

# 420 SERIES 3 SKID STEER TIER III CERTIFIED

# ENGINE

## Model

Case 432T/M3 diesel*, Tier III certified		
Туре	4-stroke, turbocharged	
Cylinders	4	
Bore/Stroke	3.9 in x 4.1 in (99 mm x 104 mm)	
Displacement	195 in <sup>3</sup> (3.2 L)	
Fuel injection	Direct	
Fuel	#2 Diesel	
Fuel filter	In-line strainer	
Air intake	Cross-flow	
Cooling	Liquid	
Engine speeds (rpm)		
High idle – no load	2675 <u>+</u> 75	
Rated – full load	2500	
Low idle	1075 <u>+</u> 75	
Horsepower per SAE J1349		
Gross Net	74 (55 kW) @ 2500 rpm 69 (52 kW) @ 2500 rpm	
Peak torque		
@ 1400 rpm	203 lb·ft (275 N·m)	

# **ENGINE COOLING**

Radiator			
Core type	Square wave serpentine		
Core size area	377 in <sup>2</sup> (.243 m <sup>2</sup> )		
Rows of tubes	4		
Cap pressure	14 psi (97 kPa)		
Fan			
Diameter	18.9 in (480 mm)		
Ratio	1.1:1		
Water pump			
Style	Centrifugal		
Flow	29 gpm (110 L/min)		
Engine lubrication			
Pump Deep sump with plate cooler and pressurized under-piston nozzles			
Pump operating angle ratings			
Side-to-side	Rated 35°		
Fore and aft	Rated 35°		
Oil filtration	Replaceable, full-flow cartridge		

\*Manufactured for Case by Iveco.

## POWERTRAIN

FUTERIRAIN			
Drive pump			
Tandem, axial piston hy with integral charge pur engine flywheel			
Pump to engine ratio	1:1		
Displacement	0 to 2.62 in <sup>3</sup> (43 cc)		
Pump flow @ high idle			
engine rpm	30.3 gpm		
	(115 L/min)		
Flow	<b>Bi-directional</b>		
Charge pressure	360 psi (24.8 bar)		
System relief	4350 psi (300 bar)		
Controls	Servo		
Drive motors	Fixed displacement radial piston		
Maximum displacemen			
•	(470 cc)		
Speed @ high idle engin	ie rpm		
@ max displacement	244 rpm		
Optional high speed	407 rpm		
Torque @ max displace	ment		
and relief pressure	1,655 lb⋅ft (2245 N⋅m)		
Travel speed mph (km/h)			
Low range	7.2 (11.6)		
High range (optional)	11.6 (18.7)		
Final drive Single-reduction			
	chain drive		
Drive chain			
Size	ASA #100HV		
Tensile strength	32,180 lb		
-	(143 144 N)		
Axles			
One-piece, forged indu carbon steel	ction-hardened high		
Torque @ max displace	ment		
and relief pressure	4,633 lb·ft (6282 N·m)		
Diameter	2.0 in (51 mm)		
Length	14.6 in (371 mm)		
Parking brakes			
Spring applied, hydraul	ic release disc		
Engagement			
Depress on/off brake b instrument panel, raise			

## get off seat, or stop engine

# **HYDRAULIC SYSTEM**

Standard equipment pump					
Type Gear pump					
Displacement	2.2 in <sup>3</sup> /rev (36 cc)				
Pump flow @ rated engine rpm					
Total	Total 23.8 gpm (90 L/min)				
Optional high flow @ rated engine rpm					
Total	33.2 gpm (126 L/min)				
Loader control valve					
3-spool open-center series with power beyond port					
Relief pressure	3050 psi (210 bar)				
Port relief pressures					
Loader Raise	3120 psi (215 bar)				
Bucket Dump	3800 psi (260 bar)				
Bucket Curl	3350 psi (230 bar)				
Hydraulic lines					
Tubing	37° JIC Flare				
Loop hoses	SAE 100 R12				
Hydraulic oil cooler					
Core type	Four row in-line				
Hydraulic filter					
6 micron spin on replaceable element on the					

return line with warning indicator

### INSTRUMENTATION

INSTROMENTATION
Indicators
Digital Hourmeter
Fuel level LCD bar graph with alarm
Warning lights with alarms
Engine coolant temperature
Engine oil pressure
Engine Malfunction
Hydraulic charge pressure
Hydraulic filter restriction
Hydraulic oil temperature
Warning alarms
Battery voltage (plus display)
Indicator light
Engine preheat
Parking brake
Seat bar reminder

