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2. Safety Alert Symbol



The safety alert symbol appears with most safety statements. The safety alert symbol means attention, become alert, the operator's safety is involved! Please read and strictly observe the message that follows the safety alert symbol.

⚠ DANGER

Indicates a hazardous situation which, if not avoided, *will* result in death or serious injury.

⚠ WARNING

Indicates a hazardous situation which, if not avoided, *could* result in death or serious injury.

⚠ CAUTION

Indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.

NOTICE

Indicates a situation which can cause damage to the tractor, personal property and/or the environment or cause the equipment to operate improperly.

IMPORTANT: Means that implement or property damage could occur if instructions are ignored.

NOTE: Provides useful information.



WARNING: READ AND FOLLOW ALL INSTRUCTIONS IN THE *OPERATOR'S MANUAL* BEFORE ATTEMPTING TO OPERATE THE TRACTOR. FAILURE TO COMPLY WITH THE INSTRUCTIONS MAY RESULT IN PERSONAL INJURY.



WARNING: The engine exhaust, some of its constituents and certain tractor components contain or emit chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.



DANGER: The tractor is built to be operated according to the rules for safe operation in the *Operator's Manual*. As with any type of power equipment, carelessness or error on the part of the operator can result in serious injury. To help prevent accidents, read and take the following precautions before operating the tractor. Failure to observe the following safety instructions could result in serious injury or death.

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3. SPECIFICATIONS

1. Specifications Table

Model				Lx410	Lx450	Lx490
Power Take Off (PTO) Power: Estimated Average			hp (kW)	30.4 (22.7)	34.3 (25.6)	36.8 (27.5)
Engine	Maker			YANMAR		
	Model			4TNV88	4TNV88	4TNV84T
	Type			4 Cycle Inline, Water-Cooled Diesel		
	Aspiration			Without Turbo Charged		Turbo Charged
	Number of Cylinders			4	4	4
	Bore and Stroke		in. (mm)	3.46 × 3.54 (88 × 90)	3.46 × 3.54 (88 × 90)	3.31 × 3.54 (84 × 90)
	Total Displacement		cu. in. (L)	133.5 (2.189)	133.5 (2.189)	121.7 (1.995)
	Gross Power: EPA Regulation		hp (kW)	41.3 (30.8)	45.3 (33.8)	48.5 (36.2)
	Net Power		hp (kW)	-	-	-
	Rated Revolution		rpm	2700	2700	2600
	Maximum Torque		ft•lbs (N•m)	94.2 (124.9)	104.4 (141.6)	113.6 (154.2)
	Battery			540 CCA	540 CCA	650 CCA
	Fuel			Diesel Fuel: Ultra Low Sulfur		
Capacities	Fuel Tank		US gal (L)	11.9 (45)	11.9 (45)	11.9 (45)
	Engine Oil		US qt. (L)	5.6 (5.3)	5.6 (5.3)	5.6 (5.3)
	Engine Coolant		US qt. (L)	5.1 (4.8)	5.1 (4.8)	5.1 (4.8)
	Transmission Oil		US gal (L)	8.5 (32)	8.5 (32)	8.5 (32)
	Front-axle Oil		US gal (L)	2.3 (8.8)	2.3 (8.8)	2.3 (8.8)
Dimensions	Overall Length (with 3-Point Hitch)		in. (mm)	131.7 (3345)		
	Overall Width (with R4 Tires)		in. (mm)	69.5 (1764)		
	Overall Height (with Roll-Over Protective Structure (ROPS), R4 Tires)		in. (mm)	96.1 (2440)		
	Overall Height (with R4 Tires) (Top of Steering Wheel)		in. (mm)	-		
	Wheel Base		in. (mm)	74.8 (1900)		
	Min. Ground Clearance (with R4 Tires)		in. (mm)	15.5 (393)		
	Tread (with R4)	Front	in. (mm)	51.7 (1314)		
		Rear	in. (mm)	51.9 (1319)		
Weight (with Roll-Over Protective Structure (ROPS) and R4 Tires)			lb. (kg)	3585 (1626)		3618 (1641)

