



ARTICULATED TELESCOPIC HANDLER | TM420

Gross power: 145 hp (108 kW) | Lift capacity: 8,550 lb (3,878 kg) | Lift height: 17'8" (5,375 mm)

SMART TECHNOLOGY FROM JCB

JCB'S SMART HYDRAULICS PACKAGE IMPROVES CYCLE TIMES AND REDUCES FUEL CONSUMPTION

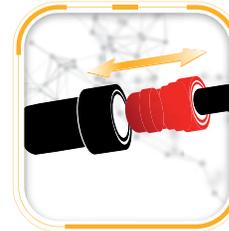
Introducing JCB Smart Hydraulics

JCB's Tier 4 Final-compliant TM420 articulated telescopic handler features JCB's new Smart Hydraulics package. Higher flow auxiliaries and a seat-mounted servo joystick enhance operator comfort and productivity. Additionally, JCB's unique regenerative hydraulics system improves cycle times and reduces fuel consumption. The Smart Hydraulics package also includes end-of-stroke damping on boom lift, extension/retract and attachment dump cylinder. JCB's Auto Smoothride System (SRS) further improves comfort and productivity.



Regenerative hydraulics.

1 To make the most from every drop of fuel, gravitational forces are harnessed for more efficient boom lowering and retraction.



Hydraulic auxiliary venting.

2 The cab boasts a pressure release button for front hydraulic services to enable quick and safe changeover of attachments.



Boom-end damping.

3 Improved material retention and smoother cycle work with boom-end damping on lift, extend, retract and bucket dump cycles.



Optional Auto SmoothRide System.

4 JCB Auto Smoothride System (SRS) engages at speeds in excess of 2.5 mph (4 km/h). This improves load retention when travelling at speed on roads and fields.



High flow hydraulics.

5 Higher flow pipework to the boom allows use of attachments that demand high-flow power, such as silage defacers and straw spreaders.



THE POWER TO PERFORM

THE CLASS LEADER WHEN IT COMES TO LIFT CAPACITY AND BREAKOUT FORCE. THERE'S NOTHING THE TM420 CAN'T HANDLE. THE SUPERB JCB ECOMAX ENGINE IS MATCHED WITH THE JCB TELESCOPIC BOOM WITH A LIFT HEIGHT OF 17 FEET 8 INCHES (5.37 M) AND FORWARD REACH OF 10 FEET (3.05 M).

Redefined productivity.

1 JCB Auto SmoothRide System (SRS) engages at speeds exceeding 2.5 mph (4 km/h). This improves load retention and comfort (and, in turn, productivity) when travelling at speed. The system can be manually engaged with the boom in any position.

2 The JCB TM420 features the JCB Tier 4 Final-compliant 4.8-liter, 145 hp (108 kW) EcoMAX engine with variable geometry turbo. The engine delivers 560 Nm of torque increased performance at low engine speed, for improved cycle performance and tractive effort.

3 By producing high power and torque at engine speeds as low as 1300-1400 RPM, the JCB EcoMAX efficiently matches transmission and hydraulics.

4 JCB's optional hydraulic rear tow hitch further increases the versatility of the TM420. Its fold-up design prevents impact damage and grounding when working on gradients or uneven terrain.



2



1



3



4

Traction and travel.

5 The JCB TM420 provides exceptional traction and performance on soft, muddy ground, thanks to 4WD and an oscillating front and rear chassis. An optional limited slip differential is available.

6 Lock-up in the torque converter is selectable in gears four to six on the TM420, for enhanced efficiency and productivity.

7 The TM420's variable flow auxiliary hydraulics are easy to use, and designed to maximize productivity and efficiency. This flow sharing system with a variable flow piston pump also allows for multiple functions to be performed at the same time, to reduce cycle times.

8 Constant flow hydraulics are intuitive to use and monitor via the in-cab display. Flow rate can be adjusted on the go, making it perfect for straw spreader or sweeper attachments. Large auxiliary pipework enables greater flow rate down to the attachment.



8,550 lb lift capacity for increased performance and productivity.



6

Torque converter locking on the transmission ensures 100 percent efficiency for improved fuel economy.



