LUBRICATION AND MAINTENANCE CHART

SERVICE HOURS	SERVICE POINTS	SERVICE REQUIRED				
		GREASE	DRAIN	CHECK	CLEAN	CHANGE
10	Front Wheel Nuts/Bolts Torque			X		
	Rear Wheel Nuts/Bolts Torque			X		
	Fuel Level			X		
	Engine Oil Level			X		
	Coolant Recovery Reservoir Level			X		
	Transmission/Hydraulic Oil Level			X		
	General Tractor Inspection (See Note 1)			X		
50	Water Trap - Fuel Filter		X			
	Drawbar Pivot - (See Note 6)				X	
	2WD - Front Axle Grease Points	X				
	MFD - Front Axle Grease Points	X				
	Tire Pressure			X		
	Radiator and Coolers				X	
	Engine Air Filter Dust Valve (See Note 7)			X		
	Cab Recirculation Filters				X	
100	Rear Three Point Linkage	X				
	Front Three Point Linkage	X				
	Cab Air Intake Filter				X	
300	MFD Axle - Differential Oil Level			X		
	MFD Axle - Hubs Oil Level			X		
	Compressor Belt (Air Conditioner)			X		
	Fan and Alternator Belt			X		
	Battery(s)			X		
	Engine Oil and Oil Filter					X
	Drawbar Bolt Torques -(See Note 6)			X		
	Trailer Hitch Bolt Torques - (See Notes 2 and 6)			X		

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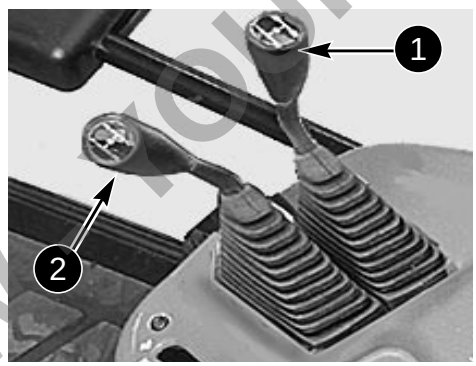
NORMAL STARTING PROCEDURE

WARNING: *On electrically operated MFD tractors, the MFD clutch is spring loaded into engagement and relies on hydraulic pressure for disengagement. A failure in the MFD hydraulic system will therefore automatically engage the MFD even though the MFD switch is in the disengaged position. This is a built in safety feature. DO NOT operate MFD tractor transmissions with the rear wheels off the ground or removed, UNLESS THE FRONT WHEELS ARE ALSO JACKED UP CLEAR OF THE GROUND OR THE FRONT AXLE DRIVE SHAFT IS DISCONNECTED. Failure to do this can result in the tractor being pulled off the rear supports by the front axle.* M291A

WARNING: *Operate controls only when seated in the operators seat.* M137A

IMPORTANT: *Operate the engine at idle speed for a few minutes to make sure that enough lubricant reaches the turbo charger bearings and engine parts before operating the engine at rated speed.*

STEP 1



DP96L096

If equipped with SYNCHROMESH TRANSMISSION, put the range lever (1) and the speed lever (2) in the NEUTRAL position.

STEP 1 - Continued



DP96J337

If equipped with POWERSHIFT TRANSMISSION, put the range lever in the NEUTRAL position. Move the powershift switch to position 1 (LOW).

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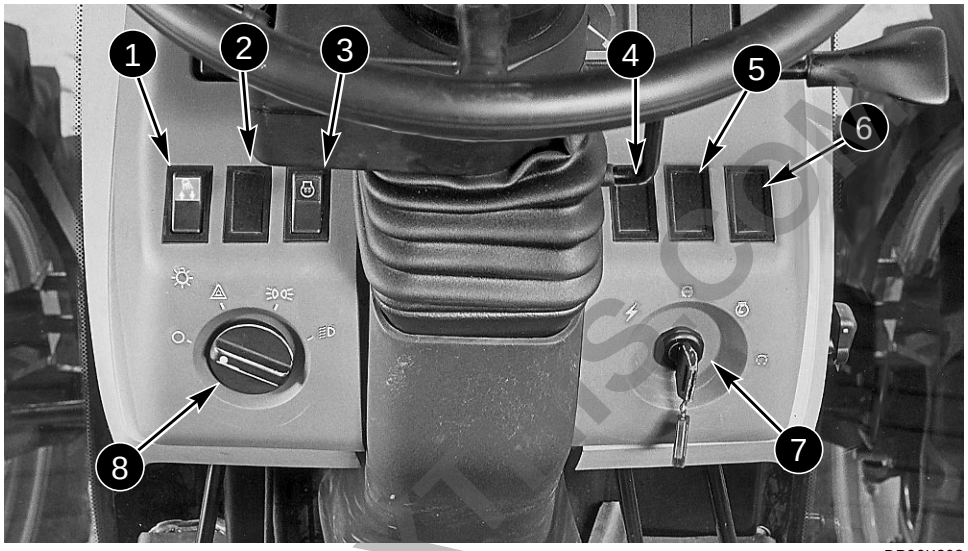
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OPERATING CONTROLS