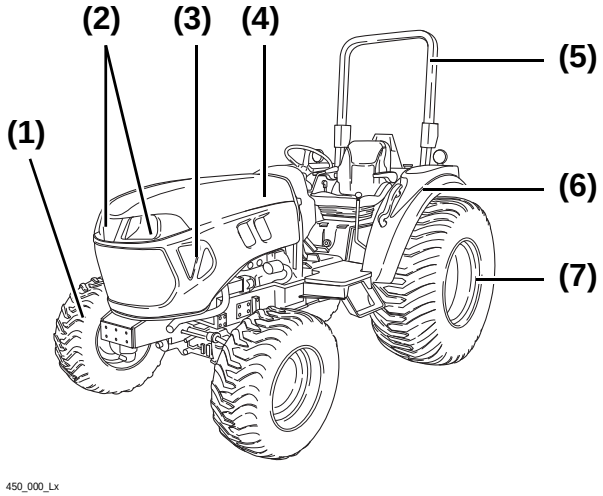
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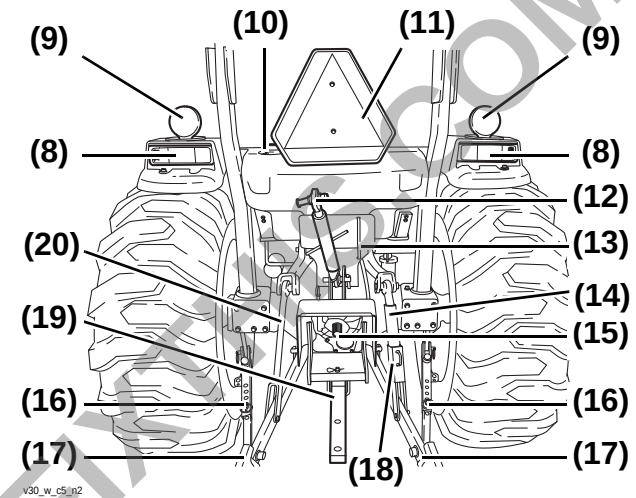
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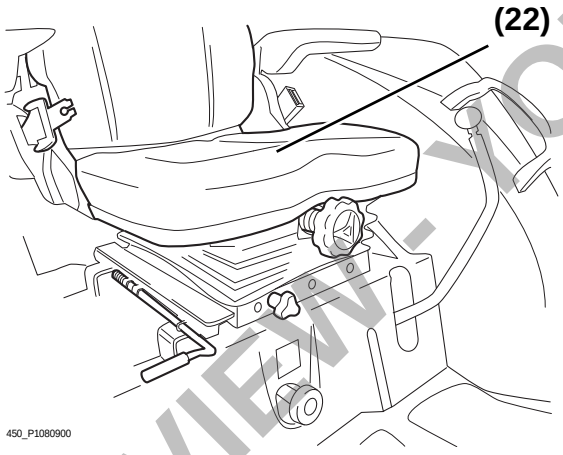
5. NAMES AND FUNCTIONS OF COMPONENTS

