

# MERLO V's JCB Ag Range



JCB AGRIC



## Merlo Turbofarmer

Model	Engine (kW/hp)	Hydraulic (l/min)	Top speed (km/h)
Merlo P34.7	74,9/102	100	20
Merlo P34.7 PLUS	74,9/102	100	40
Merlo P34.7 TOP	74,9/102	150	40
Merlo P40.7	103/140	150	20
Merlo P40.7 TOP	103/140	150	40

- Deutz water cooled diesel engines are fitted across the range, Turbo charged or Turbo charged with after cooler
- Three hydraulic options, Gear pump, Load sensing piston pump, Load sensing piston pump with flow sharing valve block

# Merlo Turbofarmer

		RIGID FRONT AXLE				SIDESHIFT/LEVELLING FRONT AXLE			
TURBOFARMER		P 34.7 Plus	P 34.10 Plus	P 37.10	P 40.7	P 36.7 Plus	P 36.10 Plus	P 38.10	P 41.7
		P 34.7 Top	P 34.10 Top	P 37.10 Top	P 40.7 Top	P 36.7 Top	P 36.10 Top	P 38.10 Top	P 41.7 Top
<b>Weight</b>									
Total empty weight (with forks)	kg	6600	7250	7250	6600	6760	7350	7350	6760
<b>Performance</b>									
Rated maximum load	kg	3400	3400	3700	4000	3600	3800	3800	4100
Maximum lift height	m	7	9.7	9.7	7	7	9.7	9.7	7
Maximum forward reach	m	3.6	6.3	6.3	3.6	3.6	6.2	6.2	3.6
Lift height at full capacity	m	7	5.5	5	6	7	8	8	7
Reach at full capacity	m	1.5	1.6	1.4	1.2	1.5	1.6	1.4	1.3
Capacity at full lift height	kg	3400	1200	1200	3500	3600	3000	3000	4100
Capacity at full forward reach	kg	1350	600	600	1350	1350	600	600	1350
Low emission (Euro 2) turbo engine	turbo	turbo	turbo	aftercooler	aftercooler	turbo	aftercooler	aftercooler	aftercooler
Power at 2400 rpm (97/68/CE)	kW/HP	74.9/102	74.9/102	103/140 <sup>(2)</sup>	103/140 <sup>(2)</sup>	74.9/102	74.9/102	103/140 <sup>(2)</sup>	103/140 <sup>(2)</sup>
<b>Speed ratios</b>									
1 <sup>st</sup> gear <sup>(1)</sup>	kph	11	11	11	11	11	11	11	11
2 <sup>nd</sup> gear (self-limiting maximum speed)	kph	40	40	40	40	40	40	40	40

<sup>(1)</sup> Maximum 1<sup>st</sup> gear speed with the 'Shift on the Go' option is 16kph <sup>(2)</sup> Power at 2500 rpm (97/68/CE)

