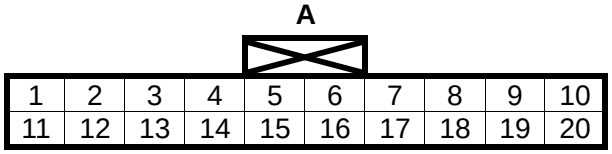
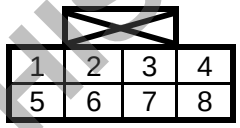
1. Terminals and Configuration





Pin	Function
A1	Controller power supply + (+12V)
A2	Power earth
A3	Power earth
A4	Battery +
A5	Brake lamp output high valid -
A6	Mast lift descend output high valid
A7	High/low speed solenoid output high valid
A8	Reverse solenoid high valid
A9	Forward solenoid high valid
A10	Starter output high valid
A11	+12V reserved, power connection to indicator lamps, not to be connected to large loads. (cancelled)
A12	Power earth
A13	BATT+ reserved, power connection to indicator lamps or buzzer, not to be connected to large loads (cancelled)
A14	Seat switch high valid
A15	Handbrake switch high valid
A16	Low/high speed gear switch closing corresponds to high speed
A17	Reverse gear high valid

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2. Bolt and Screw Tightening Torque Table

Unit: N·m

Bolt Diameter mm	Bolt Strength Grade			
	4.6	5.6	6.8	8.8
6	4-5	5-7	7-9	9-12
8	10-12	12-15	17-23	22-30
10	20-25	25-32	33-45	45-59
12	36-45	45-55	58-78	78-104
14	55-70	70-90	93-124	124-165
16	90-110	110-140	145-193	193-257
18	120-150	150-190	199-264	264-354
20	170-210	210-270	282-376	376-502
22	230-290	290-350	384-512	512-683
24	300-377	370-450	488-650	651-868
27	450-530	550-700	714-952	952-1269
30	540-680	680-850	969-1293	1293-1723
33	670-880	825-1100	1319-1759	1759-2345
36	900-1100	1120-1400	1694-2259	2259-3012
39	928-1237	1160-1546	1559-2079	2923-3898

ATTENTION:

- Use grade 8.8 bolts and screws for all important connections.
- Grade marked on head. Unmarked bolts are grade 8.8.

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2. Weekly Maintenance (every 40 hours)

Carry out the following maintenance in addition to daily maintenance.

1. Air Filter Maintenance



Maintenance Information:

① The main filter element must be serviced or replaced when the air filter warning lamp on the instrument panel comes on;
② The safety filter element cannot be cleaned, so there is no need to remove it while work is carried out on the main filter element;
③ The main and safety filter elements must both be replaced when the air filter warning lamp comes on after 3 services have been done on the main filter element.

⚠ **CAUTION:**
If dual air filters are installed, care must be taken when opening the right door to prevent the glass from being broken.

Maintenance Procedure:

① Use your thumb to unfasten the 4 clips;
② Hold the clips and pull off the cover;
③ Gently twist the main filter element left to right with both hands, and slowly extract;
④ The safety filter element cannot be cleaned. To replace the safety filter element, twist it gently in the same way and slowly extract;
⑤ Clean and dry the two surfaces in the housing with a cloth, to achieve precise fitting and operation;
⑥ Inspect the safety filter element and fit within the housing;
⑦ Inspect the main filter element and fit within the housing;
⑧ Replace the cover, ensuring the -dust release cap is facing downwards;
⑨ Replace the clips to complete the procedure.

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1. Regular Maintenance Schedule

O-- check, calibrate, adjust, X-- change/replace

Regular Maintenance Schedule

		Every			
Item	Service required	1 months (166hrs)	3 months (500 hrs)	6 months (1000hrs)	1 year (2000hrs)
Engine	1. Check the valve clearance is correct				5000hr/ 3yrs
	2. Cylinder head bolt tightening	First time O	O	O	O
	3. Replace engine oil（1）	First time ×	×	×	×
	4.Replace the oil cleaner（1）	First time ×	×	×	×
	5. Replace the air cleaner element	First time ×	×	×	×
	6. Drain the water of oil water separator	O	O	O	O
	7.Clean the exterior of radiator（1）	O	O	O	O
	8. Clean or replace the filter element of air cleaner	O	O	×	×

For the remaining parts of engine maintenance, refer to engine manual

NOTE:（1）If the work place has a lot of dirt or other pollutants, time between maintenance intervals should be decreased.

