STARTING THE ENGINE

The key switch, 1, allows activation of the starter motor and fuel delivery only when:

1. The PTO modulation lever, 2, is in the “OFF” position.
2. The range lever, 3, is in the “NEUTRAL” position (HST transmission).
3. The shuttle lever, 4, is in the neutral position (gear transmission).
4. The operator is sitting in the seat OR the parking brake is engaged.
5. The mid PTO lever, 5, (if equipped) is in the “OFF” position.

NOTE: *Without the operator in the seat or the parking brake not engaged. The starter motor will be activated but the engine will not start, because the fuel solenoid is not energized and not allowing fuel to flow to the injection pump.*

Always use safe practices when starting your tractor. Turn the key to the extreme right. Position the hand throttle forward so that it is one-fourth to one-third open.

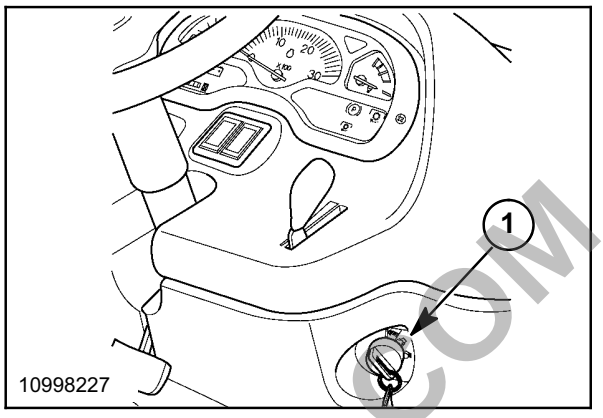
⚠ WARNING ⚠

Always sit in the operator’s seat when starting the tractor. Never attempt to start the engine while standing beside the tractor.

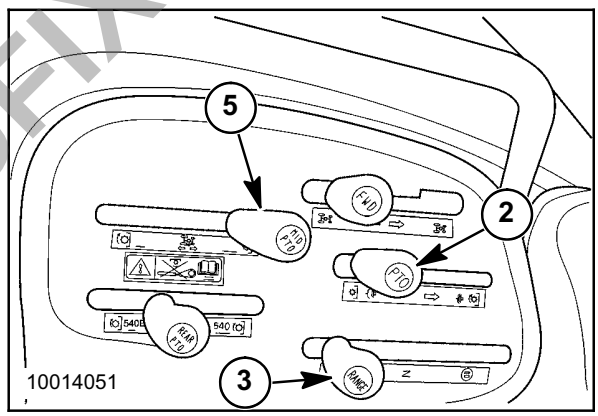
IMPORTANT: *Do not engage the starting motor continuously for more than 30 seconds. Doing so may cause starting motor failure.*

The engine will shut off in approximately two seconds if the operator leaves the seat without the parking brake engaged and without the range lever or shuttle lever in the neutral position.

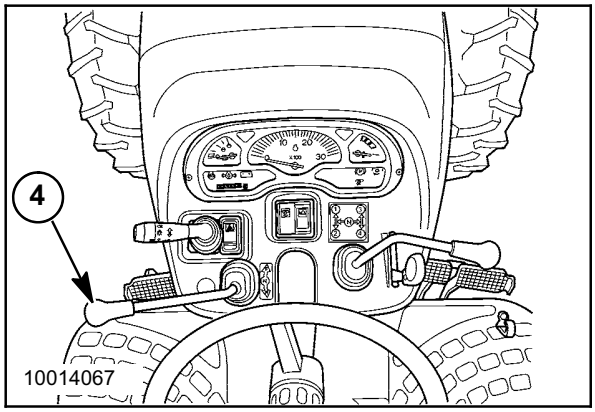
NOTE: *The parking brake MUST be engaged and the range lever must be in the neutral position to allow the operator to leave the seat, when the tractor engine is in operation.*



12



13



14

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MINIMUM HARDWARE TIGHTENING TORQUES

