mid-west-tech.com >



AN&1STRD&5TFB 4

Low gear drive line schema

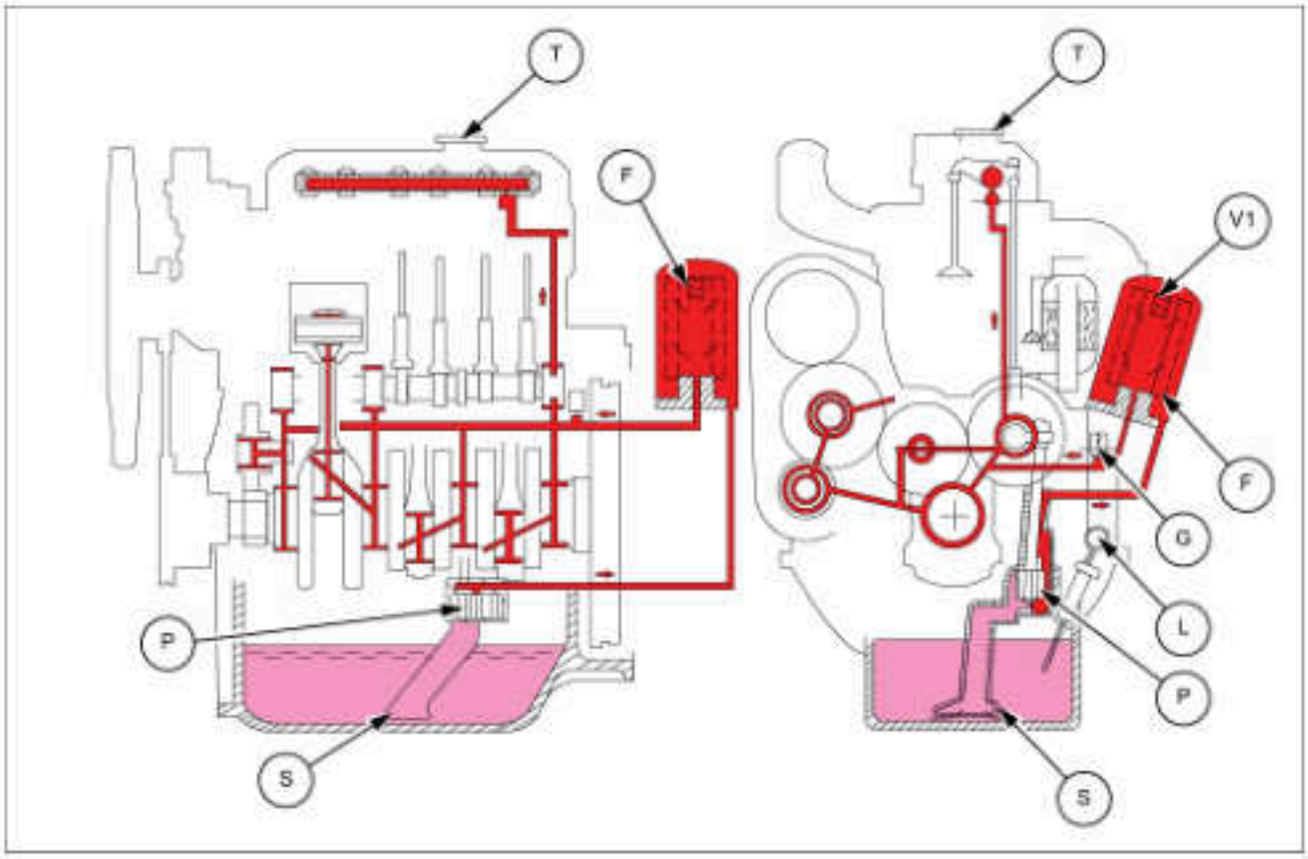


AN&1STRD&5TNFB 5

High gear drive line schema

MidWestTech | New Holland TD3.50 Tractor Service Manual | Publication 48012910 Order the manual at mid-west-tech.com >

