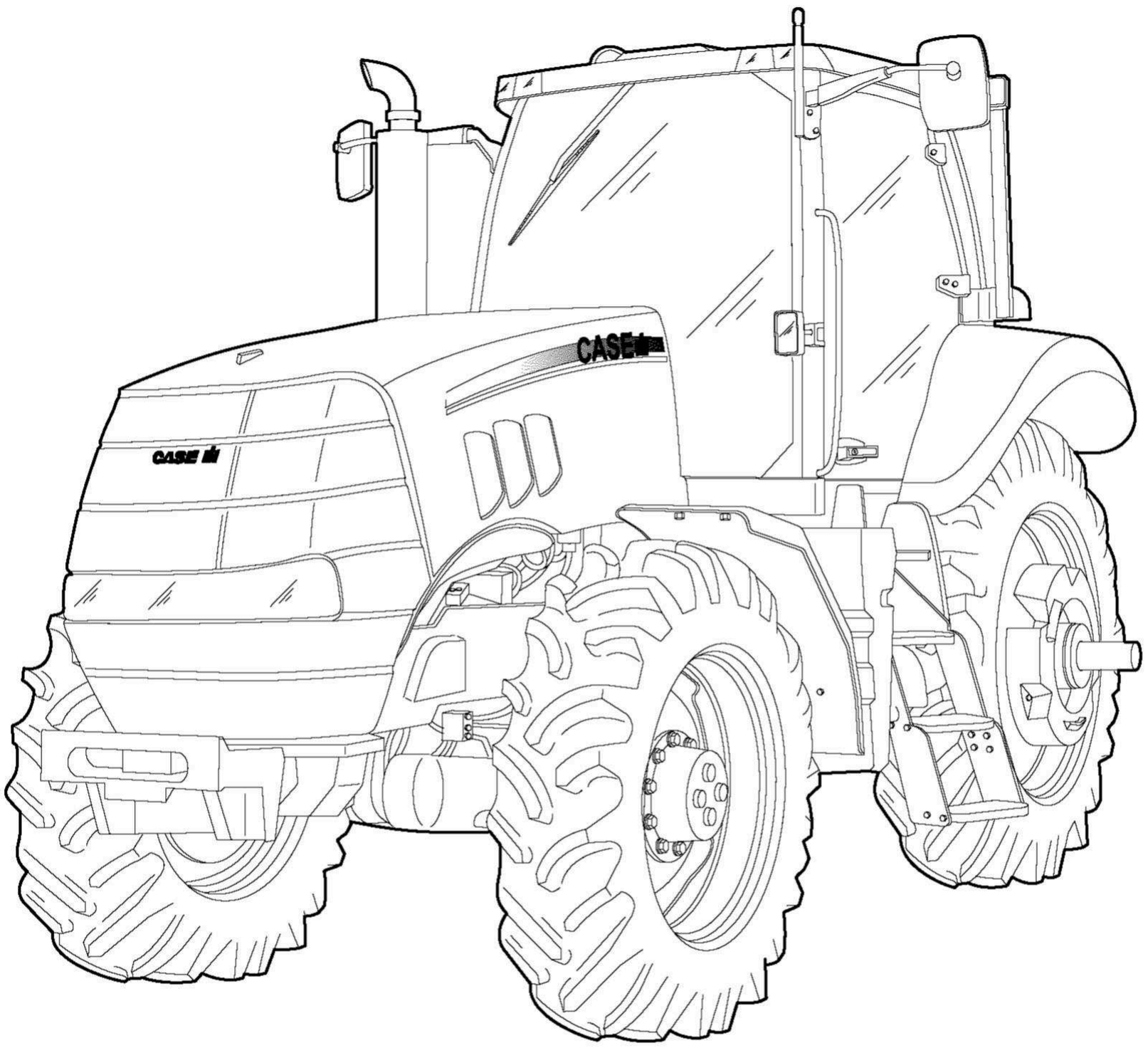


Magnum 180, 190, 210 Tractors

Operator's Manual

87750194
Issued March 2009
1st Printing

CASE AGRICULTURE

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

Contents

1 GENERAL INFORMATION

Personal safety 1-1
Proposition 65 1-2
Product identification 1-3
Note to the Owner 1-4
Tractor intended use 1-4
Manual storage 1-5
Product identification 1-6
Component location 1-8