Instrument Panel



DP96K308

1. WORK LIGHTS - This is a three position rocker switch.
   A. First Position - All work lights OFF.
   B. Second Position - Panel indicator lamp. The front grille work lights, front lower cab work lights and rear fender work lights are ON.
   C. Third Position - Panel indicator lamp and the switch lamp. The front grille work lights, front lower cab work lights, rear fender work lights and all cab roof work lights are ON.
2. NOT USED
3. ETHER (COLD START) SWITCH (IF EQUIPPED) - This is a two position rocker switch. Press and hold the front of the switch down for three seconds for cold weather starting.
4. NOT USED.
5. NOT USED.
6. NOT USED.

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SPECIFICATIONS

Diesel Engine

General

Type	Case 6T-590 Six Cylinder Four Stroke Cycle, Turbocharged
Firing Order	1-5-3-6-2-4
Piston Displacement	5.88 Litres (359 cu inch)
High Engine Speed, Without Load	2450 rpm
Rated Engine Speed	2200 rpm
Engine Low Idle Speed	970 rpm
Rocker Arm-to-Valve Clearance, Cold (Exhaust)	0.5 mm (0.02 inch)
(Intake)	0.25 mm (0.01 inch)

IMPORTANT: *Rocker Arm-to-Valve Clearance adjustment must be made when the engine is not running.*

Air Intake System

Type	Dry Type Air Induction System, Two Stage Filter System with Service Indicator on instrument cluster

Cooling System

System Type	Pressure System, Thermostat Controlled Bypass, and Impeller Type Pump
Thermostat Operation	Starts to Open at Approximately 83˚C (180˚F) Fully Open at 95˚C (203˚F)
Radiator Cap Pressure	103 kPa (15 psi)

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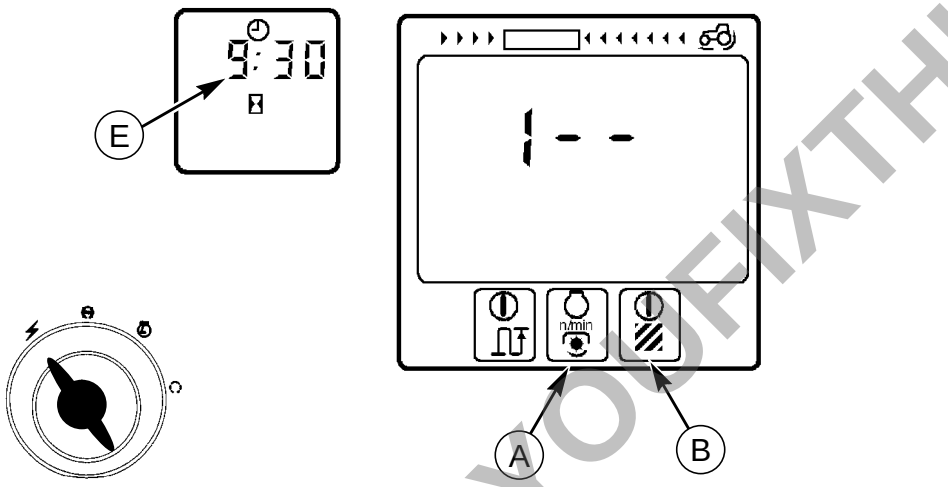
PROGRAMMING THE INSTRUMENT CLUSTER

General Information

There are three different programming modes for the digital instrument cluster:

1. ACCESSORY MODE - see below.
2. IMPLEMENT WIDTH MODE - see page 109.
3. DYNAMIC MODE - see page 110.

1. Programming in the Accessory Mode



DI97M120

STEP 1

Press and hold the Engine/PTO RPM switch (A) and turn the key counterclockwise to the accessory position.

The top digital display should display the menu code 1-- as shown. Release the switch, the clock display (E) will begin to flash on and off.

NOTE: *To change the menu code number, press switch (A) to decrease the number and switch (B) to increase the number.*

IMPORTANT: *To save any of the settings (menu codes 1 to 6), turn the keyswitch to the OFF position.*

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PTO Control Module Error Code Retrieval

PTO system error codes are stored in the memory of the PTO module for various control system error conditions. A maximum of ten error codes may be stored in memory. A repeating error is stored only once unless separated by a different error(s). To access error codes from the PTO control module do the following:

STEP 1

Put key switch in the OFF position.