IN FOOT POUNDS (NEWTON-METERS) FOR NORMAL ASSEMBLY APPLICATIONS

INCH HARDWARE AND LOCKNUTS

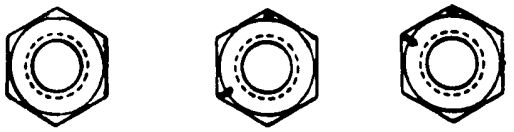
NOMINAL SIZE	SAE GRADE 2		SAE GRADE 5		SAE GRADE 8		LOCKNUTS		NOMINAL SIZE
	UNPLATED or PLATED SILVER	PLATED W/ZnCr GOLD	UNPLATED or PLATED SILVER	PLATED W/ZnCr GOLD	UNPLATED or PLATED SILVER	PLATED W/ZnCr GOLD	GR.B w/GR5 BOLT	GR.C w/GR8 BOLT	
1/4	55* (6.2)	72* (8.1)	86* (9.7)	112* (13)	121* (14)	157* (18)	61* (6.9)	86* (9.8)	1/4
5/16	115* (13)	149* (17)	178* (20)	229* (26)	250* (28)	324* (37)	125* (14)	176* (20)	5/16
3/8	17 (23)	22 (30)	26 (35)	34 (46)	37 (50)	48 (65)	19 (26)	26 (35)	3/8
7/16	27 (37)	35 (47)	42 (57)	54 (73)	59 (80)	77 (104)	30 (41)	42 (57)	7/16
1/2	42 (57)	54 (73)	64 (87)	83 (113)	91 (123)	117 (159)	45 (61)	64 (88)	1/2
9/16	60 (81)	77 (104)	92 (125)	120 (163)	130 (176)	169 (229)	65 (88)	92 (125)	9/16
5/8	83 (112)	107 (145)	128 (174)	165 (224)	180 (244)	233 (316)	90 (122)	127 (172)	5/8
3/4	146 (198)	189 (256)	226 (306)	293 (397)	319 (432)	413 (560)	160 (217)	226 (306)	3/4
7/8	142 (193)	183 (248)	365 (495)	473 (641)	515 (698)	667 (904)	258 (350)	364 (494)	7/8
1	213 (289)	275 (373)	547 (742)	708 (960)	773 (1048)	1000 (1356)	386 (523)	545 (739)	1

NOTE: Torque values shown with * are inch pounds.

IDENTIFICATION
CAP SCREWS AND CARRIAGE BOLTS

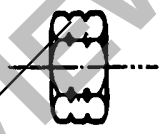


SAE GRADE 2 SAE GRADE 5 SAE GRADE 8



REGULAR NUTS SAE GRADE 5 HEX NUTS SAE GRADE 8 HEX NUTS

LOCKNUTS



GRADE IDENTIFICATION
GRADE A NO NOTCHES
GRADE B ONE CIRCUMFERENTIAL NOTCH
GRADE C TWO CIRCUMFERENTIAL NOTCHES



GRADE IDENTIFICATION
GRADE A NO MARKS
GRADE B THREE MARKS
GRADE C SIX MARKS
MARKS NEED NOT BE LOCATED AT CORNERS



GRADE A NO MARK
GRADE B LETTER B
GRADE C LETTER C
GRADE IDENTIFICATION

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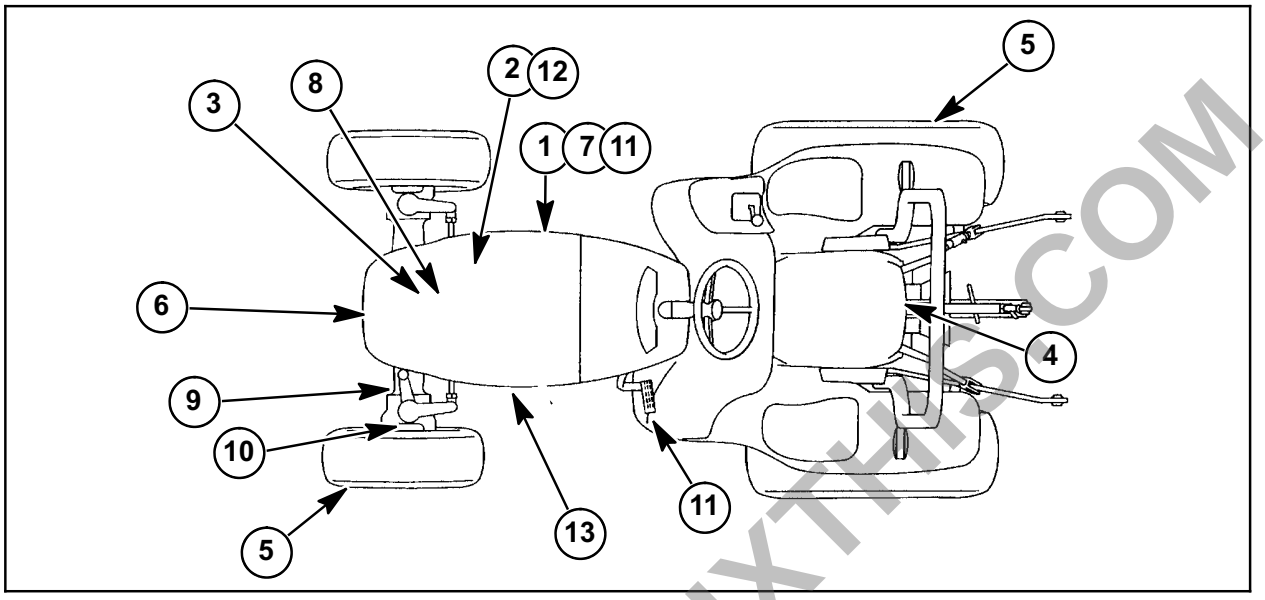
SECTION 4
SPECIFICATIONS