## **ELECTRICAL SYSTEM**

Alternator	95 amp
Starter	2.7 kW
Battery	

12-volt low-maintenance 1125 cold-cranking amps @ 0° F (-18° C)

## **OPERATOR ENVIRONMENT**

ROPS/FOPS level 1 canopy	w/side screens
Tilt ROPS/FOPS	
Rear window w/ emergency	escape
Instrument panels	
Suspension vinyl seat	
2 in (51 mm) retractable sea	t belt
Hand throttle	
Foot throttle	
Alarm package	
Headliner	
Top window	
Cup holder	
Power plug socket	
Foot rest	
Storage tray	
Low effort ergonomic hand	controls
Padded seat bar w/integral	armrests
Loader control lockout syste	em
Electric parking brake contro	ol
Floor cleanout panel	

# **CYLINDERS**

Lift cylinder	
Bore diameter	2.5 in (63.5 mm)
Rod diameter	1.5 in (38.1 mm)
Stroke	35.8 in (910 mm)
Closed length	46.8 in (1190 mm)
Bucket cylinder	
Bore diameter	2.75 in (69.9 mm)
Rod diameter	1.37 in (34.9 mm)
Stroke	14.6 in (370 mm)

# **OPERATING WEIGHTS**

Unit equipped with 10.00 x 16.5 Galaxy Beefy Baby II tires, 60 in (1.5 m) foundry/excavating bucket, mechanical attachment coupler, full fuel tank and 165 lb (75 kg) operator

	6605 lb (2996 kg)
Shipping weight	6055 lb (2747 kg)
Add-on weights	
Side cab glass	+70 lb (32 kg)
Lexan <sup>®</sup> door	+50 lb (22.6 kg)
Glass door wwwiper	+77 lb (35 kg)
Suspension seat	+10 lb (4.5 kg)

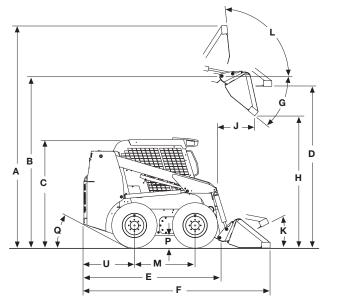
# **SERVICE CAPACITIES**

Fuel tank 22.0 gal (83.3			
Engine oil w/filter	9 qt (8.5 L)		
Engine cooling system	system 12 qt (11.4 L)		
Hydraulic system			
Reservoir 7.1 gal (26.8			
Total	13.2 gal (50 L)		
Chain tanks (per side)	8 qt (7.6 L)		