STEP 2

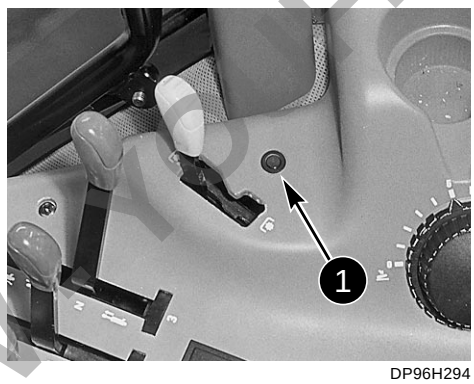
Stand up clear of the seat, DO NOT LEAN ON THE SEAT.

STEP 3

Move the PTO ON/OFF lever fully forward to engage the PTO.

STEP 4

Turn the key switch to the ON position, DO NOT START THE ENGINE.



DP96H294

An error code is a 2 digit number. Each digit of an error code number is indicated by a series of flashes from the PTO LAMP (1).

TO IDENTIFY ERROR CODE: Count the number of rapid flashes separated by a 2 second pause. The most recent code will be indicated first if there is more than one.

The first series of flashes represent the first digit of the error code, the second series of flashes represent the second digit of the error code.

Example:

FLASH, FLASH = **2**

Then a 2 Second Pause.

FLASH, FLASH, FLASH, FLASH = **4**

Then a 5 Second Pause.

The sequence above represents error code **24**.

If the PTO ON/OFF lever is NOT moved, the same error code will be repeated after the 5 second pause.

If the PTO ON/OFF lever is moved from the ON position to the OFF position and then back to the ON position the next error code will be displayed.

IMPORTANT: *DO NOT move the PTO ON/OFF lever rapidly from ON to OFF as this will erase error codes.*

Report all error codes to your dealer.

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First Service Intervals

For regular service intervals, See the LUBRICATION/MAINTENANCE CHART in the Lubrication Section of this manual.

After the first 10 to 20 hours of operation

Tighten the FRONT WHEEL BOLTS AND NUTS (MFD) after the first 10 to 20 hours of operation and again every 10 hours of operation until the bolt torques stabilize. See Front Axle Adjustment in this manual for complete instructions.

Tighten the REAR WHEEL BOLTS after the first 10 to 20 hours of operation and again every 10 hours of operation until the bolt torques stabilize. See Rear Wheel Adjustment in this manual for complete instructions.

After the first 50 hours of operation

Check the COMPRESSOR BELT TENSION after the first 50 hours of operation and adjust tension if necessary.

After the first 300 hours of operation

Change the oil in the MFD DIFFERENTIAL and the MFD PLANETARIES. See Lubricant and Capacities in this manual for oil capacity and oil type.

Check all the external bolts on the MFD axle, steering cylinder and tie rods. Tighten the MFD FRONT AXLE BOLTS to the torques listed below.

BOLT DIAMETER	GRADE	TORQUE
8 mm	8.8	18 pound foot (25 Nm)
10 mm	8.8	36 pound foot (49 Nm)
12 mm	12.9	107 pound foot (145 Nm)
14 mm	10.9	140 pound foot (190 Nm)

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SERVICE HOURS	SERVICE POINTS	SERVICE REQUIRED				
		GREASE	DRAIN	CHECK	CLEAN	CHANGE
600	Engine Fuel Filters					X
	Operator Presence Switch Function			X		
1200	Cab Intake Air Filter (See Note 3)					X
	Engine Primary Air Filter (See Notes 2 and 4)				X	X
	Engine Secondary Air Filter					X
	Air Induction System			X		
	MFD Planetaries and Differential Oil (See Note 5)					X
	Transmission/Hydraulic Oil and Filter					X
	In-Line Fuel Filter					X
	Door Lock and Hinges	X				
	Engine Valve Tappet Clearance			X		
2400	Coolant					X

NOTE 1: *Check the tractor for oil leaks, rubbing hoses, loose bolts and trash build up. Repair all oil leaks, replace worn or damaged hoses and tighten loose bolts before operation.*

NOTE 2: *Check for wear and function.*

NOTE 3: *In dusty conditions the cab air intake filter will require more frequent cleaning.*

NOTE 4: *Also clean the filter element whenever the service monitor lamp illuminates.*

NOTE 5: *Change at first 300 hours also.*

NOTE 6: *If equipped.*

NOTE 7: *Change annually or if damaged.*

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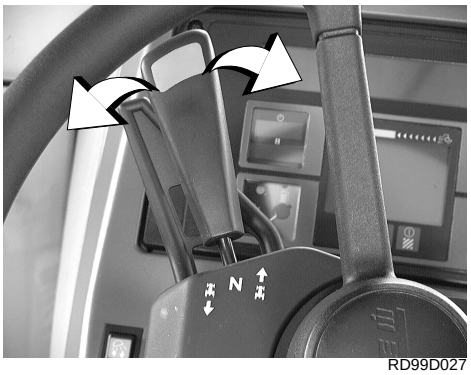
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PARKING THE TRACTOR AND STOPPING THE ENGINE

IMPORTANT: *When stopping the engine after operating under heavy load, run the engine at idle speed for a short period of time. This will allow the engine and turbo charger temperature to decrease gradually.*

STEP 1



RD99D027

Stop the Tractor. Put the Forward/ Neutral/Reverse lever in the NEUTRAL position. Engage the park brake.