（2）If problems like loss of engine power, sudden increase in truck noise, or black smoke occur, check the truck immediately. The problems may be corrected by adjusting the diesel nozzle pressure and fuel atomization.

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X. Main Technical Specifications

Model			UT80P DSL	UT100P DSL
Rated load		kg	8000	10000
Load centre distance		mm	600	600
Maximum lift height		mm	3000	3000
Free lift height		mm	200	200
Maximum hoisting speed (loaded)		mm/s	440	330
Mast tilt front/rear		(°)	6/12	6/12
Maximum travel speed (unloaded)		km/h	32	31
Minimum ground clearance (unloaded)		mm	250	250
Minimum outside turning radius		mm	3630	3940
Maximum tractive effort (unloaded/loaded)		N	45000/65000	49000/65000
Gradeability, loaded		%	20	20
Wheelbase		mm	2500	2800
Wheel track (front/rear)		mm	1628/1700	1628/1700
Service weight		kg	7950	8350
Overall dimensions (L x W x H) (including forks)		mm	5395x2165x2700	5742x2165x2850
Tires (front/rear)			9.00-20-14PR/4 9.00-20-14PR/2	9.00-20-14PR/4 9.00-20-14PR/2
Voltage V/Capacity Ah			24/90/20h	24/90/20h
Diesel engine	Model		Cummins 4.5L DSL (QSB4.5)	
	Rated power/speed		82 kW/2200 rpm	
	Maximum torque/speed		488 N·m/1500 rpm	
	Displacement L		4.5	

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VI. Operation

> ⚠ **WARNING:**
> A forklift that has any damage or malfunction must not be used until it has been fully repaired.

1. Starting

① Put the shift lever in neutral.

② Start the engine by turning the key switch to "⇄". When the engine has started, turn the key back to the " | " position.

> ⚠ **CAUTION:**
> - If you cannot start within 5 seconds, turn back to the "**O**" position and wait 2 minutes before trying again.
> - If the engine fails to start after three consecutive attempts, investigate the cause.

> ⚠ **CAUTION:**
> When ambient temperatures drop below -5 C, turn the key to the far right to warm up. Only start the engine after the pre-heat indicator goes out.

After Engine has Started

① Put the directional control lever into neutral.

② Warm engine for about 5 minutes.

> ⚠ **CAUTION:**
> After the engine starts, increase engine speed to medium speed (1800-2000 rpm) and let engine warm up before placing under load.

- Check the combustion (or misfiring) sound.
- Check the condition (density) of the exhaust.
- Make sure that all warning lights are off.
- After thoroughly warming up the engine, operate the hydraulic control levers 2-3 times throughout their full stroke and check working condition of the mast.

2. Driving

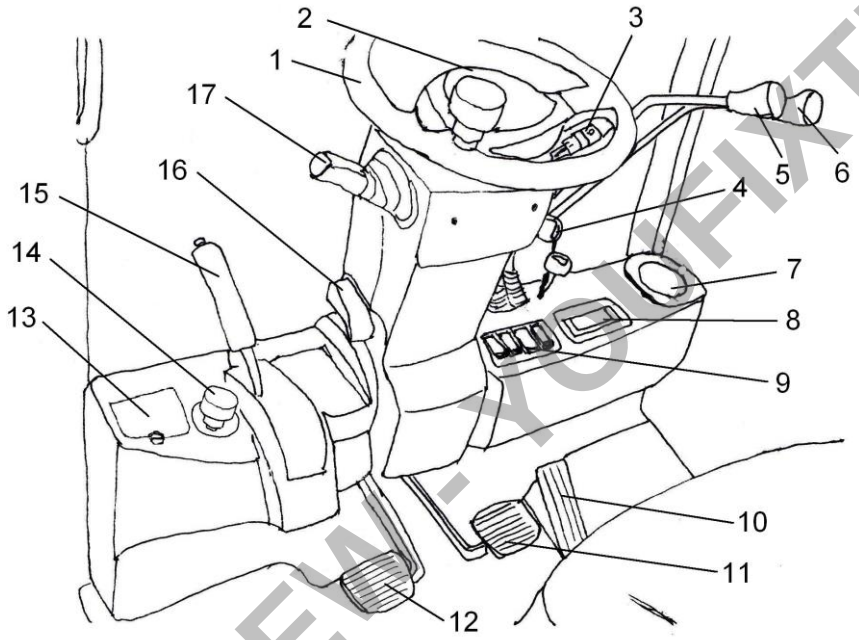
① Hold the steering wheel knob with your left hand and rest your right hand lightly on the steering wheel in readiness for loading and unloading operations.