	Model TC40DA—Hydrostatic/Gear	Model TC45DA—Hydrostatic/Gear
ENGINE		
Type/Model	Diesel/N844	Diesel/N844L
Engine Gross Horsepower	29.8 kw (40.0)	33.6 kw (45)
Cylinders	4	4
Bore	84 mm (3.31″)	84 mm (3.31″)
Stroke	90 mm (3.54″)	100 mm (3.94″)
Displacement	2.0 L (121.7 cu. in.)	2.2 L (135.2 cu. in.)
Compression Ratio	22.5:1	22.5:1
Firing Order	1-3-4-2	1-3-4-2
Low Idle Speed	1025 RPM	1025 RPM
Maximum Speed:		
High Idle	2855 RPM	2855 RPM
Rated	2600 RPM	2600 RPM
CAPACITIES		
Fuel Tank	54.5 liters/ 13 U.S. gals.	54.5 liters/ 13 U.S. gals.
Cooling System	7.9 liters/ 8.3 U.S. qts.	8.0 liters/ 8.4 U.S. qts.
Engine Crankcase:		
With Filter	6.0 liters/ 6.3 U.S. qts.	6.0 liters/ 6.3 U.S. qts.
Rear Axle & Transmission (Includes Hydraulics)		
Gear	35.2 liters/ 9.3 U.S. gals.	35.2 liters/ 9.3 U.S. gals.
HST	36.3 liters/ 9.6 U.S. gals.	36.3 liters/ 9.6 U.S. gals.
Power Steering	1.4 liters/ 1.5 U.S. qts.	1.4 liters/ 1.5 U.S. qts.
Front Axle Final Reduction /Differential Gear Case	5.3 liters/ 5.6 U.S. qts.	5.3 liters/ 5.6 U.S. qts.

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LUBRICATION AND MAINTENANCE CHART
NEW HOLLAND TC40DA, TC45DA — FRONT-WHEEL DRIVE - SUPER STEER

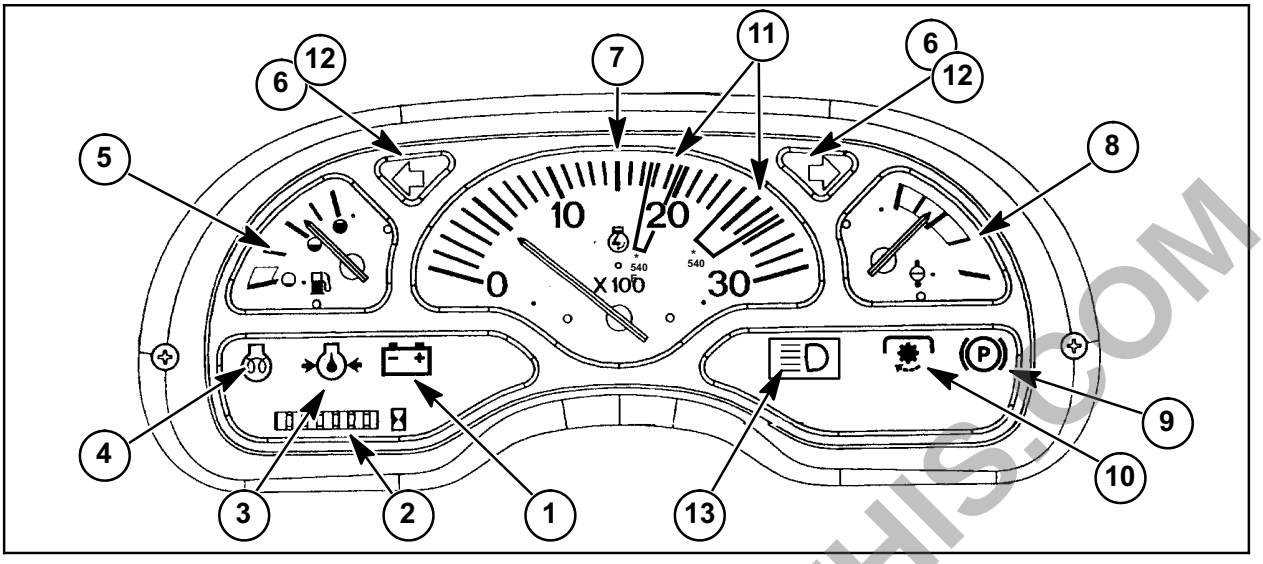


1

Service Interval	Op. No.	Lubrication and Maintenance Item	CHECK	CLEAN	LUBE	DRAIN	WASH	CHANGE	ADJUST
Every 10 Hours	1	Engine Oil Level	X						
	2	Air Cleaner	X						
	3	Radiator Coolant	X						
	4	Transmission Oil Level	X						
First 50 Hours Only (See list on page 3-11 for service requirements)									
Every 50 Hours	5	Tyres	X						
	6	Battery	X						
	7	Power Steering Oil Level	X						
	8	Fan Belt	X						
	9	Front Axle Oil Level	X						
	10	Final Reduction Gear Cases Oil Level	X						
	11	Clutch pedal free travel (Gear Transmission)	X						
	12	Fuel Filter	X						
	13	Clutch Housing oil level (Super Steer only)	X						
	14 *	Lubrication Fittings *			X				
		Steering Linkage			X				
		3-Point Linkage			X				
		Brake Pedal			X				
		Power Steering Cylinder			X				
		Pedal Shaft			X				
		Drive Cover Shaft			X				
		Pivot Shaft			X				
		H.S.T. Pedal Shaft			X				
		Super Steer Axle			X				