STEP 2



DP96J337

If equipped with synchromesh transmission, put the range and speed levers in the NEUTRAL position. If equipped with powershift transmission, put the range lever in the NEUTRAL position and put powershift thumb control at full down position (i.e. 1st speed).

STEP 3



DP96J350

Disengage the PTO if in operation.

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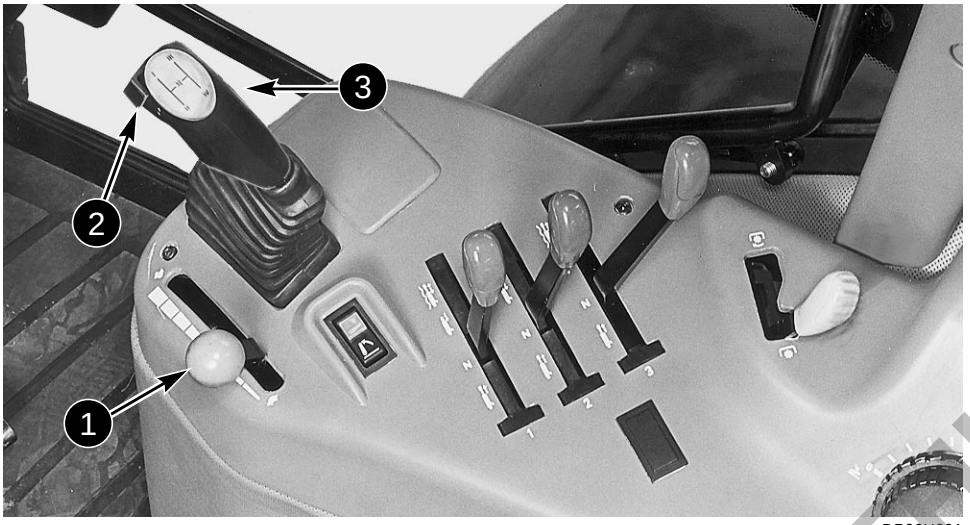
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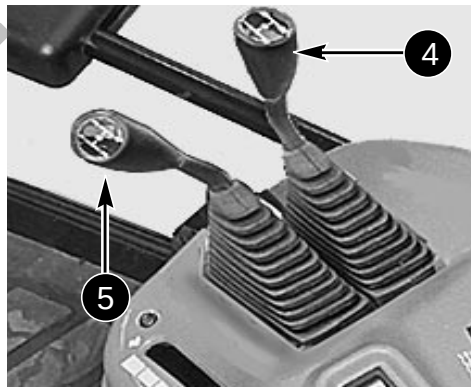
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Right Hand Side Console Controls



DP96H291

1. THROTTLE LEVER - To increase the engine speed, move the lever forward. To decrease engine speed move lever rearward.
2. POWER SHIFT SWITCH (If Equipped) - See Powershift Transmission in this manual for complete instructions.
3. POWER SHIFT TRANSMISSION RANGE LEVER (If Equipped) - See Powershift Transmission in this manual for complete instructions.
4. SYNCHROMESH TRANSMISSION RANGE LEVER (If Equipped) (See photograph below) - See Synchromesh Transmission Operation in this manual for complete instructions.
5. SYNCHROMESH SPEED LEVER (If Equipped) - See Synchromesh Transmission Operation in this manual for complete instructions.



DP96K096

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TRAVEL SPEEDS

The following travel speeds are approximate, and calculated at 2200 rpm engine speed. No allowance is made for wheel slip.