2 SAFETY INFORMATION

Safety rules 2-1
ROPS and CSF 2-6
Safety decals 2-7

3 CONTROLS/INSTRUMENTS

ACCESS TO OPERATOR'S PLATFORM

Tractor access 3-1

OPERATOR'S SEAT

Overview 3-2
Control identification 3-3

INSTRUCTOR'S SEAT

Overview 3-6

FORWARD CONTROLS

Steering column 3-7
Front console 3-10
Pedal controls 3-12

LH SIDE CONTROLS

Hand brake 3-13

RH SIDE CONTROLS

Armrest console 3-14
Multi-function handle 3-15
Control panel 3-18
Remote valve controls 3-26
Joystick 3-27
Armrest compartment 3-29
Adjusting the armrest console 3-30

REARWARD CONTROLS

Fender console 3-31
Automatic temperature controls 3-34
Automatic temperature control system 3-37
Ventilation 3-38

OVERHEAD CONTROLS

Interior lamps 3-40

EXTERIOR CONTROLS

MidWestTech | Case Magnum 180, 190, 210 Tractor Operator's Manual | Publication 8... Order the manual at mid-west-tech.com >

Rear fender 3-41

INSTRUMENT CLUSTER
Overview 3-42
Gauges 3-42
Status and warning icons 3-43
Dedicated display 3-46
Programmable display 3-47
Keypad 3-48
Standard instrumentation 3-50
Performance instrumentation 3-55

4 OPERATING INSTRUCTIONS

COMMISSIONING THE UNIT
Before starting the engine 4-1

STARTING THE UNIT
Normal engine starting 4-4
Cold starting aids 4-6
Cold temperature operation 4-7

STOPPING THE UNIT
Stopping the engine 4-9

MOVING THE UNIT
Powershift transmission 4-10
Inching pedal and throttle 4-11
Transmission controls 4-12
Dedicated display 4-14
Driving the vehicle 4-15
Autoshift road and field 4-17
Go To feature 4-23
Speed matching 4-23
Setting reverse gear ratios 4-25
Transmission errors and calibration 4-26
Creeper gears 4-27
Mechanical front drive (MFD) 4-28
Differential lock system 4-30
Suspended axle 4-32
Engine power management 4-33
Ride control 4-35
Constant engine speed 4-36
Electronic end of row system 4-39

PARKING THE UNIT
Park brake and electronic park lock (EPL) 4-50

5 TRANSPORT OPERATIONS

ROAD TRANSPORT
Tractor warning lamps and SMV symbol 5-1
Wide transport marker light 5-2
Tractor warning lamps 5-4
Safe transport speed 5-5

MidWestTech | Case Magnum 180, 190, 210 Tractor Operator's Manual | Publication 8... Order the manual at mid-west-tech.com >

Implement warning lamps and SMV symbol 5-6
Safety chain 5-7

SHIPPING TRANSPORT
Securing the tractor for shipping 5-8

RECOVERY TRANSPORT
Safety rules 5-9

6 WORKING OPERATIONS

GENERAL INFORMATION
Before operating the vehicle 6-1
Guidelines 6-2

REAR PTO
Safety rules 6-3
Connecting the PTO 6-6
PTO operation 6-8
Two speed PTO systems 6-10
Auto PTO operation 6-11
PTO fender switch operation 6-13

THREE POINT HITCH
Connecting three-point hitch implements 6-14
Three-point hitch adjustments 6-15
Hitch controls and settings 6-22
Draft control 6-27
Position and ride control 6-30

DRAWBARS AND TOWING ATTACHMENTS
Safety rules 6-32
Adjusting the drawbar 6-33

HYDRAULIC TRAILER BRAKES
Trailer brake connections 6-35

AUXILIARY POWER CONNECTIONS
Auxiliary power and lighting 6-36
Cab power connections 6-38

HYDRAULIC REMOTE CONTROL VALVES
Valve couplers and connections 6-40
Transport lock 6-45
Operating the controls 6-46
Remote valve display screens 6-50
Rear fender controls 6-53
Joystick operation 6-54

BALLASTING THE TRACTOR
Guidelines 6-56
Tire load and inflation charts 6-60
Weights, cast metal and liquid 6-66
Wheel slip and power hop performance 6-74