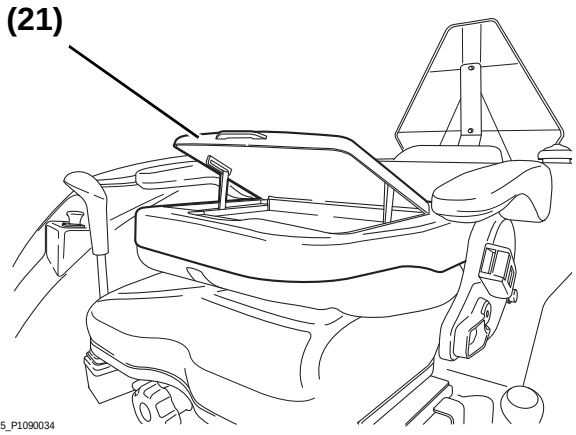
1. Overview

■ Names of Main Components









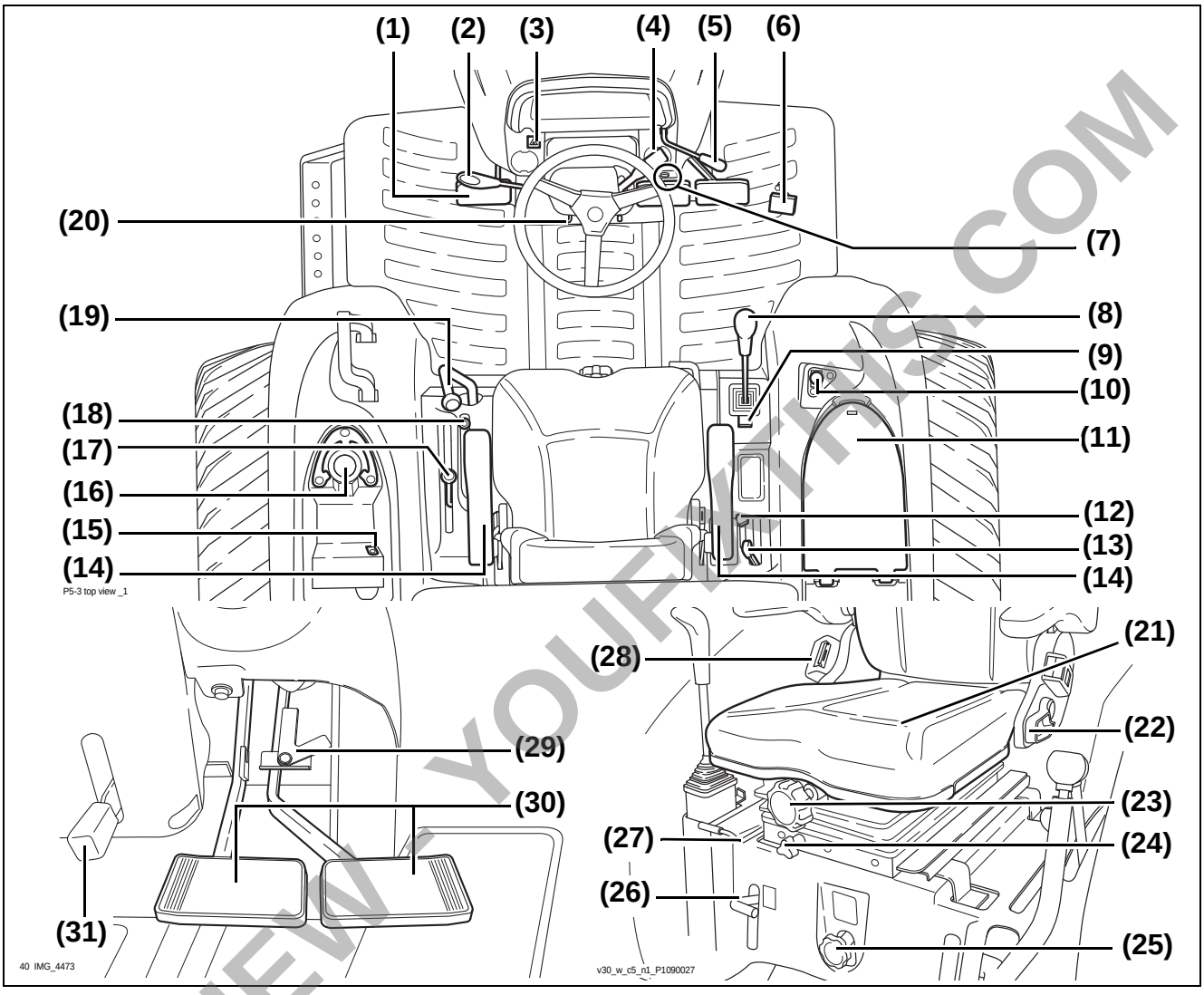
(1) Front tires
(2) Headlights
(3) Side lights
(4) Hood
(5) Roll-Over Protective Structure (ROPS)
(6) Fender
(7) Rear tires
(8) Tail lights
(9) Turn signal/hazard lights
(10) Fuel filler cap
(11) Slow Moving Vehicle (SMV) emblem
(12) Top link
(13) Top link hook
(14) Lift link right
(15) Power Take Off (PTO) shaft
(16) Implement sliding stabilizer
(17) Lower links
(18) Adjustment box
(19) Drawbar
(20) Lift link left
(21) Operator seat back pocket
(22) Operator seat

