

JOHN DEERE 400 AND 425 HAY CUBERS



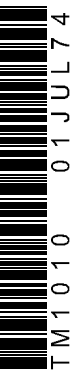
JOHN DEERE

TECHNICAL MANUAL JOHN DEERE 400 AND 425 HAY CUBERS

TM1010 (01JUL74) English

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ENGLISH



400 AND 425 HAY CUBERS

Technical Manual

TM-1010 (Jul-74)

CONTENTS

Section 10 - GENERAL

- Group 5 - Specifications
- Group 10 - Function Times
- Group 15 - Lubrication
- Group 20 - Separation

Section 20 - ENGINE

- Group 5 - Basic Engine

Section 30 - ELECTRICAL SYSTEM

- Group 5 - Description and Wiring Diagrams

Section 40 - POWER TRAIN

- Group 5 - Power Take-Off and Main Drive
- Group 10 - Variable Speed Sheave
- Group 15 - Input Drive and Wheel Drive Clutch
- Group 20 - Transmission and Differential
- Group 25 - Final Drives
- Group 30 - Specifications

Section 50 - STEERING AND BRAKES

- Group 5 - Steering
- Group 10 - Brakes
- Group 15 - Specifications

Section 60 - HYDRAULIC SYSTEM

- Group 5 - Components and Tests
- Group 10 - Filter with Bypass Valve
- Group 15 - Main Hydraulic Pump
- Group 20 - Function Control Valves
- Group 25 - Hydraulic Cylinders
- Group 30 - Hydraulic Steering
- Group 35 - Breakaway Coupler
- Group 40 - Specifications

Section 70 - MACHINE FUNCTIONS

- Group 5 - Water System
- Group 10 - Pickup and Cutterhead
- Group 15 - Cubing Mechanism
- Group 20 - Specifications

All information, illustrations and specifications contained in this technical manual are based on the latest information available at the time of publication. The right is reserved to make changes at any time without notice.

Section 10 GENERAL

CONTENTS OF THIS SECTION

	Page		Page
GROUP 5 SPECIFICATIONS		GROUP 15 LUBRICATION	
Machine Specifications	5-1	Lubrication Chart	15-1
Standard Torque Chart	5-2		
GROUP 10 FUNCTION TIMES		GROUP 20 SEPARATION	
Hydraulic System Average Function		Drive Train	20-1
Times	10-1	Pickup and Cutterhead	20-2

Group 5 SPECIFICATIONS

Over-all length:
 Pickup gauge wheel to hitch:
 400 Cuber.....20 ft. 6 in. (6.2 m)
 425 Cuber.....20 ft. (6.1 m)
 With elevator lowered31 ft. 1 in. (9.2 m)
 Width8 ft. (2.4 m)
 Height:
 With elevator lowered:
 400 Cuber.....12 ft. (3.7 m)
 425 Cuber.....13 ft. 1 in. (4.0 m)
 Without elevator and mufflers 8 ft. 10 in. (2.7 m)
 Weight:
 Empty:
 400 Cuber.....(Approx.) 13200 lbs. (5987 kg)
 425 Cuber.....(Approx.) 13880 lbs. (6296 kg)
 With fuel and water tanks full:
 400 Cuber.....(Approx.) 16205 lbs. (7350 kg)
 425 Cuber.....(Approx.) 16885 lbs. (7659 kg)
 Propelling drive..... Variable with V-belt
 Ground speeds:
 Variable range 1st7- 1.7 mph (1-3 km/h)
 Variable range 2nd.....1.3- 3.3 mph (2-5 km/h)
 Variable range 3rd ...3.0- 6.7 mph (5-11 km/h)
 Variable range 4th .6.0- 13.4 mph (10-22 km/h)
 Variable range reverse 1.7- 3.8 mph (3-6 km/h)
 Tire sizes:
 Rear—low-profile all-weather
 (28 psi [193 kPa])14:9-26, 8-ply rated
 Front-rib implement:
 400 Cuber (40 psi [275 kPa])7:50-16,
 6-ply rated
 425 Cuber (35 psi [241 kPa])11L-15,
 8-ply rated
 Front gauge wheels—smooth
 Implement (12 psi [83 kPa])4:00-8,
 4-ply rated

Wheel tread—center to center:
 Rear80-1/8 in. (204 cm)
 Front:
 400 Cuber.....68-3/8 in. (174 cm)
 425 Cuber.....74-1/4 in. (189 cm)
 Front gauge wheels:
 400 Cuber.....90 in. (229 cm)
 425 Cuber.....87 in. (221 cm)
 Steering Full-power hydrostatic
 Brakes:
 Mechanical:
 400 Cuber ... Individual, mechanical disk type
 425 Cuber (Serial No. -655)
 Individual, mechanical disk type
 Hydraulic:
 425 Cuber (Serial No. 656-)
 Individual 6 in. (15.24 cm)
 hydraulic disk type
 Capacities: (All U.S. Measure)
 Fuel tank83 gal. (314 l)
 Water tank300 gal. (1135 l)
 Engine cooling system.....11 gal. (42 l)
 Engine crankcase with filter5 gal. (19 l)
 Transmission.....14 pts. (7 l)
 Final drives, each4-1/2 pts. (2 l)
 Planetary gear box17 gal. (64 l)
 Hydraulic reservoir8 gal. (30 l)
 Hydraulic system (complete)10 gal. (38 l)
 Main clutch11 in. O.C., double plate
 (27.94 cm)
 Pickup width between flares ..6 ft. 1 in. (1.9 m)
 Pickup draper belt speed
 (400 Cuber) ... 313 rpm or 3.6 mph (6 km/h)
 Pickup cylinder speed (425 Cuber) ..65-137 rpm
 Pickup feeder speed (425 Cuber)27-56 rpm