# TIRE SELECTION

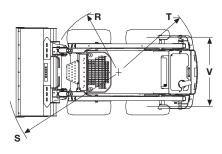
	Size	Ply Rating	Tread Depth	Tire Width	Width Over Tires	Tire Weight*
Galaxy XD2002	10.00 x 16.5	8	0.59 in (15 mm)	10.7 in (284 mm)	59 in (1.50 m)	52 lb (23.6 kg)
Galaxy XD2002	12.00 x 16.5	10	0.69 in (17 mm)	13.1 in (333 mm)	64 in (1.63 m)	72 lb (32.7 kg)
Galaxy Beefy Baby II	10.00 x 16.5	8	0.75 in (19 mm)	10.2 in (259 mm)	59 in (1.50 m)	61 lb (27.6 kg)
Galaxy Beefy Baby II	12.00 x 16.5	10	0.81 in (21 mm)	12.4 in (315 mm)	64 in (1.63 m)	82 lb (37.2 kg)
Galaxy Hulk	10.00 x 16.5	10	1.37 in (35 mm)	10.2 in (259 mm)	59 in (1.50 m)	79 lb (35.8 kg)
Galaxy Hippo	31.5 x 16.5	8	.75 in (19 mm)	12.8 in (325 mm)	64 in (1.63 m)	70 lb (31.7 kg)
Galaxy Solid Flex	10 x 16.5	n/a	.7 in (18 mm)	9.6 in (244 mm)	61 in (1.50 m)	230 lb (104 kg)
Galaxy Solid Flex (offset wheel)	10 x 16.5	n/a	.7 in (18 mm)	9.6 in (244 mm)	67 in (1.70 m)	230 lb (104 kg)

\*Tire weight does not include the wheel weight.



# **DIMENSIONS\***

Α.	Overall operating height	
	w/foundry/excavating bucket - short lip	151.6 in (3.85 m)
	w/low profile bucket – standard lip	157.5 in (4.00 m)
	w/low profile extended bucket – long lip	162.5 in (4.13 m)
	Height to	
В.	Bucket hinge pin	120.7 in (3.06 m)
C.	Top of rollover protective structure	78.9 in (2.00 m)
D.	Bottom of level bucket, loader arm fully raised	113.5 in (2.88 m)
	Overall length	
E.	w/o attachment w/coupler	102.5 in (2.60 m)
F.	w/foundry/excavating bucket on ground	127.9 in (3.25 m)
F.	w/low profile bucket on ground	132.9 in (3.38 m)
F	w/low profile extended bucket on ground	137.9 in (3.50 m)
<u>G.</u>	Dump angle at maximum height	39°
Н.	Dump height – loader arm fully raised	
	w/foundry/excavating bucket	96.1 in (2.44 m)
	w/low profile bucket	92.6 in (2.35 m)
	w/low profile extended bucket	89.4 in (2.27 m)
J.	Dump reach – loader arm fully raised	
	w/foundry/excavating bucket	22.9 in (0.58 m)
	w/low profile bucket	28.8 in (0.73 m)
	w/low profile extended bucket	32.6 in (0.83 m)
	Maximum attachment rollback	
К.	Bucket on ground	29°
L.	Bucket at full height	96°
М.	Wheelbase	42.3 in (1.07 m)
	Ground clearance	
<b>P</b> .	Bottom of belly pan	8.2 in (208 mm)
Q.	Angle of departure	26°
	Clearance circle front	
R.	Less bucket	56.7 in (1.44 m)
S.	w/60 in (1.52 m) foundry/excavating bucket on ground	76 in (1.93 m)
S.	w/60 in (1.52 m) low profile bucket on ground	81.2 in (2.06 m)
<u>s.</u>	w/60 in (1.52 m) low profile extended bucket on ground	85.9 in (2.18 m)
Т.	Clearance circle rear	59.2 in (1.50 m)
υ.	Rear axle to bumper	37.0 in (0.94 m)
V.	Tread width, centerline to centerline	48.4 in (1.23 m)



# **PERFORMANCE SPECS**

Operating load	1850 lb (839 kg)		
Tipping load	3700 lb (1678 kg)		
Breakout force			
Lift cylinder	4,200 lbf		
	(18 682 N)		
Bucket cylinder	5500 lbf		
	(24 465 N)		
Dig depth			
w/bucket flat	0.2 in (6.00 mm)		
Cycle time			
Raise	3.6 seconds		
Lower	2.6 seconds		
Dump	1.3 seconds		
Rollback	1.6 seconds		
NOTE: SAE rated lift capacities.			