# Merlo Turbofarmer

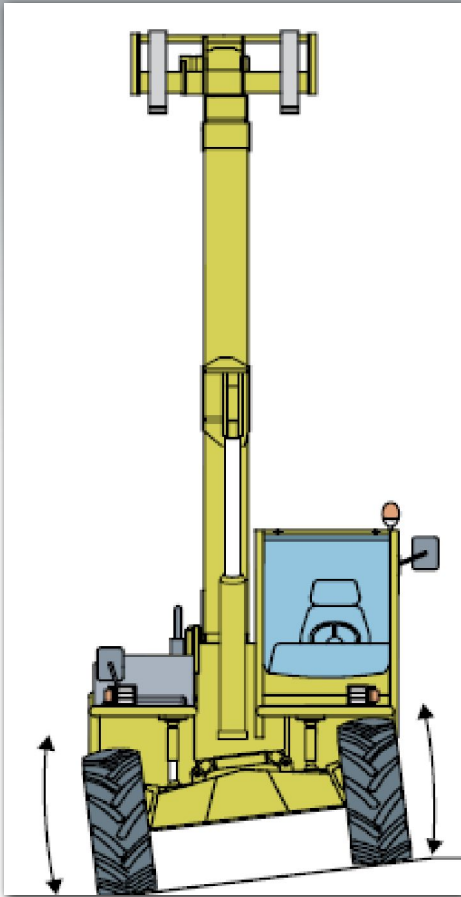
Fixed axle



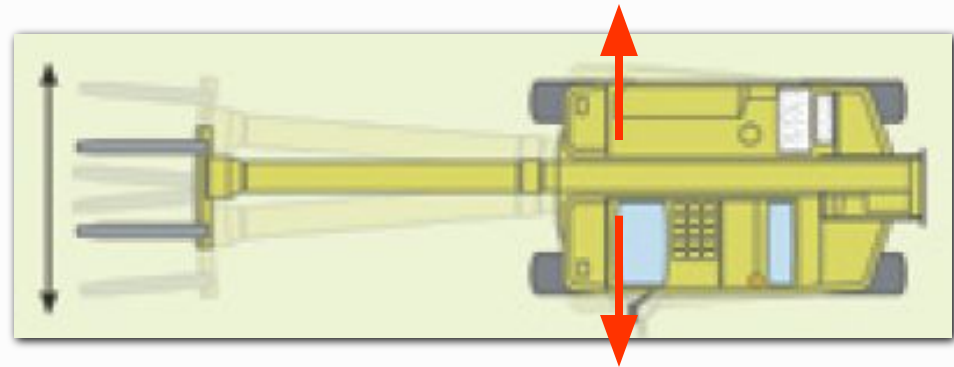
Sideshift/leveling front axle



## Merlo Turbofarmer



Complex high wearing axle option with 14 connecting joints to provide levelling, fork side shift & suspension.



# Merlo Turbofarmer V JCB

Capacity(kg)	3100	3600		4100	3500
Lift height (m)	7	6	7	7	9
Agri	531-70	536-60	536-70 (P34.7)	541-70	535-95 (P34.10)
Plus	531-70	536-60	536-70 (P34.7PLUS)	541-70 (P40.7)	535-95 (34.10 Plus)
Super	531-70	536-60	536-70 (P34.7TOP)	541-70 (P40.7TOP)	535-95 (34.10TOP)
Xtra	531-70	536-60	536-70	541-70	535-95



# Merlo Panoramic



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## Merlo Panoramic

	LOWER CAB - 2.00 metres		STANDARD CAB - 2.15 metres	
Gear pump - Speed 25kph	P 32.6 L	P 28.8 L	-	-
Gear pump - Speed 40kph	P 32.6 L PLUS	P 28.8 L PLUS	P 32.6 PLUS	P 28.8 PLUS
Load-Sensing pump - Speed 40kph	-	-	P 32.6 TOP	P 28.8 TOP

- A compact range of tele-handelers 2m wide & 4.2 long with 6 or 8m lift heights and fixed axles
- Deutz water cooled diesel engine fitted with a turbo charger (102hp)
- Two hydraulic options Gear pump and Load sensing piston pump
- Competes with the 536-60 for lift capacity but with 102hp and the 526-56 for horsepower 102hp but with 3.2t lift capacity





# Merlo Panoramic

PANORAMIC		P 32.6 L	P 32.6 L PLUS P 32.6 PLUS P 32.6 TOP
<b>Weight</b>			
Total empty weight (with forks)	kg	5960	5960
<b>Performance</b>			
Rated maximum load	kg	3200	3200
Maximum lift height	m	6400	6400
Maximum forward reach	m	3400	3400
Lift height at full capacity	m	4.8	4.8
Reach at full capacity	m	1.3	1.3
Capacity at full lift height	kg	2600	2600
Capacity at full forward reach	kg	1250	1250
Low emission (Euro 2) turbo engine		turbo	turbo
Power at 2400rpm (97/68/CE)	kW/HP	74.9/102	74.9/102
<b>Speed ratios</b>			
1 <sup>st</sup> gear	kph	7	15
2 <sup>nd</sup> gear (self-limiting maximum speed)	kph	25	40

# JCB LOADALL ADVANTAGES OVER MERLO



# ENGINE

- All Merlo handlers are fitted with 102hp or 140hp Deutz engines
- Inadequate sealing around the engine pod allows dust and debris to enter and block the cooling pack.
- Engine is mounted parallel to the chassis and held in place on the side frame giving poor access to the off side of the engine and increasing the potential for damage
- Starter motor and alternator are mounted on the chassis side of the engine limiting service access.
- JCB engine is transversely mounted to the chassis giving excellent all-round access and increased protection.