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10

INSTRUMENT PANEL

1. **Battery Charge Warning Light** - Illuminates when the key switch is in the “ACC/RUN” position and goes out when the engine is started. If this bulb becomes lit during operation, it indicates that the charging system is not operating normally. As the battery can become fully discharged under these conditions, the problem should be investigated as soon as possible.
2. **Proof Meter** - Records the hours and portions of hours that your tractor has been operated regardless of engine RPM. Use the proof meter as a guide to determine hourly service and maintenance intervals.
3. **Engine Oil Pressure Warning Light** - Illuminates with the key switch in the “ACC/RUN” position and remains lit for a short period of time after the engine is started. The light indicates oil pressure only and goes out when sufficient oil pressure is present at the oil sender. If the bulb becomes lit during operation, stop the tractor engine immediately and investigate the cause.
4. **Cold Starting Indicator Light** - Illuminates when the key switch is turned to the “ACC/RUN” position. It remains lit for approximately four seconds when the key is in position, during which time the glow plugs are heating the precombustion chambers of cylinder head.
5. **Fuel Gauge** - Indicates the amount of diesel fuel remaining in the tank. The gauge is activated when the key switch is in the “ACC/RUN” position. It will register empty with the key switch in the “STOP” position.
6. **Flasher Warning Hazard Lights** - Operate when the flasher switch is turned on, regardless of the key switch position.
7. **Tachometer** - Registers engine RPM (Revolutions Per Minute). The gauge is marked in increments of 100 and will return to zero when the engine is not running.
8. **Temperature Gauge** - Indicates coolant temperature. It is activated when the key switch is turned to the “ACC/RUN” position. The gauge will register cold with the key switch in the “STOP” position. If the needle registers in the green range of the gauge, this indicates a normal operating temperature. If the needle moves to the red portion of the gauge, this indicates an overheated condition. Stop the tractor engine immediately and investigate the cause.
9. **Parking Brake Light** - Illuminates if the parking brake is engaged when the key switch is turned from the “OFF” position.
10. **PTO On Indicator** - When either the PTO modulation is engaged, the indicator will be illuminated amber with key in the “ACC/RUN” or “START” positions.
11. **Rear PTO Speed** - Determined by the position of the needle on the tachometer. The tachometer is marked to indicate 540 and 540E PTO RPM. At either selected PTO speed the green line indicates the proper operating speed and the red line indicates a over speed condition, at which time, engine RPM should be reduced immediately.
12. **Flasher Turn Lights** - Operate when the turn signal switch is moved forward for right turns the right arrow will flash and moved rearward for left turns the left arrow will flash. The key switch has to be in the “ACC/RUN” or “START” positions.
13. **High Beam Indicator** - Illuminates when the headlights are switches to main (high) beam.

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SECTION 2
OPERATION

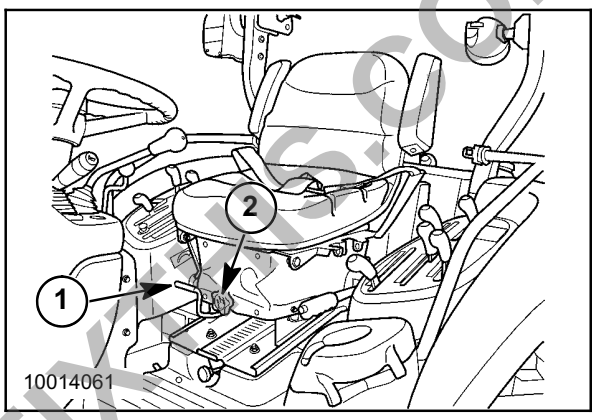
CONTROLS AND INSTRUMENTS

SEAT, SEAT BELT, AND ROLLOVER PROTECTIVE STRUCTURE (ROPS)

Adjusting the Tractor Seat
Your New Holland tractor is equipped with an adjustable suspension seat.

To move the seat fore and aft, raise the release lever, 1. Because the seat is on an inclined base, more effort is required to move the seat rearward than forward.

To adjust the flotation of the seat, turn the knob, 2, clockwise for a firmer ride or counter clockwise for a softer ride.

