# KOMATSU®

**WA250PZ-6** 

**NET HORSEPOWER** 

103 kW **138 HP** @ 2000 rpm

**OPERATING WEIGHT** 

12160 - 12600 kg **26,808 - 27,778 lb** 

**BUCKET CAPACITY** 

1.9 - 2.3 m<sup>3</sup> 2.5 - 3.0 yd<sup>3</sup>





# WHEEL LOADER WITH PARALLEL Z-BAR LINKAGE

# WALK-AROUND

### **Excellent Operator Environment**

- HST traction control switch
- Electronically controlled directional lever
- Tiltable steering column
- Low-noise designed cab
- Pillar-less large ROPS/FOPS Level 2 cab-integrated



### **KØMTRAX**

KOMTRAX sends machine location, Service Meter Reading (SMR) and operation maps to a secure website utilizing wireless technology. Machines also relay error codes, cautions, maintenance items, fuel levels, and much more.

# **Environmentally Friendly**

- EPA Tier 3 and EU Stage 3A emissions certified
- Low exterior noise
- Low fuel consumption



Photos may include optional equipment.

# Easy Maintenance

- Equipment Management Monitoring System (EMMS)
- Easy access, gull-wing type engine side doors
- Automatic reversible fan
- KOMTRAX™

# HIGH PRODUCTIVITY AND LOW FUEL CONSUMPTION



### **High Performance SAA6D107E-1 Engine**

Electronic Heavy Duty Common Rail fuel injection system provides optimum combustion of fuel.

This system also provides quick throttle response to match the machine's powerful tractive effort and quick hydraulic response.

Net: 103 kW 138 HP

### **Low Emission Engine**

This engine is EPA Tier 3 and EU Stage 3A emissions certified, without sacrificing power or machine productivity.

### **Low Fuel Consumption**

The high-torque engine and Hydrostatic Transmission (HST) with maximum efficiency in the low-speed range provide low fuel consumption.

### **Eco Indicator**

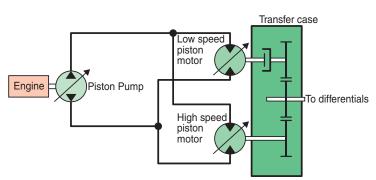
The eco indicator will help an operator achieve energy savings.



# Hydrostatic Transmission (HST)

# Electronically-Controlled HST Using a 1-Pump, 2-Motor System

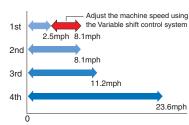
- The 1-pump, 2-motor system allows high-efficiency and high tractive effort. Engine power is transmitted hydraulically to a transfer case, then mechanically out to the differentials and the four driving wheels.
- HST provides quick travel response and aggressive drive into the pile. The variable displacement system automatically adjusts to the tractive effort demand to provide maximum power and efficiency.
- Full auto-shifting eliminates any gear shifting and kickdown operation to allow the operator to concentrate on digging and loading.
- When high drive torque is needed for digging, climbing, or initiating movement, the pump feeds both motors. This combination makes the loader very aggressive and quick.
- Under deceleration, the HST system acts as a dynamic brake on the mechanical drive system. The dynamic brake can hold the loader in position on most workable slopes. This can be an advantage in stockpiling and ramp loading.
- As the machine moves and gains ground speed, the torque demand decreases and the low speed motor is effectively removed from the drive system by a clutch. At this point, the flow is going to the high-speed motor and the low-speed motor is not causing drag on the system.
- An inching pedal gives the operator excellent simultaneous control of travel and equipment hydraulic speeds. By depressing the inching pedal, drive pump flow to the motors will decrease, reducing ground speed and allowing the operator to use the accelerator to increase flow to the equipment hydraulics. Depressing the inching pedal further will activate the service brakes.



# **Electronically-Controlled HST with Variable Shift Control System**

The operator can choose between first, second, third or fourth maximum speeds by dialing the speed range selector switch. For V-cycles, the operator can set the speed control switch to 1 or 2, which provides

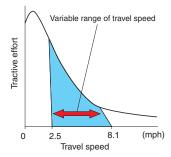
aggressive digging, quick response, and fast hydraulics. For load and carry, select 3 or 4 which still provides aggressive digging but with much faster travel speed.