Tractors Except High Clearance (Vegetable Special)

30 KPH Powershift and Synchromesh Transmission

SPEEDS IN KILOMETERS PER HOUR

SPEED RANGE	REAR TIRE SIZE (INDEX RADIUS mm)				
	18.4R34 (770)	16.9R38 (795)	18.4R38 (820)	20.8R38 (855)	18.4R42 (870)
FORWARD SPEEDS					
1-1	1.98	2.05	2.11	2.20	2.24
2-1	2.39	2.46	2.54	2.65	2.70
3-1	2.95	3.05	3.14	3.28	3.33
4-1	3.65	3.77	3.89	4.06	4.13
1-2	4.52	4.66	4.81	5.01	5.10
2-2	5.44	5.62	5.79	6.04	6.15
3-2	6.72	6.94	7.16	7.46	7.60
4-2	8.33	8.60	8.87	9.25	9.41
1-3	7.42	7.67	7.91	8.24	8.39
2-3	8.94	9.23	9.52	9.93	10.10
3-3	11.5	11.41	11.77	12.27	12.49
4-3	13.69	14.14	14.58	15.20	15.47
1-4	14.44	14.91	15.38	16.03	16.32
2-4	17.39	17.96	18.52	19.31	19.65
3-4	21.50	22.19	22.89	23.87	24.29
4-4	26.63	27.49	28.36	29.57	30.09
REVERSE SPEEDS					
1-1R	2.29	2.37	2.44	2.55	2.59
2-1R	2.76	2.85	2.94	3.07	3.12
3-1R	3.41	3.52	3.63	3.79	3.86
4-1R	4.23	4.37	4.50	4.70	4.78
1-2R	5.23	5.40	5.57	5.80	5.90
2-2R	6.29	6.50	6.70	6.99	7.11
3-2R	7.78	8.03	8.28	8.64	8.79
4-2R	9.64	9.95	10.26	10.7	10.89
1-3R	8.59	8.87	9.15	9.54	9.71
2-3R	10.35	10.68	11.02	11.49	11.69
3-3R	12.79	13.20	13.62	14.20	14.45
4-3R	15.84	16.36	16.87	17.59	17.90

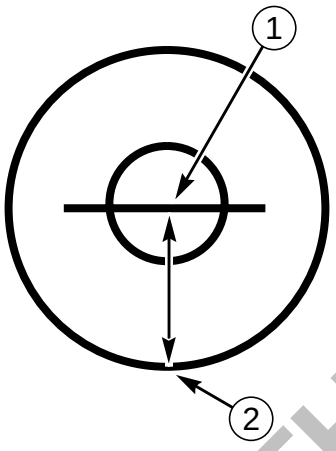
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REAR TIRE SIZE	ROLLING RADIUS (mm)	MEASURING THE RADIUS
18.4R34	770	
16.9R 38	795	
18.4R38	837	
20.8R38 (R1 TREAD)	872	
20.8R38 (R1W TREAD)	869	
20.8R38 (R2 TREAD)	885	
18.4R42 (R1 TREAD)	883	
18.4R42(R2 TREAD)	903	
13.6R46	845	
14.9R46	882	
420/80R46 (R1 TREAD)	886	MEASURE FROM CENTER OF WHEEL HUB TO THE GROUND
340/85R46	861	
12.4R54	942	

IMPORTANT: *The rolling radius can differ depending on tire manufacture, tire wear, tire pressures and load. For a more accurate rolling radius dimension, use the Dynamic Mode procedure on page 110.*

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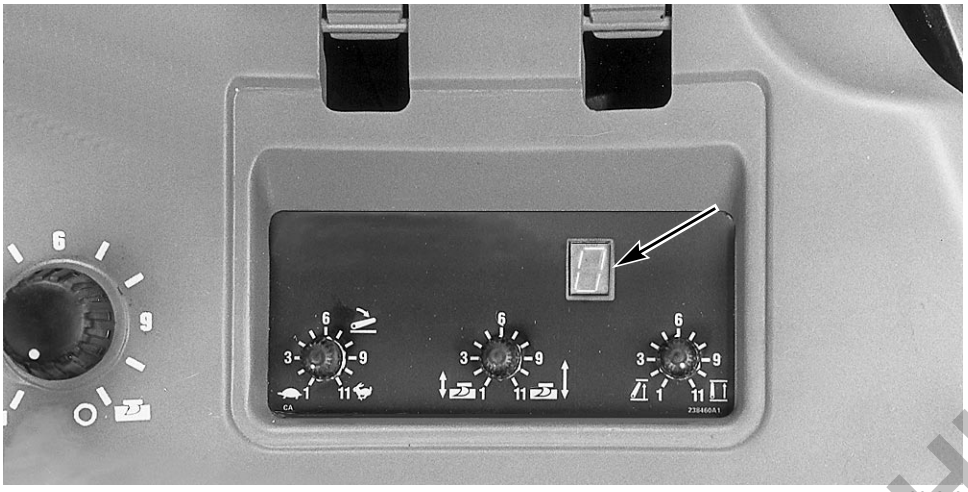
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REAR THREE POINT HITCH DIAGNOSTIC DISPLAY



DP96J340

The Hitch Diagnostic display tells the operator the condition of the electronic load control system by a diagnostic code.