Pickup auger diameter..... 18 in. (45.72 cm)
 Feed opening width 20 in. (50.80 cm)
 Number of cutterhead knives..... 2
 Cutterhead speed 1,373 rpm
 Number of die openings 66
 Size of die opening 1-1/4 in. sq.
 (3.18 cm)
 Length of die 6 in. (15.24 cm)
 Die..... Individually replaceable, heat-treated
 alloy steel and chrome plated
 Die-feeding means Single press wheel
 Unit density of cubes
 45-55 lbs. per cu. ft. (721-881 kg/m³)
 Bulk density of cubes
 25-32 lbs. per cu. ft. (400-513 kg/m³)
 Length of cube 2 to 3 in. (5.08-7.62 cm)
 Conveyor and elevator chain..... CA 2050 with
 rubber flights
 Water pump:
 Type Centrifugal
 Capacity @ 2,800 rpm
 and 25 psi (172 kPa) 68 gal. per min.
 (429 m³/s)
 Water tank protection..... Coated inside with
 corrosion-resistant material

ENGINE

Make of engine Detroit Diesel 6V-71
 Model No. Model 7064-7200
 Engine type..... 2 cycle
 Bore and stroke..... 4-1/4 x 5 in. (10.79 x
 12.70 cm)
 Net rated horsepower:
 @85°F. and 500 ft. elev. 216 hp
 Number of cylinders 6
 Piston displacement 425.6 cu. in.
 (1238 kg/m³)
 Speed: No load 2250 rpm
 Full load 2100 rpm
 Idle Speed..... 750-800 rpm
 Air cleaner..... Dry type
 Electrical system 12-volt generator
 Type of fuel Diesel
 Compression ratio 18:7:1
 Battery size 12-volt SAE Group 8D, 205 amp

(Specifications and design subject to change without notice.)

STANDARD TORQUE CHART

Use the following torque chart for tightening all bolts unless specified otherwise.

The types of bolts and cap screws are identified by head markings as follows:

Plain head: regular type.

3-dash head: tempered steel high-strength type.

6-dash head: tempered steel extra high-strength type.

Machine bolts and cap screws 7/8 inch and larger are sometimes formed hot rather than cold, which accounts for the lower torque value.

RECOMMENDED TORQUE IN FT-LBS (Nm) COARSE AND FINE THREADS			
Bolt Diameter	Plain Head	Three Dashes	Six Dashes
1/4	Not used	10 (14)	14 (19)
5/16	Not used	20 (27)	30 (41)
3/8	Not used	35 (47)	50 (68)
7/16	35 (47)	55 (75)	80 (108)
1/2	55 (75)	85 (115)	120 (163)
9/16	75 (102)	130 (176)	175 (237)
5/8	105 (142)	170 (230)	240 (325)
3/4	185 (251)	300 (407)	425 (576)
7/8	160 (217)	445 (603)	685 (929)
1	250 (339)	670 (908)	1030 (1397)
1-1/8	330 (447)	910 (1224)	1460 (1980)
1-1/4	480 (651)	1250 (1695)	2060 (2793)

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Group 10 FUNCTION TIMES

HYDRAULIC SYSTEM AVERAGE FUNCTION TIMES WITH OIL TEMPERATURE BETWEEN 120 AND 140 DEGREES FAHRENHEIT (48.9 AND 60.0 DEGREES CENTIGRADE) AND ENGINE SPEED AT 2100 RPM

Function	Time
Raise platform	1.5 ± .5 Seconds
Raise elevator	1.7 ± .5 Seconds
Steering:	
Left lock to right lock	3.5 ± .5 Seconds
Right lock to left lock	3.5 ± .5 Seconds
Variable speed sheave:	
Full fast to full slow	2.5 ± .5 Seconds
Full slow to full fast	2.5 ± .5 Seconds
Wagon bin dump	Less than 2 minutes

Group 15 LUBRICATION

GENERAL INFORMATION

Carefully written and illustrated lubrication instructions are included in the operator's manual furnished with your customer's machine. Remind him to follow these instructions.

For your convenience, the following chart shows capacities and types of lubricants for the cuber components and systems.

Component	Capacity	Type of Lubricant	Interval of Service
Engine crankcase and filter component	5 U.S. gallons (19 l)	See page 10-15-3	10 Hours - Check oil level 100 Hours - Drain and refill Change filter
Transmission	14 U.S. pints (7 l)	John Deere SAE 90 SCL-type Gear Lubricant or an equivalent SCL multi-purpose-type gear oil	500 Hours - Drain and refill
Transmission input shaft	1 U.S. pint (0.5 l)	John Deere SAE 90 SCL-type Gear Lubricant or an equivalent SCL multi-purpose-type gear oil	500 Hours - Drain and refill
Final drives	4-1/2 U.S. pints (2 l)	SAE 90-140 API-GL5 Gear Lubricant	500 Hours - Drain and refill
Main planetary gear box	17 U.S. gallons (64 l)	SAE 90-140 API-GL5 Gear Lubricant	100 Hours - Check oil level
Hydraulic system oil reservoir	8 U.S. gallons (30 l)	John Deere Type 303 Special Purpose Oil or its equivalent	10 Hours - Check oil level 1000 Hours - Change filter element and check oil level
Power take-off bearings and cutterhead idler pulley	Several shots	Shell Darina AX Grease or its equivalent	50 Hours
Press wheel crank bearing and press wheel bearing	Several shots	Shell Darina AX Grease or its equivalent	100 Hours
Driven pulley bearing	See page 10-15-2	Shell Darina AX Grease or its equivalent	100 Hours

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