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2. Operator Station Controls

■ Names of Components



(1) Clutch pedal
(2) Forward/N/reverse lever
(3) Hazard lights button switch
(4) Headlights, side lights and tail lights/turn signal switch
(5) Throttle control lever
(6) Accelerator pedal
(7) Starter key switch
(8) Implement control lever
(9) Implement control lever lock
(10) Power Take Off (PTO) switch
(11) Console box
(12) Position stop knob
(13) 3-point hitch control lever
(14) Operator seat arm rest
(15) 12V DC outlet
(16) Cup holder
(17) Range gear lever
(18) 2WD/4WD lever
(19) Primary gear lever
(20) Tilt pedal
(21) Operator seat
(22) Backrest lever
(23) Operator seat firmness suspension knob
(24) Operator seat suspension stroke adjustment knob
(25) Hydraulic flow control/stop knob
(26) Differential lock pedal
(27) Operator seat forward and backward lever
(28) Retractable seatbelt
(29) Brake pedal connector lock
(30) Brake pedals
(31) Parking brake lock lever

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8. OPERATE THE TRACTOR

⚠ WARNING

Always use the drawbar to tow an implement.
- **Do not under any circumstances attach a load to the axle housing.**

Always decrease the tractor speed before turning:
- **During traveling on a rough terrain.**
- **Before stopping to prevent the tractor from overturning.**

Do not attempt to turn tractor with the differential lock engaged.
- **Attempting to turn the tractor while the differential lock is engaged can lead to the tractor overturning.**

Stay clear of ditches, potholes, embankments and ponds.
- **The tractor can more easily overturn or rollover in soft and wet ground.**
- **Before entering an area covered with tall grass, walk and inspect the area to detect any obstacles.**
- **Remove potentially dangerous obstacles before driving.**

Always watch where the tractor is going.
- **Be alert and exercise extra caution while driving towards an area.**
- **Where the next section is difficult to see, e.g., blind corners, row of trees, or any similar situations.**

When two or more people are working in one area:
- **Regularly communicate and watch each other.**
- **Make sure all persons and implements in the area do not impede or cause injury to each other.**

Always ensure the tractor is at a complete stop before attempting to get on or off.

Accident Hazard

- A child does not understand the principles of danger, nor comprehend imminent dangers and is often attracted to and approach the tractor.
- Do not under any circumstances assume a child remain where last seen.

- Always keep a child out of the work area. Make sure a responsible person, other than the operator carefully supervising the child.

- If any child enters the current work area, immediately stop the tractor.

- Do not under any circumstances allow a child to ride on the moving tractor. The child can tamper with the controls, fall off and be run over by the tractor.

- Do not under any circumstances allow a child to operate the tractor.

- Do not under any circumstances allow a child to play on the tractor or implements.

- Be extremely careful when backing the tractor. Before and during backing, constantly look backward, sideways and downward to ensure no child is behind the tractor.