8



8



STRENGTH YOU CAN RELY ON

THE JCB TM420 IS DESIGNED WITHOUT COMPROMISE TO DELIVER THE STRENGTH AND POWER YOU NEED FROM AN ARTICULATED TELESCOPIC HANDLER.

Proven reliability.

- 1 JCB's stringent testing program includes high-stress loading of the chassis, boom and other key components, and thousands of transmission cycles under agricultural conditions.
- 2 The centrally-mounted lift, tilt and extension rams eliminate boom twisting and utilize keyhole castings for greater structural integrity.
- 3 Like all major TM420 components, the hydraulic cylinders on the TM420 are made by JCB. Engines, axles, transmissions, engines, cabs and hydraulics all work together for optimal reliability.
- 4 For long-term protection, TM420 cabs and body panels are electrophoretic alloy-dipped before painting.



Designed to work hard.

- 5 The TM420 features heavy-duty chassis and boom construction for ultimate strength and reliability.
- 6 A heavy-duty center joint handles vertical and horizontal loadings for maximum durability and rigidity.
- 7 Wide-core cooling pack with hydraulic reversing allows all but the biggest chaff and straw to pass straight through. The reverse fan takes care of the larger pieces caught by the hood mesh. The reverse can be set to manual or automatic at a flick of a switch.
- 8 The JCB TM420's cast rear counterweight helps prevent impact damage.
- 9 Recessed rear lights mounted above the counterweight are well protected.
- 10 The hydraulic hoses are routed within the main boom structure to guard against damage.



IN CONTROL, IN COMFORT

WITH ITS COMFORTABLE CAB AND INTUITIVE CONTROLS, THE JCB TM420 PROVIDES OPERATORS WITH A PRODUCTIVE WORKSPACE.

At your command.

1 From a high, centrally-mounted driving position the operator is in complete control. The low boom pivot and large glass areas enable an unobstructed, 360 degree view.

2 For fast and precise control, the TM420 is fitted with ergonomically-designed, fully proportional, single-lever, seat-mounted servo joystick controls.

Manual gear changes, speed and direction are easily controlled from the joystick. Alternatively, the operator can choose automatic gear changing.

3 The new JCB HVAC system keeps operators comfortable and focused for longer. Air conditioning and the 3-speed fan/heater makes it easy to select the perfect cab temperature all year round, from the depths of winter to the hottest harvesting days.

4 A selectable transmission dump on the foot brake provides superb multi-functioning and allows increased engine speeds during loading or rehandling.

5 The JCB TM420's articulated steering allows built-in sideshift, which makes it easier to position attachments and place loads accurately.



The fully adjustable Grammer® seat provides excellent support and comfort. An optional air-suspension model is available.



Sitting comfortably.

- 6 Boom-end damping when raising, extending, retracting and dumping, to reduce shock to the operator and the machine.
- 6 The TM420 cab is large and roomy with plenty of storage for personal items and work essentials.
- 7 For maximum versatility, the JCB TM420 is fitted with a hydraulic auxiliary service as standard, making it compatible with a wide range of attachments; a twin auxiliary option is available. A hydraulic pressure release button is located within the cab.
- 8 An LED color screen on the dash provides operators with useful information such as fuel consumption, fuel remaining and diesel exhaust fluid (DEF) level.
- 8 Backlit switches ensure quick and accurate control recognition, even in the dark.



Optional 360-degree, cab- and boom-mounted LED work lights provide excellent visibility at night and in unlit indoor work areas, such as outbuildings. A useful optional LED hitch light allows easy trailer coupling in low-light conditions.



A SMART INVESTMENT

JCB MACHINES ARE KNOWN AROUND THE WORLD FOR HIGH RESIDUAL VALUES, WHICH LOWER THE TOTAL COST OF OWNERSHIP AND ENHANCE YOUR RETURNS FROM YOUR JCB INVESTMENT.

EcoMAX saves you money.

1 JCB's new efficient EcoMAX Tier 4 Final compliant 145 hp (108 kW) engine produces power and torque at low engine speeds.

2 The JCB EcoMAX engine is fitted with a variable speed cooling fan that automatically reacts to ambient temperatures and adjusts the fan speed to maximize fuel efficiency and reduce noise levels.