When power is applied to the electronic load control system, the figure “8” is displayed for 1 to 2 seconds for a display check. If any segment of the display is not illuminated, see your dealer.



DI95K036

Hitch Diagnostic Codes



DI95K037

The “0” code indicates SYSTEMS NORMAL

SYSTEMS NORMAL means that the electrical and electronic parts of the hitch system are functioning normally. This display does not tell the operator if the controls are not adjusted correctly or if there is an hydraulic problem. If the display code is “0” and the hitch performance is reduced from what it had been, contact your dealer.

NOTE: *The DOT after the zero indicates that the tractor is not moving. When the tractor moves a minimum of 0.8 km/h (0.5 mph) the DOT should disappear. If the Dot does not disappear, contact your dealer.*

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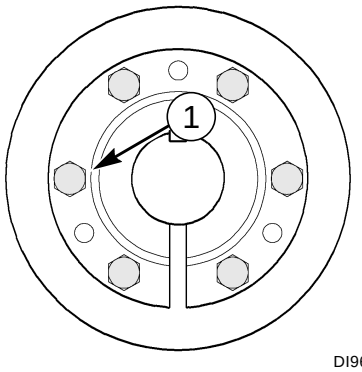
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STEP 9

Apply anti-seize compound (B17507) to the hub, bushing, bolt threads and washers.

STEP 10



DI96M106

Install the wheel and hub on the tapered bushing and install the six bolts (1).

Tighten the bolts evenly in 50 Nm (36.88 pound foot) intervals. Final torque to 244 to 298 Nm (180 to 220 pound foot).

IMPORTANT: *Do Not exceed a torque of 298 Nm (220 pound foot).*

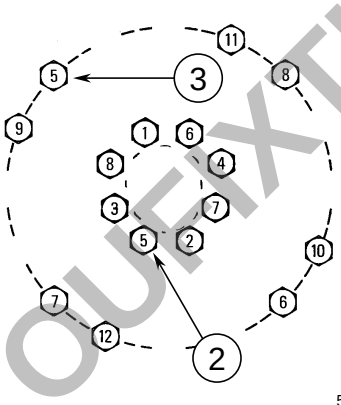
STEP 11

Tighten the bolts again after 30 minutes of operation, then every 10 hours until torques stabilize. Then torque after every 100 hours of operation.

IMPORTANT: *This tightening and checking procedure is necessary after any wheel repositioning operation.*

Apply anti-seize compound (B17507) to the exposed axle shafts.

STEP 12



5100166

Torque the wheel to hub bolts (2) to 485 to 550 Nm (357 to 400 pound foot).

Torque the wheel rim to center disc bolts (3) to 280 to 340 Nm (210 to 250 pound foot) in the sequence shown.

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OPERATING THE TRANSMISSION

Your tractor is equipped with either a Power Shift transmission or a Synchromesh transmission.

FORWARD /REVERSE directions **CAN** be selected without using the clutch pedal.

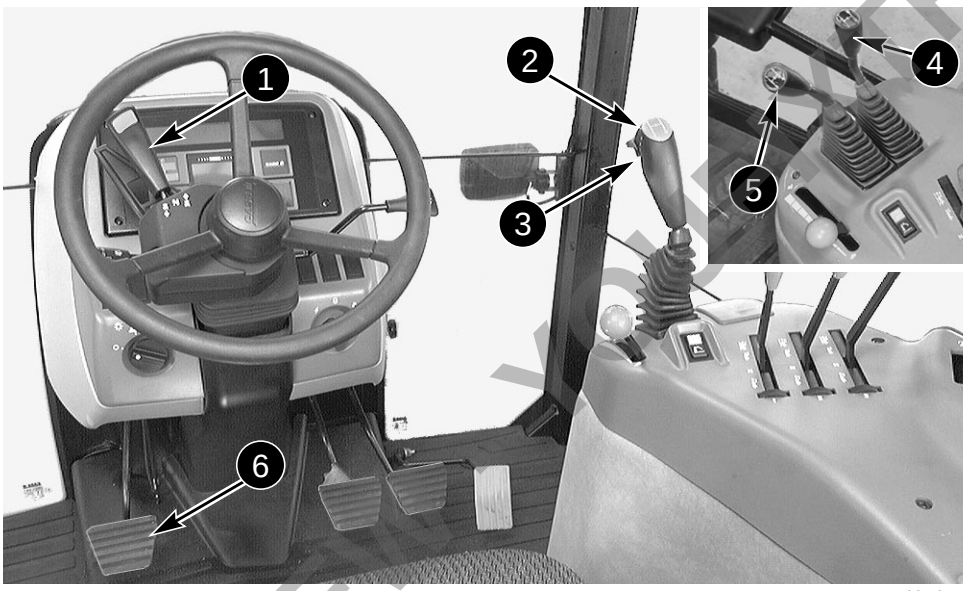
POWER SHIFT TRANSMISSION speeds **CAN** be selected without using the clutch pedal when the tractor is moving or stationary.