MECHANICAL FRONT DRIVE (MFD) AXLES

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

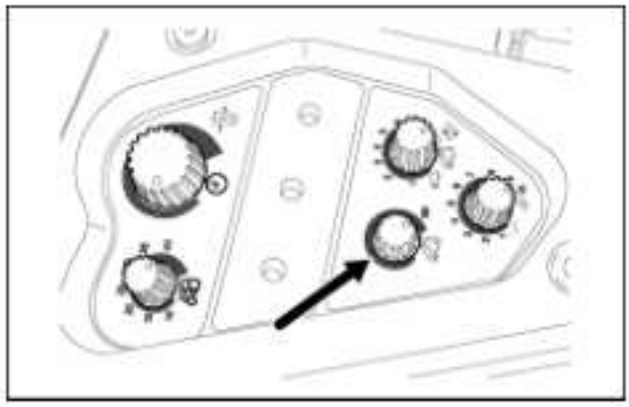
Upper limit control

This control limits the height to which the hitch can be raised with any control. Use the upper limit control when the tractor could be damaged by a large implement if fully raised.



Rotate the control clockwise to increase the upper limit height.

Rotate the control counter clockwise to decrease the upper limit height.



RCPH19CO-028SAAB 4

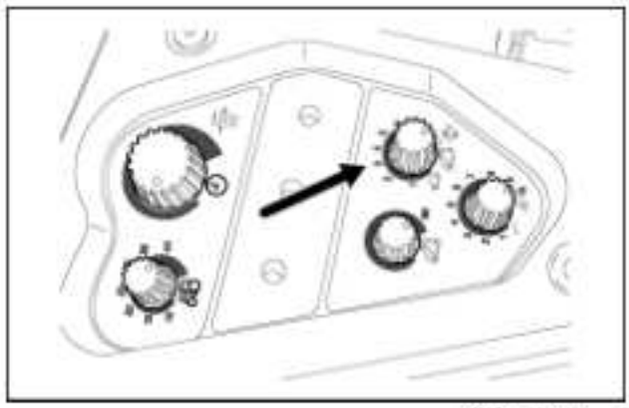
Drop rate control

Use the drop rate control to adjust the speed at which the hitch drops when lowering.



Rotate the control counter clockwise to decrease the drop rate speed (toward the tortoise).

Rotate the control clockwise to increase the drop rate speed (toward the hare).



RCPH19CO-029SAAB 5

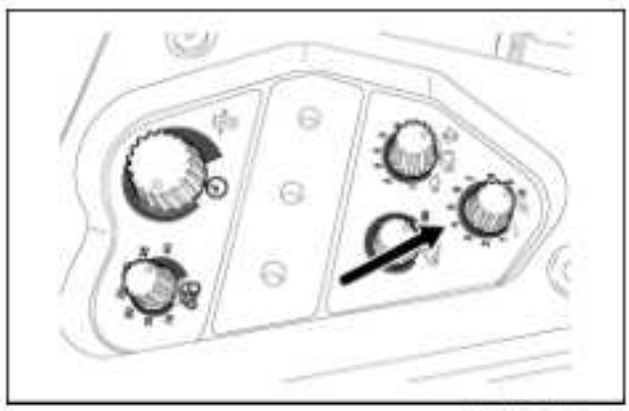
Draft sensitivity control

Use the sensitivity control to adjust the hitch system's sensitivity to changes in draft load.



Rotate the control clockwise to increase sensitivity to changes in draft load.

Rotate the control counter clockwise to decrease sensitivity to changes in draft load.



RCPH19CO-030SAAB 6

Adjusting the armrest console

The armrest console may be adjusted forward or rearward for operator comfort. Use the large hand knob on the lower left side of the armrest. While seated in the operator's seat, rotate the knob clockwise to move the console forward. Rotate the knob counter clockwise to move the console rearward.

MidWestTech | Case Magnum 180, 190, 210 Tractor Operator's Manual | Publication 8... Order the manual at mid-west-tech.com >

Ballast guidelines – Tires

Once the correct ballast is determined, the tire loading, tire pressures, maximum axle operating weights and maximum tractor operating weight must be checked.

Calculate the front axle, rear axle, and the total tractor weight by adding or subtracting the ballast chosen to the "Unballasted" tractor weight. The unballasted weight is shown at the top of the Ballasting Guide. The weight to add or subtract is shown at the bottom of the Ballasting Guide.