## COOLING



Belt driven cooling fans with no factory reverse option V's  
hydraulically driven cooling fan

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# COOLING



- Small dense cooling pack protected by fine mesh chaff guard with belt driven fan which questions the cooling performance in high stress areas
- Large core sealed cooling pack with bulk head to separate the engine, hydraulic reversing fan to maintain cooling performance

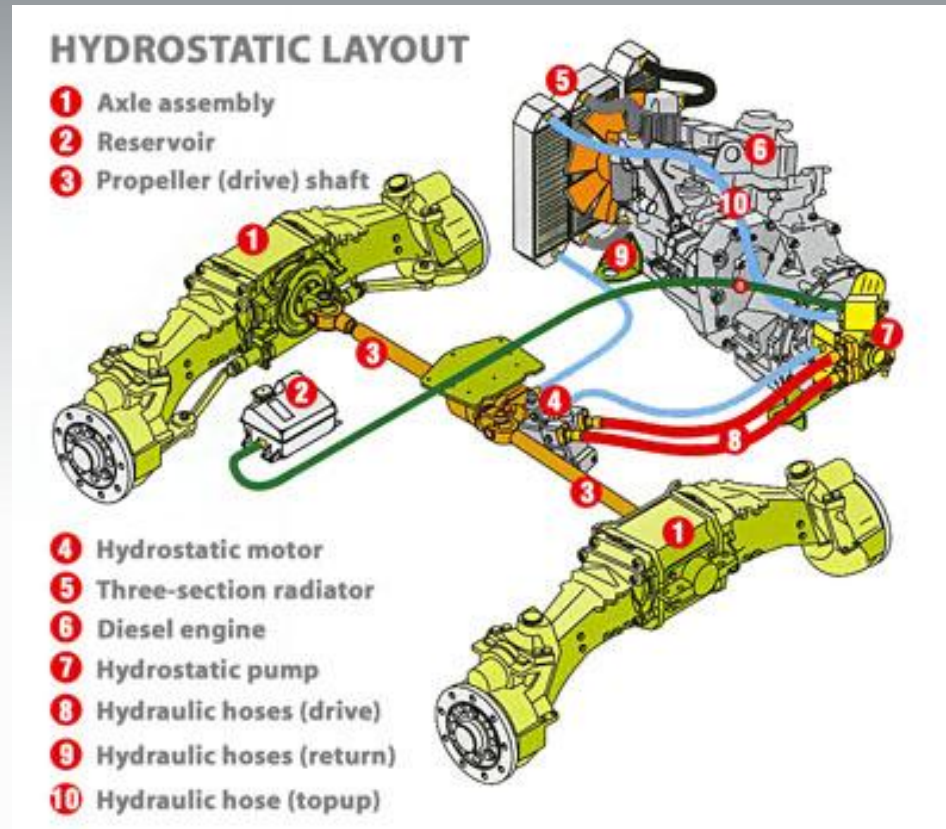
## COOLING

Large chaff guarded area for maximum cooling performance

Small chaff guarded area limits cooling efficiency

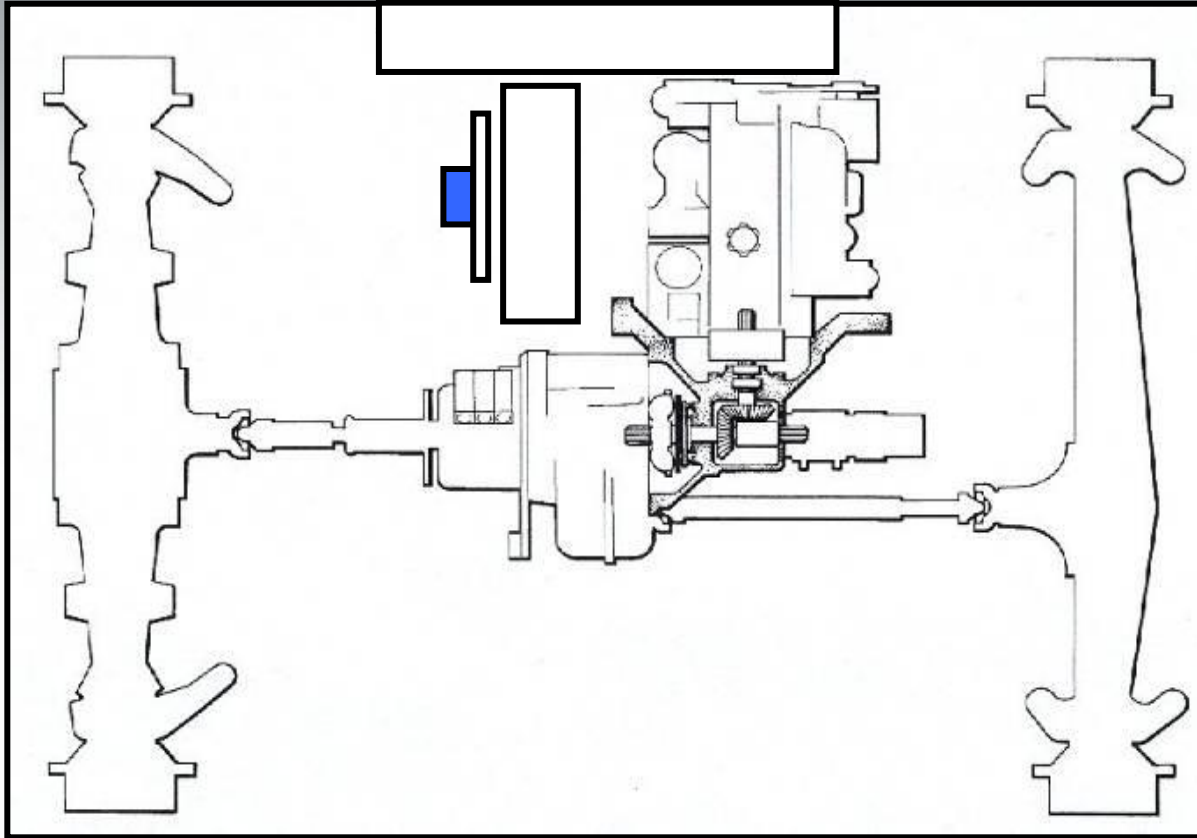


# MERLO V's JCB



Hydrostatic 2 speed transmission