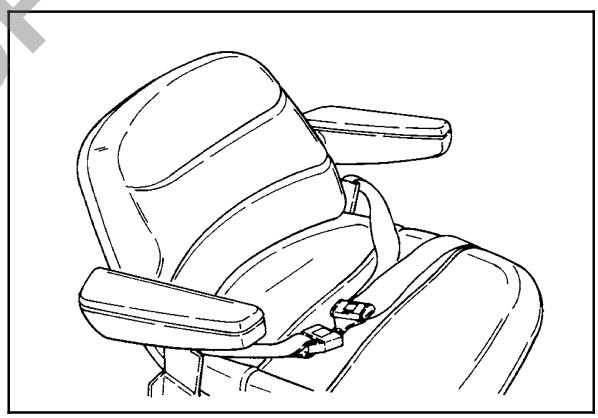


1

Adjusting the Seat Belt (optional)
To lengthen the seat belt, tip the buckle end down and pull on the buckle until the ends can be joined. To shorten the belt, buckle it, then pull on the loose end until the belt is snug.

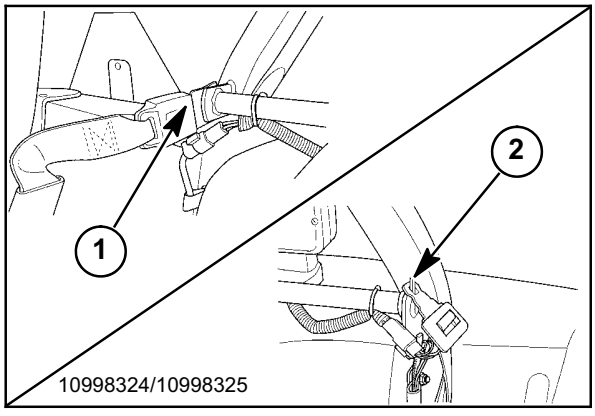
Use soap and water to clean the seat belt if necessary. Do not use carbon tetrachloride, naphtha, etc., as these substances will weaken the webbing. Additionally, do not bleach or redye the webbing, as these products will also weaken the webbing.

Replace the seat belt if it becomes damaged or worn.


2

NOTE: *Optional armrests shown.*

Use seat belt holds, 1, 2, when seat belt is not in use.



3

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OPERATION OF THE POWER TAKE-OFF (PTO)

1. Before attaching the PTO, stop the tractor engine.

⚠ WARNING ⚠

To reduce the possibility of personal injury, comply with the following guidelines before attaching or detaching PTO equipment, and before working on or clearing PTO equipment.

(HST Tractor)

- With HST pedals at neutral, move the transmission range lever to the “NEUTRAL” (N) position.

(Gear Tractor)

- Depress the clutch pedal completely and move the transmission range lever to the “neutral” (N) position.
- Set the parking brake.
- Disengage the PTO using the PTO modulation lever.
- Wait until the PTO shaft stops turning.
- Remove the PTO cap.
- Make sure the equipment-driven shaft is properly aligned and locked to the tractor PTO drive shaft and that the PTO shield is down in the guarded position.

2. With the PTO modulation lever disengaged, start the engine. For mounted equipment, raise and lower the equipment to ensure there are proper clearances.
3. Engage the rear PTO by moving the modulation lever forward, if tractor is equipped with a rear PTO only.

   If tractor is equipped with an optional mid PTO, proper engagement (both PTOs can be engaged at the same time) of either rear or mid PTO is as follows:

   - Place rear PTO lever in either the 540 or 540E position.
   - Place mid PTO lever in the engaged position (rearward).
   - Place modulation lever in the full forward position.

IMPORTANT: *The PTO may be damaged if the PTO modulation lever is not moved through its full range.*

4. Check the PTO-driven equipment for proper operation by gradually engaging the lever and increasing engine RPM.

(HST Tractor)

5. If the equipment is operating properly, shift to the desired operating gear.

(Gear Tractor)

If the equipment is operating properly, depress the clutch pedal and shift to the desired operating gear. Release the pedal gradually to start the tractor in motion.

6. Control the PTO speed using the throttle. Never operate in an overspeed condition.
7. When making sharp turns with pull-type equipment or with mounted equipment in the fully raised position, disengage the rear PTO using the PTO modulation lever.
8. When traveling on highways or for any great distance, disconnect the PTO-driven shaft at the tractor PTO shaft.
9. Reinstall the PTO shaft cap when PTO-driven equipment is disconnected from the tractor, or when the PTO is not being used.

⚠ WARNING ⚠

To avoid inadvertent movement of PTO implement, disengage the PTO after each use.