② Set the bottom of the forks to 15-20cm above the ground and tilt the mast fully backwards.

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2. Controls and Switches



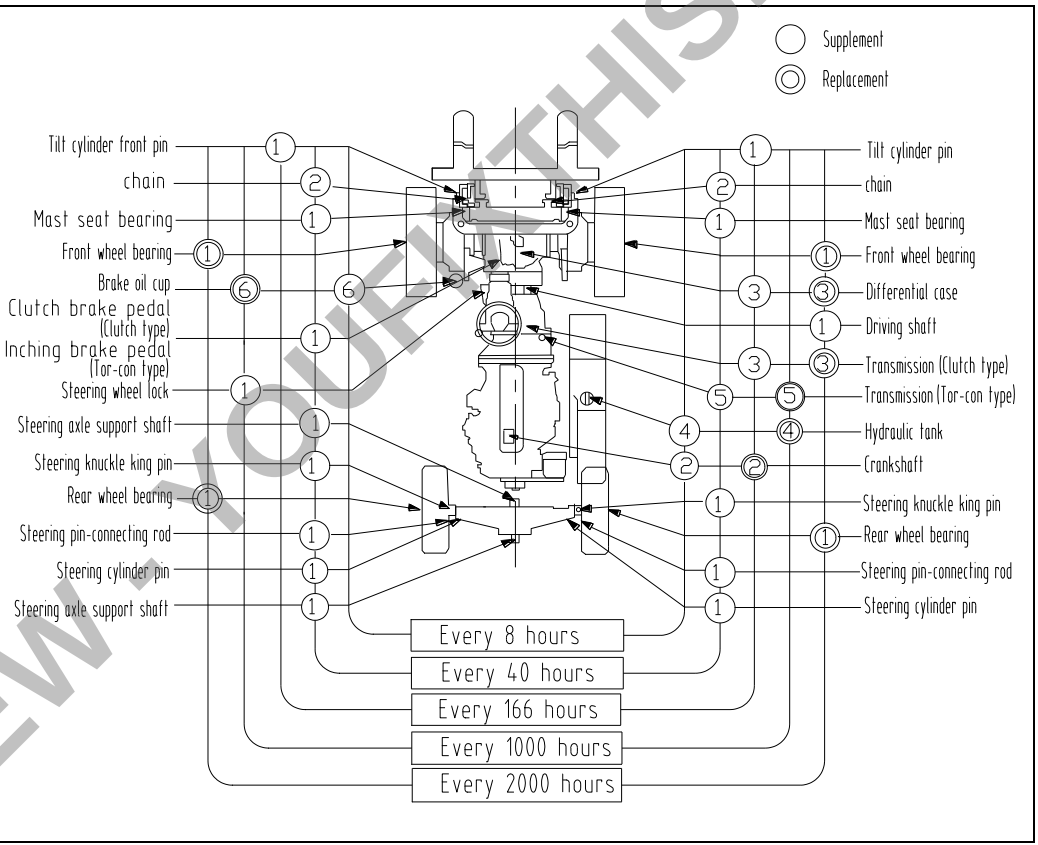
1. Steering Wheel
2. Horn
3. Combination Switch
4. Key Switch
5. Lifting Lever
6. Tilt Lever
7. Cup Holder
8. Instruments
9. Rocker Switches
10. Accelerator Pedal
11. Brake Pedal
12. Inching Pedal
13. Washer Cap
14. Emergency Stop Switch
15. Parking Brake
16. Steering Wheel Adjust Lever
17. Directional Lever

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5. Lubrication System Diagram

① General Purpose Lithium Grease
② Engine Oil
③ Gear Oil
④ Hydraulic Fluid
⑤ Torque Converter Fluid
⑥ Brake Fluid
ATTENTION: **1. For details on specified lubricants for different models, see the "Recommended oils table".**
2. For lubrication of the mast track, refer to the mast lubrication section of Weekly maintenance (every 50 hours).



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Pin	Function
A18	Forward gear high valid
A19	Manual/automatic switch closing corresponds to automatic
A20	Velocity sensor system
B1	R2 indicator low valid
B2	R2 indicator low valid
B3	Buzzer high valid
B4	Warning indicator high valid
B5	Automatic indicator low valid
B6	F2 indicator low valid
B7	F1 indicator low valid
B8	N indicator high valid

Note: high valid refers to signals requiring voltage to be valid, low valid refers to signals that require earth (no voltage) to be valid.