## MERLO V's JCB



- Torque converter 6/4 powershift transmission with torque lock

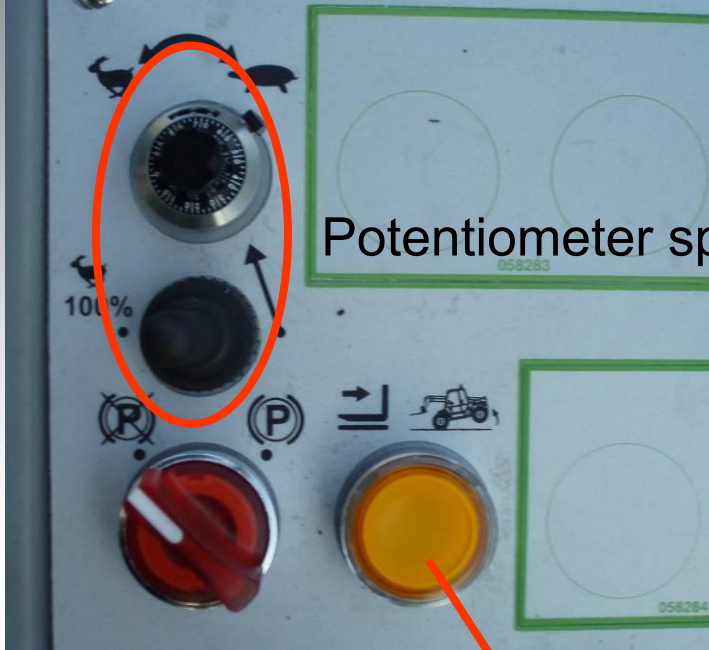


# TRANSMISSION

- Hydrostatic transmissions are renowned for getting hot, particularly in continuous cycle applications like silage clamping, towing and bale handling.
- Hydrostatic transmission gives good controllability at low speeds but is inefficient at higher speed.
- Merlo machines suffer from engine ‘drag-down’ in transport work, so provides poor towing performance.
- Hydrostatic systems suffer from transmission whine at speed.
- 2-range transmission requires the machine to be stationary before changing to low range for maximum pushing power.
- “Change on the move” range box available as an option