IMPORTANT: *The drawbar is required to provide standard rear PTO drawbar relationship.*

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MINIMUM HARDWARE TIGHTENING TORQUES

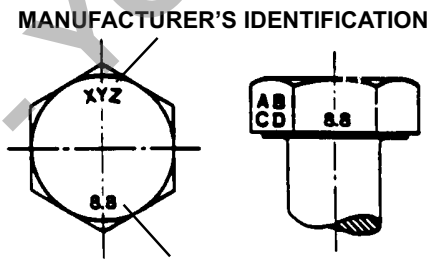
IN FOOT POUNDS (NEWTON-METERS) FOR NORMAL ASSEMBLY APPLICATIONS

METRIC HARDWARE AND LOCKNUTS

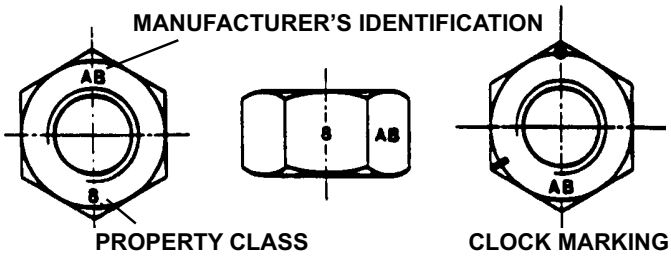
NOMINAL SIZE	CLASS 5.8		CLASS 8.8		CLASS 10.9		LOCKNUT CL.8 W/CL8.8 BOLT
	UNPLATED	PLATED W/ZnCr	UNPLATED	PLATED W/ZnCr	UNPLATED	PLATED W/ZnCr	
M4	15* (1.7)	19* (2.2)	23* (2.6)	30* (3.4)	33* (3.7)	42* (4.8)	16* (1.8)
M6	51* (5.8)	67* (7.6)	79* (8.9)	102* (12)	115* (13)	150* (17)	56* (6.3)
M8	124* (14)	159* (18)	195* (22)	248* (28)	274* (31)	354* (40)	133* (15)
M10	21 (28)	27 (36)	32 (43)	41 (56)	45 (61)	58 (79)	22 (30)
M12	36 (49)	46 (63)	55 (75)	72 (97)	79 (107)	102 (138)	39 (53)
M16	89 (121)	117 (158)	137 (186)	177 (240)	196 (266)	254 (344)	97 (131)
M20	175 (237)	226 (307)	277 (375)	358 (485)	383 (519)	495 (671)	195 (265)
M24	303 (411)	392 (531)	478 (648)	619 (839)	662 (897)	855 (1160)	338 (458)

NOTE: Torque values shown with * are inch pounds.