3 High back-off power brakes reduce viscous drag during roading and rehandling for better fuel economy.

4 TM420's load-sensing hydraulics consume power on demand, to reduce unnecessary fuel burn.



EcoMAX saves you money (cont.)

5 Innovative, all-new smart regenerative hydraulics help to make the most of every drop of fuel. Gravitational forces are harnessed to make boom lowering and retraction more energy efficient than ever, allowing the boom to retract and lower in less than five seconds!

6 JCB's innovative Clean Burn technology and sealed-for-life Selective Catalytic Reduction (SCR) system enables JCB EcoMAX engines to comply with Tier 4 Final regulations without a replaceable diesel particulate filter. This eliminates costly replacement parts and productivity-sapping regeneration.

7 The TM420 is fitted with TorqueLock in gears four to six for greater speed, quicker journey times between farm and field, and reduced fuel consumption when roading.



5



6



7

SERVICING MADE EASY

THE JCB TM420 REQUIRES MINIMAL MAINTENANCE AND IS EASY TO SERVICE, WHICH MEANS LESS DOWNTIME, AND MORE WORKING AND EARNING TIME.

Maintenance made easy.

The JCB TM420 is equipped with JCB's next generation in-cab display and automated in-cab daily checks, including coolant and engine oil levels.

Graphite impregnate bronze bushes enable 500-hour greasing intervals, to further reduce maintenance requirements and maximize uptime.

1 Diesel and DEF tanks are filled from ground level. Built-in pre-filters in the filler necks guard against dirt and contaminants. Separate tank keys prevent cross contamination.

The DEF tank contains DEF quality sensors.

2 The JCB TM420's self-lubricating boom wear pads and dry boom lubrication ensures virtually maintenance free operation.

3 Engine oil, hydraulic oil and fuel filters are centrally located for easy servicing. The air filter is easily accessed too, and its double-element design reduces the need for cleaning.

4 A gas-assisted engine cover provides easy access to the TM420's large engine bay and enables fast and easy inspection of three sides of the engine.



Keeping you safe.

- 7** Excellent cab access, with three points of contact and ergonomically positioned grab handles and foot step.
- 8** Hose burst check valves on the rams prevent collapse if a hose fails.
- 9** The low boom profile and low boom pivot make for superb forward visibility.
- 10** To protect your investment, the TM420 is available with the JCB LiveLink telematics system.
- 11** JCB's in-cab, electric, two-stage quickhitch isolation protects against accidental release of attachments.

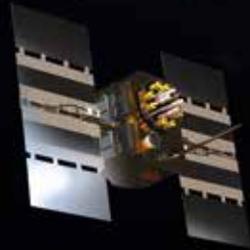


LIVELINK, WORK SMARTER

LIVELINK IS AN INNOVATIVE SOFTWARE SYSTEM THAT LETS YOU MANAGE JCB MACHINES REMOTELY – ONLINE, BY EMAIL OR ON YOUR CELL PHONE.

Productivity and cost benefits –

By providing information such as idle time monitoring and machine fuel consumption, JCB LiveLink helps reduce fuel usage, save money and improve productivity. Machine location information can help improve efficiency and possibly reduce insurance costs.



Maintenance benefits – Accurate hours monitoring and service alerts improve maintenance planning, while real-time location data helps you manage your fleet. Critical machine alerts and maintenance history records are also available.

Security benefits – Alerts for geo-fencing inform you when a machines move out of predetermined operating zones, and alerts for real-time curfew let you know if machines are being used when they're not supposed to be. Real time location information helps to store machines safely.

VALUE ADDED

WHATEVER YOU NEED AND WHEREVER YOU ARE, JCB'S DEPENDABLE NORTH AMERICAN DEALER NETWORK IS HERE TO MAKE SURE YOUR MACHINERY PERFORMS TO ITS FULL POTENTIAL.



1 JCB Technical Support Service provides instant access to factory expertise, day or night. The global network of JCB Parts Centers is a model of efficiency. With 16 regional bases, JCB delivers around 95 percent of all parts anywhere in the world within 24 hours. Genuine JCB parts are designed to work in perfect harmony with your machine for optimum performance and productivity.