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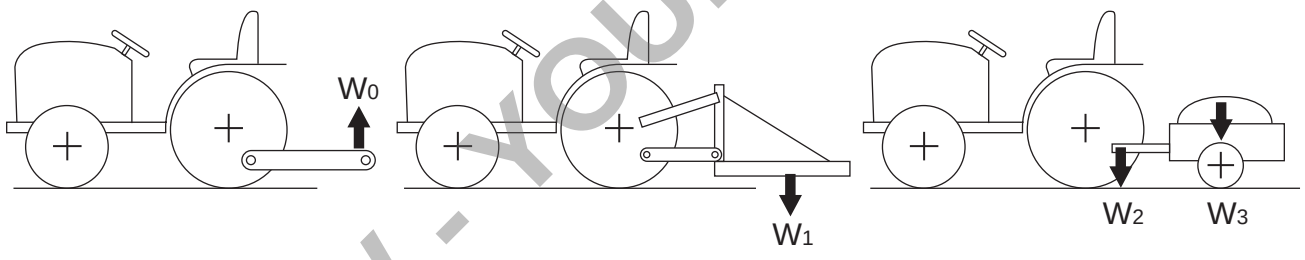
4. IMPLEMENT CAPACITIES

- Prior to delivery, the tractor is subjected to the load tests described below.
- The tests are designed to ensure the tractor performs safely and to specification when subjected to various loads and stresses.
- Genuine implements approved by Yanmar are used.

IMPORTANT

- Use only implements approved by YOUR LOCAL YANMAR TRACTOR DEALER.
- All implements used must conform to the approved specifications, per below.
- Using unapproved implements can result in malfunction, failure and damage to the tractor.
- The preceding action can also increase the possibility of injury to the operator or other people. The Yanmar warranty does not cover any malfunction or failure that results from the use of an unapproved implement.

	Lower Link End Maximum Lifting Capacity	Implement Weight and Size	Maximum Drawbar Load	Trailer Loading Weight Maximum Capacity
	W_0	W_1	W_2	W_3
lb.	3197	As specified in the list shown in the next page	1102	5512
kg	1450		500	2500



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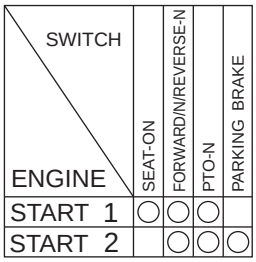
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17. TROUBLESHOOTING

1. How to Use the Troubleshooting Table

The troubleshooting table given below is quick reference for solving common problems.
If any fault, failure or a problem requiring repair work is found, contact YOUR LOCAL YANMAR TRACTOR DEALER for technical assistance.

1. Engine

The problem is:	The possible cause(s) are:	Remedy:
The engine is hard to start or does not start at all	1. A problem in the electrical	1. Electrical system • Check whether the battery is fully charged. • charge the battery • Check whether the fuse/s is/are blown. • replace the blown fuse/s • Check for loose or corroded the battery terminals and battery cables. • tighten the loose battery terminals • clean the corroded battery terminals and battery cables • Check whether the start relay is faulty. • replace start relay • Check whether the starter key switch is faulty. • contact YOUR LOCAL YANMAR TRACTOR DEALER • Check whether the starter is faulty. • contact YOUR LOCAL YANMAR TRACTOR DEALER • Check whether the glow plug/air heater are faulty. • contact YOUR LOCAL YANMAR TRACTOR DEALER • Check whether the interface combination functions correctly.  • contact YOUR LOCAL YANMAR TRACTOR DEALER

SWITCH / ENGINE	SEAT-ON	FORWARD/N/REVERSE-N	PTO-N	PARKING BRAKE
START 1	○	○	○	
START 2		○	○	○

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13. MAINTENANCE

- For each of the checkpoints listed below, check and service at the intervals indicated in the table.
- For the inspection and maintenance procedures, for details, see "Chapter 14. PERIODIC SERVICE" on page 14-1.