# TRANSMISSION



Potentiometer speed adjustment

Electric park brake

Over load cut out switch

Hand throttle



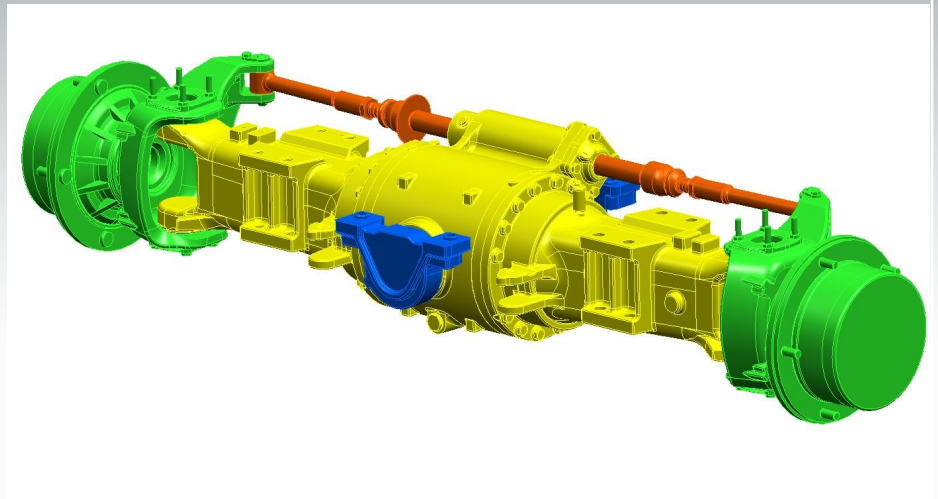
## AXLES



- 6 & 7 metre machines still use portal hubs with nylon 'cups'
- Exposed axle cavities & small UJ's susceptible to dirt ingress and high wear



# AXLES



- Open section axle, exposed brakes V's enclosed brakes.
- Low mounted steer ram V's high mounted steer ram.

# TYRES



- **JCB: Standard:** Michelin  
445/70R24 151G

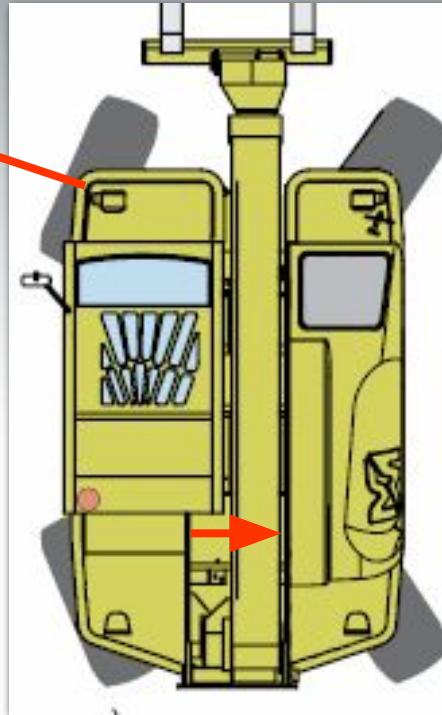


- **Merlo: Standard:** Mitas  
405/70-24 152B

# CHASSIS



Narrow lightweight chassis with 70mm ring of steel around the machine to add weight and stability.



Counter balance weight under the rear of the chassis depending on spec



# CHASSIS

- Dedicated Heavy duty chassis to each JCB model.
- 536-70 = 7800kg P36-7 = 6760kg
- 541-70 = 7800kg P40-7 = 6600kg
- 535-95 = 8020kg P37-10 = 7250kg
- Strong chassis for greater stability and longer service life.
- JCB had thicker chassis plates to add weight and strength, no need for counter weights or a “ring of steel”



# CHASSIS



JCB hitch is better protected and gives greater ground clearance



# BOOM



Offset mounted rams V's centrally mounted to reduce twisting and stress.