SYNCHROMESH TRANSMISSION speeds **CANNOT** be selected without using the clutch pedal.

RANGE speeds **CANNOT** be selected without using the clutch pedal.

CREEP speeds **CANNOT** be selected without using the clutch pedal, See Creeper Speed Operation in this manual.

See the following pages for complete instructions.



RD99D014

1. FORWARD/NEUTRAL/REVERSE LEVER
2. POWERSHIFT RANGE LEVER
3. POWERSHIFT SWITCH
4. SYNCHROMESH RANGE LEVER
5. SYNCHROMESH SPEED LEVER
6. CLUTCH PEDAL

NOTE: *In ambient temperatures of -10˚C (14˚F) or below, the transmission and controls will be difficult to operate for the first few minutes after starting, until the transmission oil is warm.*

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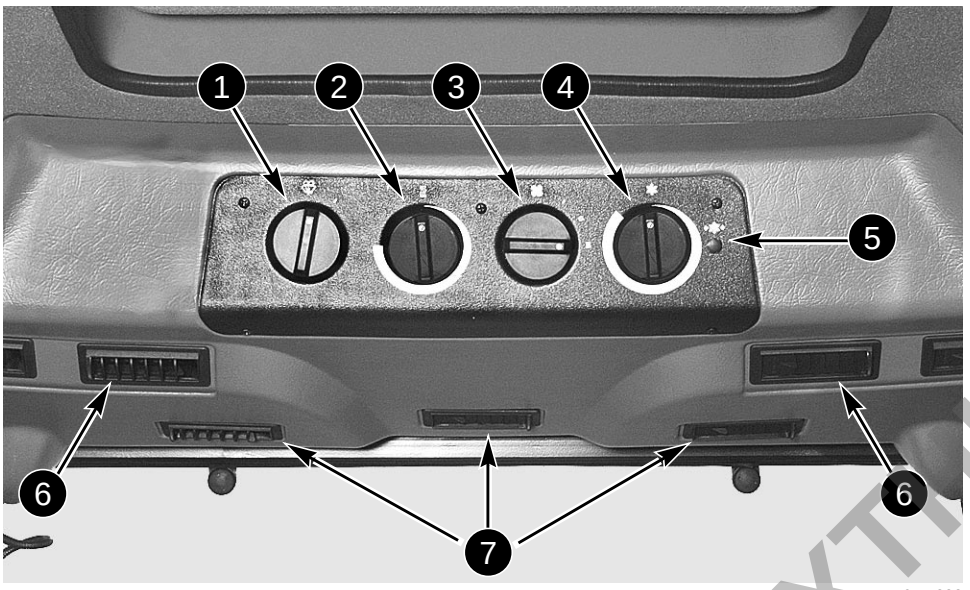
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Operator Cab Environment Controls



DD95M222

1. WINDSHIELD WIPER/WASHER CONTROL - The control has three operating positions for wipe. For intermittent operation, turn the control clockwise to increase or counterclockwise to decrease, the amount of wipes per minute. Turn the control to position (I) for slow continuous wipe and to position (II) for fast wipe. Turn the control fully counterclockwise to turn the wiper OFF. Push the control knob to activate the windshield washer (If Equipped).

2. TEMPERATURE CONTROL - Turn the control clockwise to turn the heat ON. Adjust the control to the desired temperature. Turn the control counterclockwise to turn the heat OFF.

3. BLOWER CONTROL - To select the blower speed, turn the control clockwise. The first position from OFF is LOW (I), the second position is HIGH (II) and the third position is PURGE (III).

4. AIR CONDITIONER CONTROL - Turn the control clockwise to turn the air conditioner ON (blower MUST be operating). Adjust the control to the desired temperature. Turn the control counterclockwise to turn the air conditioner OFF.