IDENTIFICATION
HEX CAP SCREW AND CARRIAGE BOLTS
CLASSES 5.6 AND UP



HEX NUTS AND LOCKNUTS
CLASSES 05 AND UP



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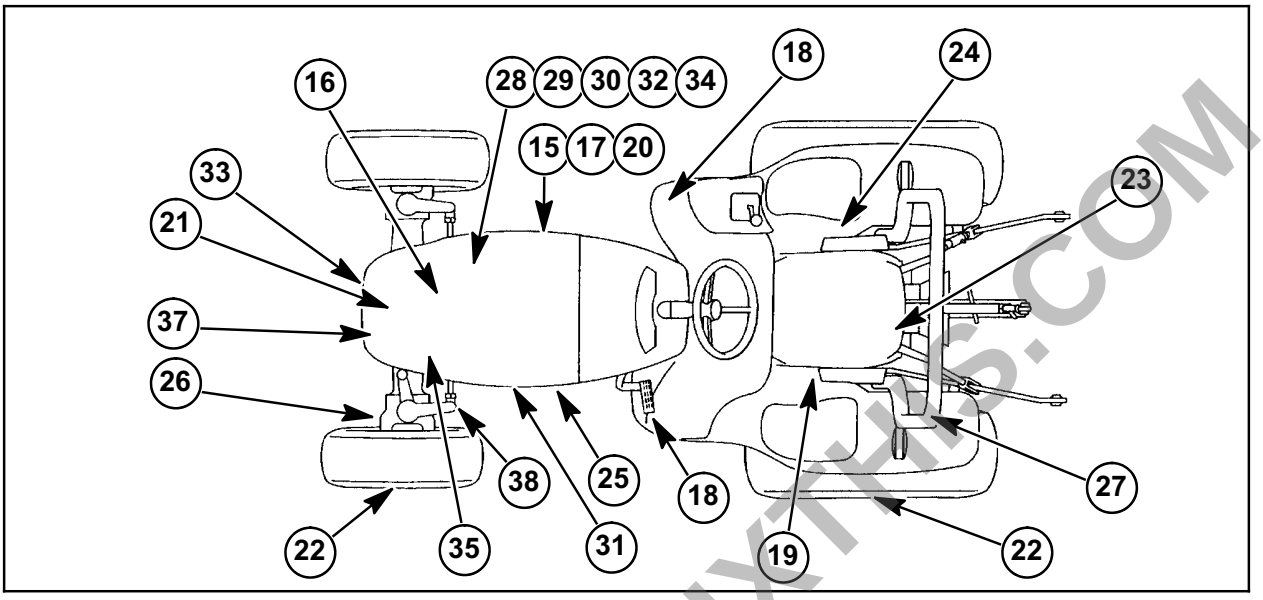
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	Model TC40DA—Hydrostatic/Gear	Model TC45DA—Hydrostatic/Gear
COOLING SYSTEM		
Type	Pressurized Liquid with Recirculating Bypass	Pressurized Liquid with Recirculating Bypass
Water Pump:		
Type	Centrifugal	Centrifugal
Drive	V-Belt	V-Belt
Belt Deflection	10 mm-15 mm (7/16″-9/16″) when 9-11 kg (20-25 lbs.) thumb pressure is applied midway between belt pulleys	10 mm-15 mm (7/16″-9/16″) when 9-11 kg (20-25 lbs.) thumb pressure is applied midway between belt pulleys
Fan Diameter	410 mm (16.1″)	410 mm (16.1″)
Number of Fan Blades	6	6
Thermostat:		
Start to Open	71°C (160°F)	71°C (160°F)
Fully Open	85°C (185°F)	85°C (185°F)
Radiator Cap	0.9 bar (13 PSI)	0.9 bar (13 PSI)
ELECTRICAL SYSTEM		
Main System Protection	40 amp Maxifuse	40 amp Maxifuse
Number Fuses for Circuit Protection	7	7
Alternator	12-volt, Heavy Duty, 40 amps	12-volt, Heavy Duty, 40 amps
Battery Type	12-volt, w/ negative ground, 600 cca	12-volt, w/ negative ground, 600 cca
Starter HP (KW) Rating	2.7 (2.0)	2.7 (2.0)
Battery Rating Amp Hrs.	64-69	64-69
Starting Motor	Solenoid Pre-Engaged Reduction	Solenoid Pre-Engaged Reduction
FUEL SYSTEM		
Fuel Type	Diesel	Diesel
Type of Fuel to Use if Above 40°F (4°C)	No. 2-Diesel, Cetane Rating: Minimum 40	No. 2-Diesel, Cetane Rating: Minimum 40
Type of Fuel to Use if Below 40°F (4°C)	No. 1-Diesel, Cetane Rating: Minimum 40	No. 1-Diesel, Cetane Rating: Minimum 40
Injection Pump:		
Type	In-Line	In-Line
Timing	20° BTDC	18° BTDC
CLUTCH (Gear Transmission Only)		
Type	240 mm (9.45″) Dry Disc, Organic Face	260 mm (10.24″) Dry Disc, Organic Face
Pedal Free-Travel	19 mm - 30 mm (3/4″ - 1-3/16″)	19 mm - 30 mm (3/4″ - 1-3/16″)

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LUBRICATION AND MAINTENANCE CHART
NEW HOLLAND TC40DA, TC45DA — FRONT-WHEEL DRIVE – SUPER STEER



2

Service Interval	Op. No.	Lubrication and Maintenance Item	CHECK	CLEAN	LUBE	DRAIN	WASH	CHANGE	ADJUST
Every 100 Hours	15	Engine Oil & Filter						X	
	16	Air Cleaner Primary Element		X					
	17	Fuel Filter		X					
Every 200 Hours	18	Brake Pedal Free Travel (right side 12 x 12) (left side HST)							X
	19	Hand Brake							X
	20	Fuel Filter Element						X	
	21	Fan Belt	X						X
	22	Wheel Bolt Torque	X						
Every 300 Hours	23	Transmission Oil						X	
	24	Hydraulic Filter						X	
	25	H.S.T. Filter						X	
	26	Front Axle and Final Reduction Case Oil						X	
Every 500 Hours	27	ROPS/seat belt inspection and hardware tightening	X						X
Every 600 Hours	28	Power Steering Oil & Filter						X	
	29	Fuel Injectors	X						X
	30	Valve Clearance	X						X
	31	Clutch Housing Oil						X	
Seasonal	32	Primary Air Cleaner Element						X	
	33	Radiator Coolant						X	
Special Service	34	Safety Air Filter Element Every 3rd primary element change or every 1000 hours, whichever comes first.						X	
General Maintenance	35 to 39	See text on pages 3-48 to 3-56 for service requirements							

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Multi-function Switch
The stalk-type switch, is mounted on the left side of the instrument console. The switch operates the following:

- Tractor lights
- Turn signals
- Horn

NOTE: *The turn signals and headlights will only operate with the key switch in the "ON" position.*

Switch Operation:

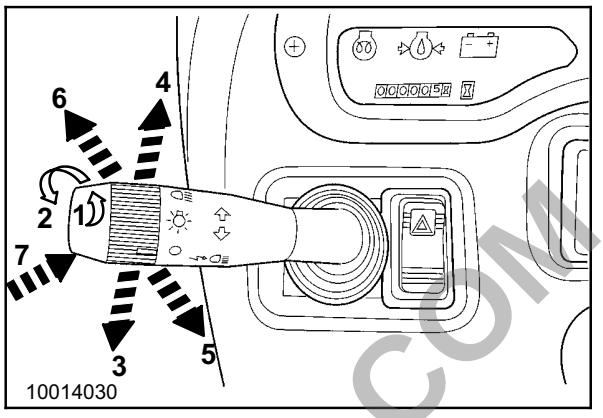
1. Rotate the end of the stalk to position, 1, to turn on position and instrument lights.
2. Rotate switch further position, 2, to illuminate headlight low beam (road lights).
3. Push the stalk down to position, 3, to select high beam headlights. (work lights).
4. Lift up on stalk switch central position for dipped beam, Lift the stalk further against spring pressure, 4, to flash high beam.