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8. For the lubrication points of each of the following parts, see the *Lubrication System Diagram*.

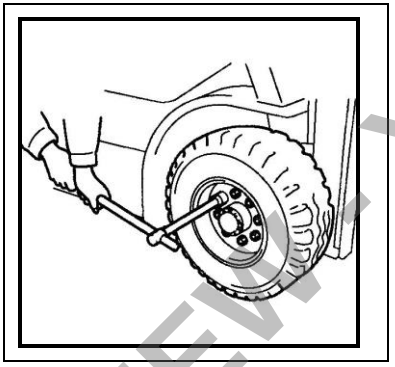
① Mast bearings;
② Inching pedal;
③ Steering axle support shaft;
④ Steering knuckle spindle;
⑤ Steering connecting rod pin;
⑥ Steering cylinder pin.

9. Tightening Bolts and Nuts

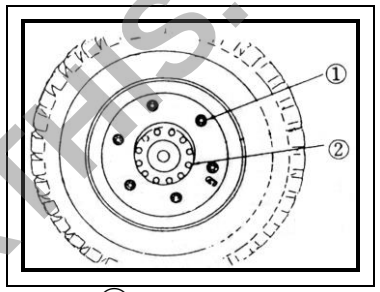
Refer to the Maintenance Schedule.

10. Hub Nut Tightening Torque Check

Check that the tightening torque of the wheel nuts meets requirements.



Front Wheel

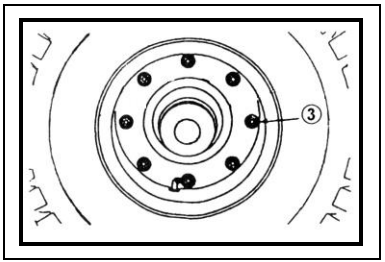


① Front wheel nut ② Shaft axle bolt

Tightening torque Nm:

	8T-10T
Front tire nut	500 - 585

Rear Wheel



③ Rear tire nut;

Tightening torque Nm:

	8T-10T
Rear tire nut	441 - 588

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3. Monthly Maintenance (every 166 hours)

Carry out the following maintenance in addition to weekly maintenance.

1. Change Engine Oil and Filter

① Start the engine, wait until it is fully warmed up, then switch it off.

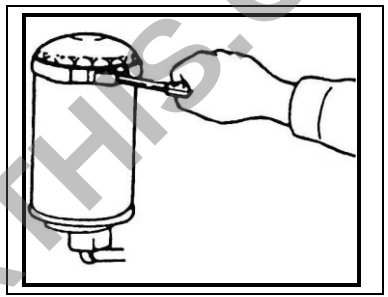
② Remove the oil filler cap and the oil pan drain plug, then release the oil

NOTE: Milky oil is a sign that the oil is mixed with coolant. Find out the reason and rectify the problem..

> ⚠ **WARNING:**
> Hot engine oil, and related components may cause burns. Avoid skin contact with hot oil and components.

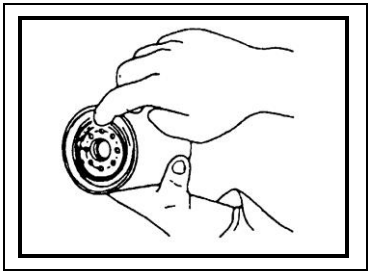
③ Wipe clean and fit the drain plug and washer. Drain plug tightening torque: 29-39Nm

④ Disassemble the oil filter using a suitable tool.



⑤ Wipe the oil filter mounting surface with a clean cloth.

⑥ Apply a small amount of oil to the rubber ring on the new oil filter.



⑦ Install the new oil filter by hand. Do not use a spanner to tighten it.

⑧ Add recommended oil, referring to the “Recommended oils table”.

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Item	Service required	Tools	Daily (8hrs)	1 months (166hrs)	3 months (500 hrs)	6 months (1000hrs)	1 year (2000hrs)
Crankshaft ventilation	Check valves and lines for blockages or damage					O	
Speed regulator or injection pump	Check maximum revs when unloaded	Tachometer					O
Lubrication system	Check for leaks		O	O	O	O	O
	Check level and cleanliness of the oil		O	O	O	O	O
	Change engine oil			First Time X	X	X	X
	Replace engine oil filter element			First Time X	X	X	X
Fuel system	Visually inspect oil lines, pump, and tank for leaks		O	O	O	O	O
	Check whether the fuel filter is blocked				O	O	O
	Inspect injector, and adjust pressure (diesel models)	Injection test stand				O	O

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