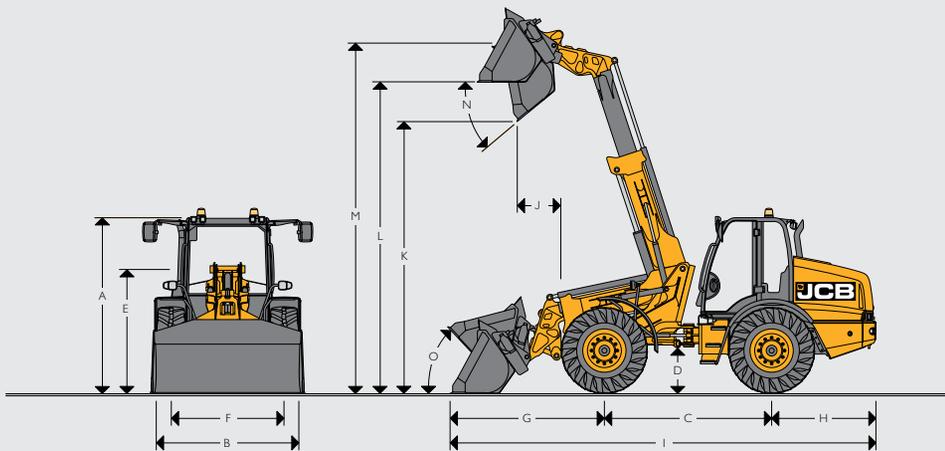


2 JCB Yellow Shield offers comprehensive extended warranties, as well as service-only or repair and maintenance contracts. JCB maintenance teams offer competitive labor rates and no-obligation quotes.



Note: JCB LIVELINK and JCB YELLOW SHIELD may not be available in your region, so please check with your local dealer.

STATIC DIMENSIONS



STATIC DIMENSIONS

A	Overall height	ft-in (mm)	9-3 (2,827)
B	Overall width (over tires)	ft-in (mm)	7-9 (2,350)
C	Wheelbase	ft-in (mm)	9-1 (2,758)
D	Ground clearance to bottom of axle	ft-in (mm)	1-6 (466)
E	Height to top of boom pivot	ft-in (mm)	6-6 (1,975)
F	Wheel track	ft-in (mm)	6-1 (1,860)
G	Axle to shovel toe plate	ft-in (mm)	8-4 (2,532)
H	Axle to counterweight face	ft-in (mm)	5-8 (1,721)
I	Total length*	ft-in (mm)	23-0 (7,011)
J	Dump reach	ft-in (mm)	2-5 (735)
K	Dump height	ft-in (mm)	14-6 (4,411)
L	Load over height	ft-in (mm)	16-7 (5,064)
M	Pin height	ft-in (mm)	18-7 (5,661)
N	Maximum dump angle	degrees	39
O	Roll back at carry	degrees	43
	Total length to front of hitch	ft-in (mm)	19-1 (5,829)
	Inside radius	ft-in (mm)	12-9 (3,880)
	Outside radius (edge of tire)	ft-in (mm)	16-7 (5,060)
	Outside radius (over shovel)	ft-in (mm)	18-8 (5,680)
	Articulation angle	deg	±40
	Operating weight	lb (kg)	21,010 (9,530)
	Front axle weight	lb (kg)	7,231 (3,280)
	Rear axle weight	lb (kg)	13,779 (6,250)
	Tires used for specifications		Michelin XMCL 480/80R26
	Bucket used for specifications		2.1yd3 (1.6m3) GP
	Hitch used for specification		Q-Fit

*Please note total length: machine fitted with standard bucket - in carry position, shovel crowded fully back.

ENGINE

Manufacturer		JCB
Model		EcoMAX
Capacity	liters (cu in)	4.8 (293)
Aspiration		Turbocharged/charge cooled
Number of cylinders		4
Power rating		
Gross power to SAE J1995/ISO 14396	hp (kW)	145 (108) @ 2,200 rpm
Torque rating		
Gross torque	Nm (lb-ft)	560 (413) @ 1,500 rpm

TRANSMISSION

Type		Powershift
Make		JCB
Model		PS760 - 6 Speed
Max. travel speed	mph (kph)	25 (40)

AXLES

Type		Epicyclic hub reduction
Make		JCB
Model		PD87
Overall axle ratio/ drop box ratio		15.23
Chassis angle oscillation	degrees	±10°