## **OPTIONAL BUCKETS**

Туре	Width inch (m)	Weight Ib (kg)	Heaped Capacity ft <sup>3</sup> (m <sup>3</sup> )
Foundry/ Excavating	60 (1.5)	270 (122)	11.5 (0.33)
	66 (1.6)	370 (168)	15.2 (0.43)
	72 (1.8)	390 (177)	16.7 (0.47)
	78 (2.0)	495 (225)	18.4 (0.52)
Low Profile	60 (1.5)	360 (163)	11.5 (0.33)
	66 (1.6)	400 (181)	13.2 (0.37)
	72 (1.8)	425 (193)	14.5 (0.41)
Low Profile Extended	60 (1.5)	360 (163)	14.3 (0.40)
	66 (1.6)	434 (197)	15.5 (0.44)
	72 (1.8)	477 (216)	17.1 (0.48)
	78 (2.0)	502 (228)	18.6 (0.53)
Utility/Light Material	60 (1.5)	350 (159)	19.7 (0.56)
	72 (1.8)	434 (197)	23.7 (0.67)
	84 (2.1)	497 (225)	27.9 (0.79)
Heavy-Duty/ Dirt	60 (1.5)	400 (181)	12.1 (0.34)
	66 (1.6)	474 (215)	13.3 (0.37)
	72 (1.8)	501 (227)	14.6 (0.41)
	78 (2.0)	527 (239)	15.9 (0.45)

## **STANDARD EQUIPMENT**

#### **OPERATOR'S COMPARTMENT**

ROPS/FOPS level 1 canopy w/side screens Tilt ROPS/FOPS Rear window w/emergency escape Instrument panels Suspension vinyl seat 2 in (51 mm) retractable seat belt Hand throttle Foot throttle Alarm package Headliner Top window Cup holder Power plug socket Foot rest Storage tray Low effort ergonomic hand controls Padded seat bar w/integral armrests Loader control lockout system Electric parking brake control Floor cleanout panel

#### **OPTIONAL EQUIPMENT**

#### **OPERATOR'S COMPARTMENT**

Deluxe cloth suspension seat w/heater and lumbar support Interior mirror Electric auxiliary hydraulic control Glass front door w/wiper & washer Sliding side windows 3 inch retractable seat belt Heater and AC Radio Demolition door

# LOADER

Radial loader arm design Mechanical attachment coupler Loader lift arm support strut

### ENGINE

Case/Iveco 432T/M3 diesel Tier III certified No maintenance belt Side-by-side radiator and oil cooler Grid heater Integral engine oil cooling Fuel filter w/water trap Dual element air cleaner 95 amp alternator 1125 CCA 12-volt battery

#### POWERTRAIN

Hydrostatic four wheel drive Servo controlled pumps ASA #100HS drive chain SAHR disc parking brakes

#### LOADER

Auxiliary front electric control Ride control Pilot controls Hydraulic attachment coupler Hydraulic one-way self-leveling

# HYDRAULICS

High-flow auxiliary hydraulics 3050 psi (210 bar) – 33.2 gpm (126 L/min) Second auxiliary hydraulics Attachment case drain plumbing

#### HYDRAULICS

Auxiliary hydraulics 3050 psi (210 bar) – 23.8 gpm (90 L/min) Hydraulic circuit pedal lock Loader arm-mounted ISO flat face connectors Auxiliary function lockout override Loader function lockout system Loader lift lockout override 3-spool loader control valve Heavy-duty oil cooler Loader arm float position OTHER

Integral bumper counterweight Lockable service access hood Single-point daily servicing Halogen lights, 2-front, 2 side, 1-rear (halogen) Rear tail lights Remote oil drain

#### ENGINE

Lift cylinder guards

Coolant block heater Battery disconnect switch w/jumpstart terminals **OTHER** 2 speed ground drive Deluxe instrument panel Road lights Rotating beacon Lift hooks Special paint Language decals Factory-installed tires – see page 2 Buckets – see page 3 Bolt-on bucket cutting edges 42 in (1.07 m) and 48 in (1.22 m) pallet forks Steel tracks

NOTE: All specifications are stated in accordance with SAE Standards or Recommended Practices, where applicable.

NOTE: All engines meet current EPA emissions requirements.

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