1. Maintenance Check List

No	Topic		Time	Service Intervals																After purchase	
						Hours															
				Daily	If Necessary	50	100	150	200	250	300	350	400	450	500	550	600	800	1000	1 year	2 years
1	Engine Oil Level	Check	Daily	✔																	
2	Transmission Hydraulic Oil Level	Check	Daily	✔																	
3	Tire Air Pressure	Check	Daily	✔																	
4	Grille	Check	Daily	✔																	
5	Fuel Tank	Check	Daily	✔																	
		Refill																			
6	Rubber Dust Unloading Valve	Clean	Daily	✔																	
7	Radiator Hose and Clamp	Check	Daily	✔																	
		Replace	Every 2 years																		✔
8	Radiator Cooling Screen	Clean	Daily	✔																	
9	Safety Systems	Check	Daily	✔																	
10	Radiator Cooling Fins	Clean	Daily	✔																	
11	Cooling System	Check	Daily	✔																	
		Flush	Every 2 years or after 1000hr																✔		✔
12	Coolant	Change	Every 2 years or after 1000hr																✔		✔
13	Fuel Line	Check	Daily	✔																	
		Replace	Every 2 years																		✔
14	Power Steering Line	Check	Daily	✔																	
		Replace	Every 2 years or if necessary		✔																✔
15	Retractable Seatbelt	Check	Daily	✔																	
		Replace	If necessary		✔																
16	Roll-Over Protective Structure (ROPS)	Check	Daily	✔																	
		Replace	If necessary		✔																
17	Headlights, Hazard Lights, and all other lights (lights and/or bulbs).	Check	Daily	✔																	
		Replace	If necessary		✔																
18	Alternator/fan Belt	Inspect	Daily	✔																	
		Adjust	Every 50hr or if necessary		✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔		
		Replace	First 50hr, then if necessary		✔	✔															
19	Air Cleaner Element	Clean	Every 100hr or if necessary		✔		✔		✔		✔		✔		✔		✔	✔	✔		
		Replace	Every 1 year or if necessary		✔															✔	✔
20	Fuses	Check	Daily	✔																	
		Replace	If necessary		✔																

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3. Lubricants

No.	Locations	Capacities	Lubricants	
1	Fuel	Approximately 11.9 US gal (45 L)	No.2-D diesel fuel No.1-D diesel fuel if temperature is below 14°F (-10°C)	
2	Coolant*	Approximately 5.83 qt. (5.5 L)	High Quality Permanent Type Antifreeze (Ethylene Glycol with corrosion and rust inhibitor chemicals) Coolant Mixture Ratio Distilled Water 50% : Antifreeze 50%	
3	Engine crankcase (with filter)	Approximately 5.62 qt. (5.3 L)	API Service Classifications CF or higher SAE 10W-30 or SAE 10W-40	
4	Transmission hydraulic oil	Approximately 8.5 US gal (32 L)	Hydraulic/Transmission Fluid (TF 500)	
5	Front axle gear oil	Approximately 2.3 US gal (8.8 L)	SAE 80W-90 gear oil	
6	Greasing	No. of Greasing points	Lubricants	Type of grease
	Front axle pivot	2	Until grease overflows	General all purpose grease NLGI grade No.2
	Tie rod end	2		
	Lift link	1		

(Specifications and design are subject to change without prior notice for improvement.)

***NOTE**

- Immediately after purchasing the tractor:
  - adjust the coolant mixture ratio of the coolant and water to suite the local climate
  - the preceding practice assists in making the tractor function efficiently
- The coolant can remain unchanged for a period of 2 years:
  - if during the period the tractor is operated for less than 1200 hours
  - if the tractor is operated for more than 1200 hours during the period, the coolant has to be replaced during flushing of the system
- After pouring the coolant, run the engine for a short period to mix the two fluids thoroughly.