BRAKES

Service brakes		In board oil immersed brakes
Parking brake		Cable operated disc brake on transmissions output shaft

NOISE AND VIBRATION

			Uncertainty	Measurement conditions
Noise at the operator station	LpA	73 dB	+/- 1 dB	Determined in accordance with the test method defined in ISO 6396 and the dynamic test condition defined on 2000/14/EC.
Noise emission from the machine	LWA	107 dB	+/- 1 dB	Guaranteed equivalent sound power (external noise) determined in accordance with the dynamic test conditions defined in 2000/14/EC.
Whole body vibration	m/s ²	0.39	+/- 0.11 dB	ISO 2631-1:1997 normalized to an 8h reference period and based upon a test cycle comprising of loader work (soil).
Hand-arm vibration	m/s ²	<2.5	N/A	ISO 5349-2:2001 dynamic test conditions.

SERVICE FILL CAPACITIES

Hydraulic tank	gal (ltr)	25.5 (97)
Fuel tank	gal (ltr)	42 (160)
Engine oil sump	gal (ltr)	3.7 (14)
Axle oil (front) including hubs	gal (ltr)	6.6 (25)
Axle oil (rear) including hubs	gal (ltr)	6.6 (25)
Drop box	gal (ltr)	0.35 (1.3)
DEF	gal (ltr)	7.7 (29)
Transmission	gal (ltr)	5 (19)

HYDRAULICS

Pump type		Variable displacement piston pump
Pump maximum flow	gpm (l/min)	42 (160)
Pump maximum pressure	psi (bar)	3,770 (260)

Hydraulic cycle times

Boom raise	seconds	5.1
Boom lower	seconds	4.7
Extend	seconds	3.6
Retract	seconds	3.5
Bucket dump	seconds	2.9
Bucket crowd	seconds	3.4
Total cycle time	seconds	15

ELECTRICAL SYSTEM

System voltage	Volt	12
Alternator output	Amp Hour	150
Battery capacity	Amp Hour	120

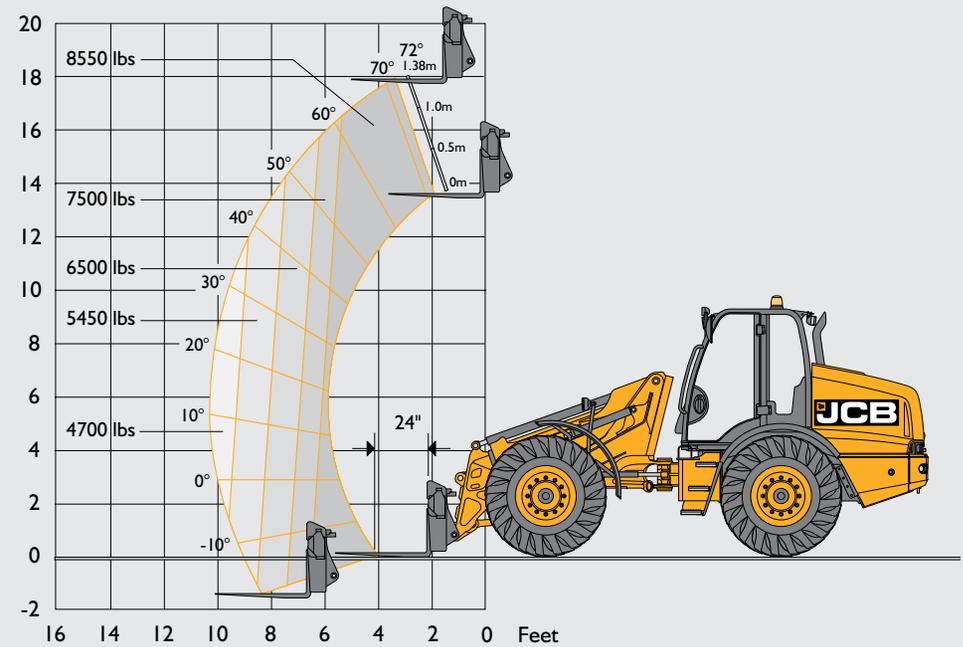
TYRE OPTIONS

Manufacturer	Size	Type	Application	Dimensional changes	
				Overall height in (mm)	Width over tyres in (mm)
Michelin	480/80R26	XMCL	AG	-	-
Michelin	480/80R26	BIBLOAD	AG/EM	+3 (8)	0 (0)
Michelin	620/70R26	CEREXBIB	AG	+3 (8)	+8 (200)