NOTE: *When high beam is selected, the blue indicator light on the instrument panel will be illuminated.*

5. Move the stalk rear rearward position, 5, to operate the left turn signals.
6. Move the stalk switch forward position, 6, to operate the right turn signals.

NOTE: *The corresponding turn signal indicator light will flash when either turn signal is actuated.*

7. Press inward position, 7, on the stalk to sound the horn.

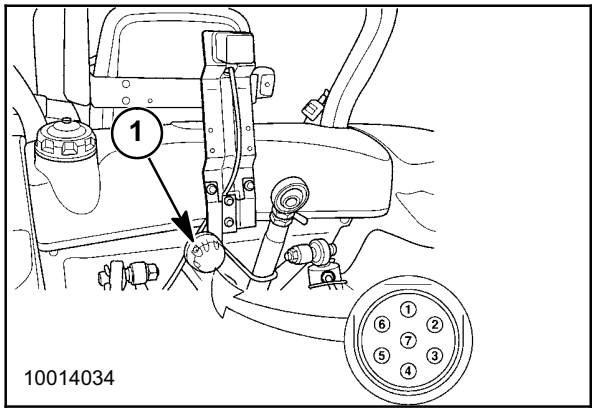


21

Trailer Electrical Socket
A standard 7-pin trailer lighting socket, 1, is provide as standard equipment and is mounted at the center rear of the tractor.

The socket pin connections (see insert) are as follows:

Pin No.	Circuit
1	L.H. Turn signal
2	Open
3	Earth
4	R.H. Turn Signal
5	R.H. Parking Light
6	Stop Lights
7	L.H. Parking Lights



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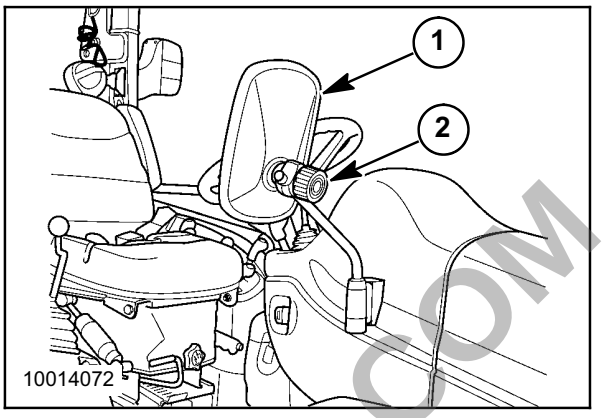
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REAR VIEW MIRROR

The tractor is equipped with a rear view mirror, 1, mounted on the right side for UK and left side for all other countries.

Adjust mirror, by loosening knob, 2, and pivoting for proper rear vision when operator is in tractor seat. Retighten knob when mirror is properly adjusted.



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STEERING WHEEL

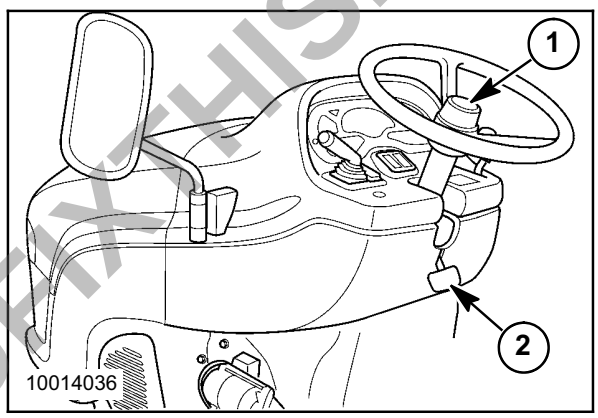
Adjusting the Steering Wheel

The tractor is equipped with an adjustable steering wheel which can telescope and tilt.

To telescope the wheel, turn the wheel hub, 1, to the left and raise or lower the steering wheel to the desired height. Then turn the hub to the right to lock it into position.

NOTE: *When locking the hub into position, do not overtighten.*

To tilt the wheel, pull up on the lever, 2, and move the steering wheel fore or aft to the desired position. If the wheel is not held in position when the lever is raised, the steering wheel will spring to its most forward position. Use this feature to gain additional clearance when mounting and dismounting the tractor.



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