NOTE: *If using fully mounted or high vertical drawbar implements, add the weight of the implement to the rear axle weight (refer to implement manual for weight).*

Once the front, rear and total weights are known, turn to the "Tire Load and Inflation Charts". Radial rear tires perform best when operated between **40 - 100 kPa** (**6 - 14 psi**). If you cannot operate in this range, change tire size or add or remove duals so that you can.

Next, check that the maximum operating weights are not exceeded. Turn to "Maximum Recommended Operating Weights" and be sure that the maximum tractor operating weight, the maximum front axle operating weight, and the maximum rear axle operating weight is not exceeded.

Tire Selection

Using the proper tire size and lug depth is important for peak tractor performance.

Radial vs Bias – The radial tire is designated with an "R" on the side of the tire (i.e. 18.4R46) versus the bias equivalent (i.e. 18.4-46). The radial design allows the tire to conform with the ground providing increased traction and a smoother ride than its bias equivalent. Traction can increase 15-17% over the bias tire. Radial tires are recommended for best performance.

Tire Size – The taller and wider the tire, the larger the contact area is with the ground. As contact area increases, flotation increases and soil compaction decreases. In row crop applications, since tire width is restricted, taller tires, duals or triples are used to maintain as large a contact area as possible. Ground clearance is also increased with taller tires. Additionally, taller and/or wider tires typically can carry more load allowing lower tire pressures, and reducing ground pressure.

Tire Lug Depth – The depth of the lug is also important. Lug depth is defined in three categories for traction type tractor tires: R1, R1W, or R2. R1 is used for hard and dry soil. R1W is used for loose dry to wet soils and has a lug depth approximately **25 %** deeper than R1 tires. The R2 tire is only for extremely wet soil conditions and has a lug depth **65 %** deeper than the R1 tires.

Standard versus metric tire size equivalents:

Standard	Metric
12.4R38	320/85R38
12.4R54	320/90R54
14.9R30	380/85R30
14.9R34	380/85R34
14.9R46	380/90R46
16.9R30	420/90R30
18.4R42	480/80R42
18.4R46	480/80R46
20.8R42	520/85R42

MidWestTech | Case Magnum 180, 190, 210 Tractor Operator's Manual | Publication 8... Order the manual at mid-west-tech.com >

MAINTENANCE CHART

Maintenance Chart

Interval	Page Nb.	Maintenance Action	Nb. of pts	Cleaning	Drain fluid	Check	Inspect	Grease	Replace	Change fluid	Adjust
At warning message display	7-21	Air filter service icon/message		X							
	7-24	Fuel filter water separator			X						
Every 10 hours or daily	7-25	Engine coolant level				X					
	7-26	Engine oil level				X					
	7-27	Windshield washer fluid level				X					
First 50 hours	7-28	Dealer performed service					X				
Every 50 hours	7-29	Coolers and condenser		X							
	7-31	Cab air filter		X							
	7-34	Grease fittings						X			
	7-40	Wheel bolt torque				X					
	7-40	Tire pressure				X					
Every 300 hours	7-42	Battery water level				X					
	7-44	Fan belt				X					
	7-45	Transmission oil level				X					
	7-46	Mechanical front drive (MFD) gearbox				X					
	7-47	Park brake				X					
Every 600 hours	7-48	Engine oil and filter							X		
	7-50	Hydraulic filter(s)							X		
	7-51	Engine primary air filter							X		
	7-54	Engine air intake hoses				X					
	7-56	Fuel filters							X		
	7-58	Differential and planetary oil				X					
Every 1200 hours or annually	7-59	Cab air filter							X		
	7-50	Hydraulic filter(s)							X		
	7-66	Transmission oil								X	
	7-69	Differential and planetary oil								X	
	7-72	Mechanical front drive (MFD) gearbox								X	
	7-42	Battery water level				X					
Every 1200 hours or two years	7-75	Engine coolant								X	
	7-51	Engine secondary air filter							X		
	7-81	Engine valve adjustment									X
	7-82	Blowby filter							X		
Every 36 months	7-82	Air conditioning system				X					
As required	7-83	Pre-filter and water trap				X					
	7-85	Fuel tank vent filter							X		
	7-86	Fan belt							X		
	7-90	Spark arresting muffler		X							
	7-92	Remote valve collection bottle				X					
	7-92	Cab fabric and carpet		X							
	7-93	Tractor exterior		X							
	7-94	Seat belt					X				

MidWestTech | Case Magnum 180, 190, 210 Tractor Operator's Manual | Publication 8... Order the manual at mid-west-tech.com >