LOADER PERFORMANCE - FORK FRAME WITH FORKS

Maximum lift capacity to full height with forks	lb (kg)	8,550 (3,878)
Lift capacity at full reach	lb (kg)	4,700 (2,132)
Lift height	ft-in (mm)	17-8 (5,375)
Maximum forward reach	ft-in (mm)	10-0 (3,050)
Straight tipping load - 24" load center	lb (kg)	13,900 (6,305)
Full turn tipping load - 24" load center	lb (kg)	10,845 (4,919)
Breakout force - tearout	lb (kg)	15,873 (7,200)

** Straight and Full Turn Tipping Load with forks and direct mount to Q-Fit carriage



STANDARD/OPTIONAL EQUIPMENT			
ENGINE AND COOLING		CAB	
145hp JCB EcoMAX engine	•	ROPS/FOPS safety structure	•
Cyclonic air filter	•	Laminated wind shield	•
Air intake scavenge system	•	Fully adjustable mechanical seat	•
Widecore cooling pack	•	Air suspension seat	+
Auto reversing fan	+	Interior light	•
		LED interior light	+
		Tilt and telescopic steering column	•
TRANSMISSION / AXLES		Adjustable joystick control console and armrest	•
6 speed Powershift transmission	•	Front and rear wash / wipe	•
Lock-up torque converter in gears 4 - 6	•	3 speed heater fan	•
25mph (40kph) travel speed	•	Air conditioning	•
Transmissions disconnect on footbrake	•	RH opening window with lock back	•
Forward / reverse controls on joystick	•	LH opening door with door lock back	•
Column mounted transmission selector	•	Single lever joystick controls	•
In board oil immersed disc brakes	•	Loader control isolator	•
		External rear view mirrors	•
		Front and roof screen blinds	•
HYDRAULICS		ELECTRICAL	
Servo controls	•	Road lights front and rear	•
Flow sharing hydraulics	•	Reverse light	•
Proportional boom and auxiliary controls	•	Battery isolator	•
Adjustable constant flow hydraulics	•	Four front and four rear worklights	+
Variable displacement piston pump	•	LED boom worklights	+
Priority steer valve	•	LiveLink telematics	•
Hose burst check valves	•	12v in-cab power socket	•
JCB Smoothride system	+		
		CHASSIS AND BODYWORK	
		Plastic front and rear fenders	•
		Fixed bottom step	•
		Full width rear counterweight	•
		Recovery hitch	•
		Deluxe exterior mirrors	•
		Hydraulic tow hitch	+
		LOADER	
		Parallel lift	•
		End damping on boom lift, extend, retract and bucket dump	•
		JCB Q-fit carriage	•
		Electrical in cab quickhitch pin isolation	•
		STANDARD	•
		OPTIONAL	+







ONE COMPANY, MORE THAN 300 MACHINES.

TM420 ARTICULATED TELESCOPIC HANDLER

Gross power: 145hp (108kW) Lift capacity: 8,550 lb (3,878 kg) Lift height: 17'8" (5,375 mm)

JCB North America

2000 Bamford Blvd., Pooler, Georgia, 31322 Tel: (912) 447-2000

Download the very latest information on this product range at www.jcb.com

JCB Inc. All rights reserved. No part of this publication may be reproduced, stored in a retrieval system, or transmitted in any form or by any other means, electronic, mechanical, photocopying or otherwise, without prior permission from JCB Inc. All references in this publication to operating weights, sizes, capacities and other performance measurements are provided for guidance only and may vary dependent upon the exact specification of machine. They should not therefore be relied upon in relation to suitability for a particular application. Guidance and advice should always be sought from your JCB Dealer. JCB reserves the right to change specifications without notice. Illustrations and specifications shown may include optional equipment and accessories. The JCB logo is a registered trademark of J C Bamford Excavators Ltd.

Your nearest JCB Dealer