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## BOOM



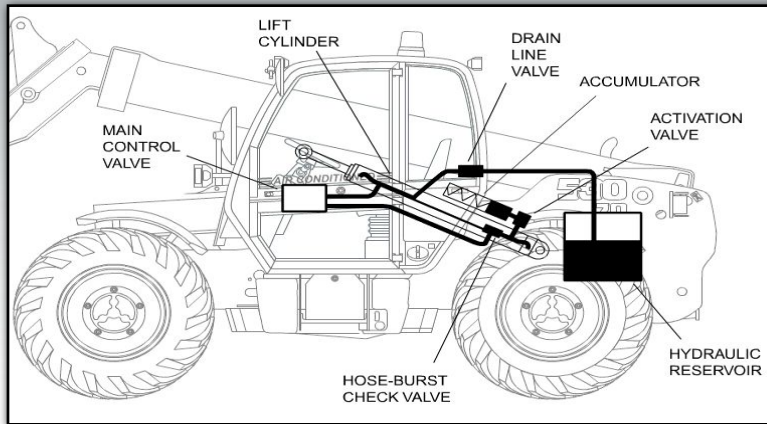
Wet grease on boom V's JCB Waxoyl dry lubricant.  
50 hours grease intervals V's 500 hour intervals.

# BOOM

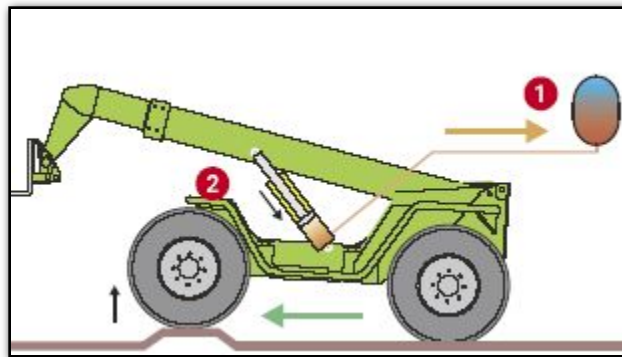


Welded boom nose in high stress area V's continuous side and base plate.

# SRS V BBS



- High spec boom suspension for increased productivity equally effective when loaded or unloaded



- Basic boom suspension can be used with axle suspension to increase performance

## CARRIAGE

- Lift, crowd and compensation rams are all offset, imposing twisting forces on the boom and carriage accelerating wear of the pins and bushes.
- Merlo carriage with single locking pin is unconventional. There is no visual indication that an attachment is locked on without raising the boom.



# CARRIAGE



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# CARRIAGE



Offset carriage & ram mounting increases stress  
V's centrally mounted carriage and ram.

# HYDRAULICS



Behind cab hydraulic tank increases cab temperature V's mounted tank integrally within chassis which improves cooling.

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# CAB

- Poor grab handles and narrow door way make access difficult



- Large modern cab with automotive feel

# CAB



Wide door access and longer cab with improved leg room

## CAB



- Limited access to the floor pedals due to the wheel arch



- Large floor area with good access to the well spaced pedals

## CAB



Dated lay out V's Modern automotive design.



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## CAB

- Merlo cab interior looks exceptionally basic and sparse in comparisons to JCB 'automotive style' cab environments.
- Merlo is not available with JCB features like 4-wheel drive disconnect and automatic steering alignment.



# LMI



Dash mounted LMI V's cab pillar, in line of sight mounted.

Non progressive LMI V's progressive LMI.

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## CAB

Poor visibility to the front carriage due to the ring of steel when fully retracted



## CAB



Fixed rear fender V's rotates with wheel for increased visibility.

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## SUMMARY

- Chassis & boom significantly lighter than JCB. Common to hear of failures.
- Offset rams on the boom and carriage cause twisting and wear
- Axles use outboard disc brakes which wear rapidly
- Hub/axle design requires very high maintenance to keep clear of debris
- Hydrostatic drive is no match at high speeds, especially with standard stop to change range
- Small and dense cooling pack with fine chaff guarding easily blocks and over heats, no manufactures reverse fan option
- Simple 'construction' style cab with little operator comforts, narrow door way and limited leg room
- 21t towing capacity claimed!!!! But at what speed?