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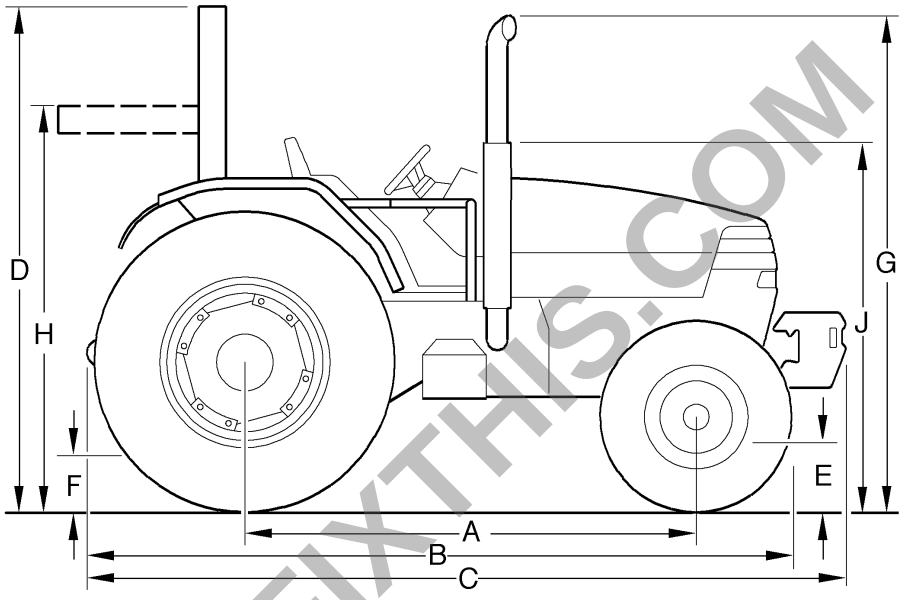
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APPROXIMATE TRACTOR DIMENSIONS

Two Wheel Drive Tractor with ROPS



DI96K316

MODEL	A	B	C	D	E	F	G
MX100, MX110 MX120	2812 mm (110.7 inch)	4465 mm (175.8 inch)	5034 mm (198.2 inch)	2904 mm (114.3 inch)	570 mm (22.4 inch)	368 mm (14.5 inch)	2873 mm (113.1 inch)
MX135	2812 mm (110.7 inch)	4465 mm (175.8 inch)	5034 mm (198.2 inch)	2947 mm (116 inch)	570 mm (22.4 inch)	419 mm (16.5 inch)	2916 mm (114.8 inch)

Dimension H, with ROPS down, is 1570 mm, (62 inch) plus the rear tire rolling radius. Dimension H not available for Mexico Special Tractor.

Dimension J, with top pipe removed, is 1190 mm, (47 inch) plus the rear tire rolling radius.

Dimensions shown are for a tractor equipped with the following tire sizes:

Front..... 11.00-16
Rear, MX100, MX110 and MX120 .....18.4-38
MX135.....18.4-42

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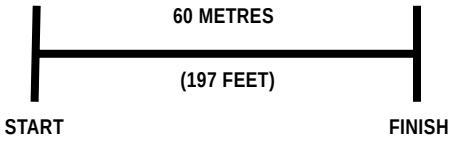
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3. Programming in the Dynamic Mode

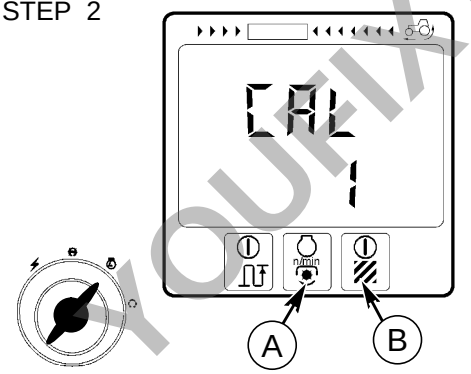
NOTE: *The factory settings for tire radius and true ground speed sensor will provide correct tractor performance, however the following calibration can be performed if more accurate settings are desired.*

STEP 1



Mark off a straight line distance of 60 metres (197 feet). Use an acceptable method to mark the start line and finish line.

STEP 2



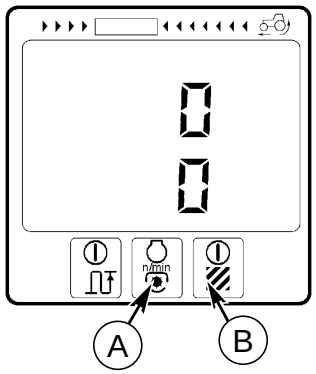
DS98B397

While pressing the ENGINE RPM/ PTO RPM switch (A), turn the keyswitch from OFF to the ON/RUN position and start the engine. The upper display will show ‘CAL’ and the lower display will show ‘1’.

The lower display is the number of calibration runs which will be averaged automatically by the cluster for the final calibration. The number of calibration runs is programmable between 1 and 4.

Use the AREA FUNCTION switch (B) to increase the number of runs. Use the ENGINE RPM/PTO RPM switch (A) to decrease the number of runs. The most accurate calibration will be obtained using 4 calibration runs.

STEP 3



DI98B388

When the desired number of calibrations is set, press the ENGINE RPM/PTO RPM (A) and AREA FUNCTION (B) switches at the same time for 1 second to save the setting. The lower display will show “0”. If equipped with a true ground speed sensor, two “0” zeros will be displayed. The “0” represents the number of pulses received from the sensor. This number will increase during each calibration run.

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