Engine - Sectional view

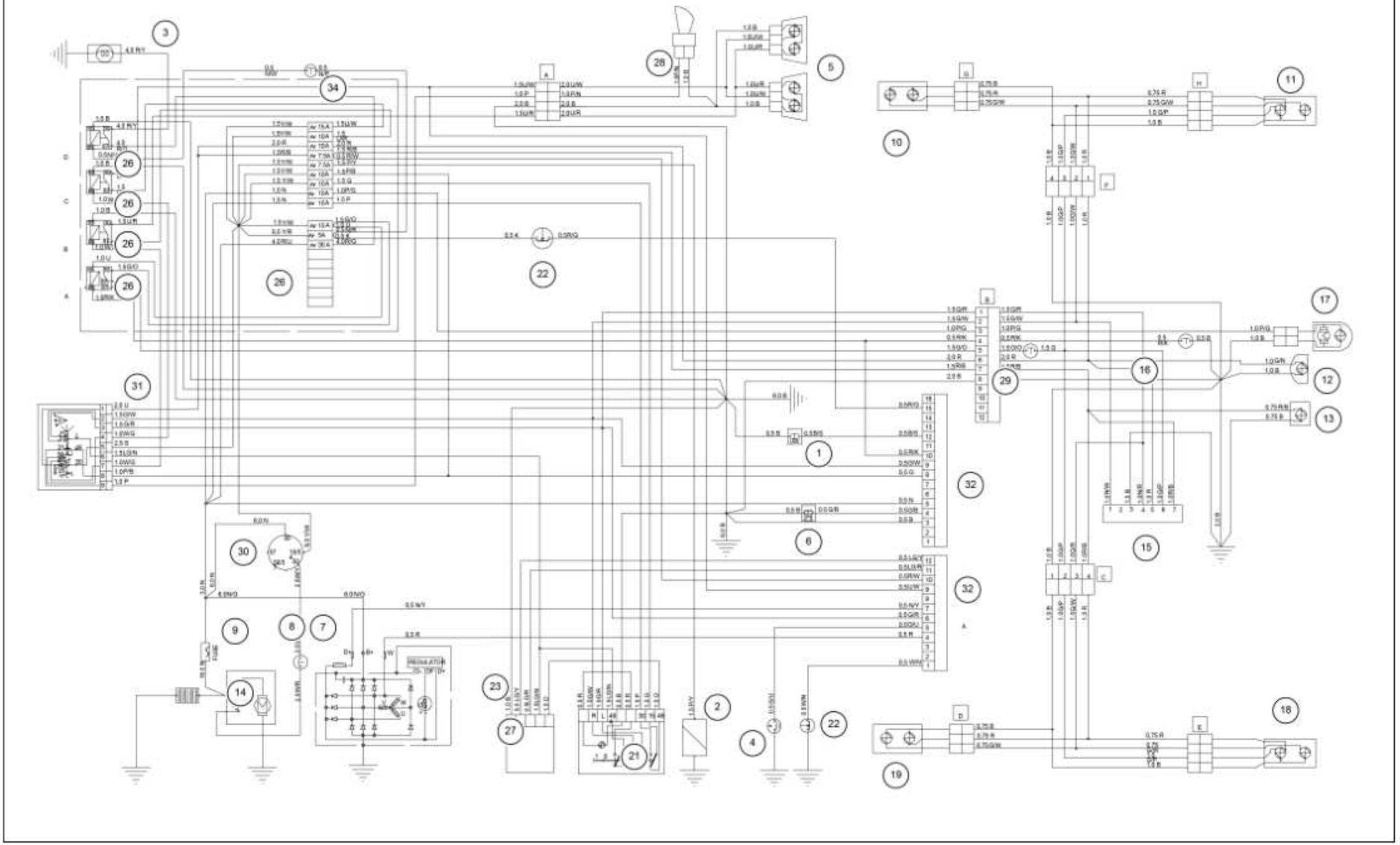


ANL1STRD3026HB 1

Lubrication system of 3 cylinder engine

F.	Filter	S.	Suction screen
G.	Oil pressure gage	T.	Oil fill cover
L.	Oil dipstick	V.	Pressure bypass valve
P.	Pump	V1.	Filter bypass valve

MidWestTech | New Holland TD3.50 Tractor Service Manual | Publication 48012910 Order the manual at mid-west-tech.com >



MidWestTech | New Holland TD3.50 Tractor Service Manual | Publication 48012910
Order the manual at mid-west-tech.com >