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PICTOGRAPHS

To help assist the operator in operating the tractor, various easy to understand pictographs have been created and are used throughout the *Operator's Manual*. The pictographs are listed below together with the corresponding meanings.


Safety alert symbol

<Instrument panel>


Fuel level


Glow


Engine oil pressure


Alternator/Battery charging condition



Engine speed


Hour meter


Engine coolant temperature


Revolutions Per Minute (rpm)


Power Take Off (PTO)


Parking brake

<Lights>


Turn signal


Headlight high


Headlight low


Hazard warning lights

<Starter key switch>


Engine start


Engine run


Engine shut-off

<Levers and knobs>


Power Take Off (PTO) OFF position


Power Take Off (PTO) ON position


Differential lock


Implement control lock/unlock


4-wheel drive on


2-wheel drive on


Slow


Fast


Position control raised position


Position control lowered position


Hydraulic flow control/stop

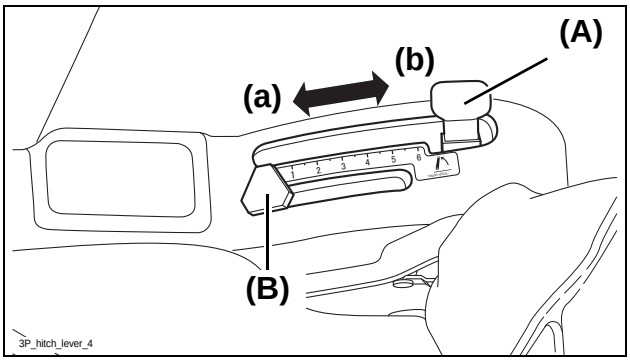

Tilt pedal lock/unlock


Parking brake lock/unlock

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2. Adjust the position stop knob to set the desired lowest position of the implement from the ground.



(A) 3-point hitch control lever
(B) Position stop knob
(a) Moving the 3-point hitch control lever forward lowers the implement
(b) Moving the 3-point hitch control lever backward raises the implement.

■ Use the Position Stop Knob

NOTE

Use the position stop knob to:
- Limit the downward movement of the lower links.
- Set a minimum distance between the attached implements and the ground.

1. Operate the attached implement.
2. Use the 3-point hitch control lever to establish the desired working height (distance from the ground) of the implement.
3. Loosen the position stop knob.
4. Move the position stop knob rearwards until position stop knob stops against the 3-point hitch control lever.
5. Tighten the position stop knob to fix on that particular position.
   - Every time the 3-point hitch control lever stops against the position stop knob, the implement is lowered to the established working height.

■ Hydraulic Flow Control/Stop Knob

⚠ WARNING

- **Lowering the 3-point hitch too fast can lead to accident or tractor failure.**
- **Adjust the hydraulic flow control/stop knob:**
  - **the time for lowering the implement from the highest position to the lowest position, is 2 seconds or longer**
- **Do not attempt to operate an implement on a road.**
- **While the tractor is traveling:**
  - **keep the 3-point hitch control lever in the raised position**
  - **lock the 3-point hitch control lever with the position stop knob**
  - **do not fully close the hydraulic flow control/ stop knob**
  - **closing the hydraulic flow control/stop knob can cause damage to the hydraulic lift circuit**
- **During maintenance:**
  - **do not use the hydraulic flow control/stop knob as a means to keep the implements raised**
  - **loss of hydraulic pressure may cause the implement to suddenly drop**
  - **set the implement on solid blocks, or remove the implement before starting any maintenance**
- **The hydraulic flow control/stop knob determines the speed at which the lower link is lowered.**

IMPORTANT: Avoid damage!

- Avoid attaching a heavy load to the 3-point hitch when traveling on rough terrain.
  - the hydraulic system may be damaged
- Do not operate the 3-point hitch control lever when the hydraulic flow control/stop knob is closed.
  - the preceding action can cause the transmission hydraulic oil to overheat

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