The variable shift switch

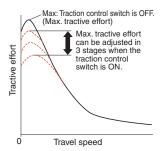
allows the operator to adjust machine speed in applications such as confined V-loading. When in 1, the operator can adjust travel speed using the variable shift switch to match machine speed and hydraulics to the distance traveled. This feature is also useful when powering a broom or snowblower.





### **Variable Traction Control System**

The tractive effort of the machine, when traveling at a low speed, can be reduced by using the traction control switch. Combined with torque proportioning differentials, or optional limited slip differentials this system provides the following benefits:



- Facilitates operation on soft ground where the tires of the machine are apt to slip.
- Eliminates excessive bucket penetration and reduces tire slippage during stockpile loading to improve the work efficiency.



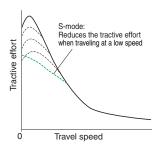
• Reduces tire slippage to extend the life of tires.

Furthermore, the maximum tractive effort can be adjusted in three stages (one stage for conventional machines) when the traction control switch is ON. This allows the operator to select the optimum tractive effort for diversified road conditions.

### S-mode

Setting the switch to S-mode provides excellent driving force for operations on slippery road surfaces, like snow-removal on snow-covered surfaces, resulting in low tire slippage and

facilitation of the operation. Unexpected tire slippage on slippery road surfaces is suppressed by controlling the engine speed and HST motor when traveling at a low speed. (S-mode is effective only in forward travel.)



### **Max. Traction Switch**

The max. traction switch is located on the work equipment control lever. When the traction control switch is at the ON position or S-mode is selected, pushing this switch cancels the setting of the traction control temporarily and increases the tractive effort to its 100% value. Then pushing the max. traction switch again or operating the F/R lever returns the tractive effort to the set value automatically. This switch is useful for operations such as stockpile work where large tractive effort is required temporarily.

### **Accelerator Pedal Sensitive HST Control**

Finely-tuned HST control according to the accelerator pedal angle allows smoother traveling and better energysaving operation.



### **Dumping Clearance and Reach**

The long lift arms provide high dumping clearance and long dumping reach. The operator can even level loads on the body of a dump truck easily and efficiently.

Dumping Clearance: 2861 mm 9'5" Dumping Reach: 1088 mm 3'7"

(Dimensions at max. height and 45° dump angle;

2.3 m<sup>3</sup> 3.0 yd<sup>3</sup> bucket with B.O.C.E.)

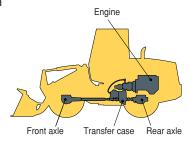
# RELIABILITY

### **Komatsu Components**

Komatsu manufactures the axles, engine, transfer case, and

hydraulic components on this wheel loader.

Komatsu loaders are manufactured with an integrated production system under a strict quality control system.



# Wet Multi-disc Brakes and Fully Hydraulic Braking System

This means low maintenance costs and high reliability. Wet disc brakes are fully sealed. Contaminants are kept out, providing low wear and maintenance. Brakes require no adjustments for wear. The new parking brake is also an adjustment-free, wet multi-disc for high reliability and long life. Added reliability is designed into the braking system by the use of two independent hydraulic circuits, providing hydraulic backup. Fully hydraulic brakes mean no air system to bleed and no condensation of water in the system that can lead to contamination, corrosion, and freezing.





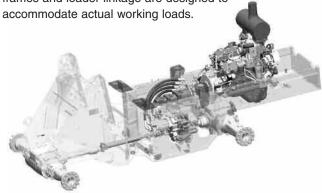
### **Overrun Reduction System**

When the machine descends a slope of six degrees or less, maximum travel speed is automatically restricted to approximately 38 km/h 23 mph, for protection against damage of power train components and brakes, by sensing the travel speed and controlling the discharge amount of the HST pump and motor. When the machine descends a steep slope and the travel speed reaches 36 km/h 22 mph, the caution lamp lights up to inform the operator to reduce the travel speed.

Note: When the machine descends a steep slope, the use of the service brake is necessary to limit travel speed.

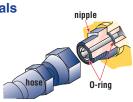
### **High-rigidity Frames and Loader Linkage**

The front and rear frames and the loader linkage have torsional rigidity to provide resistance to stresses. The frames and loader linkage are designed to



### Flat Face-to-Face O-Ring Seals

Flat face-to-face O-ring seals are used to securely seal hydraulic hose connections.



# Cathion Electrodeposition Primer Paint/ Powder Coating Final Paint

Cathion electrodeposition process is used to apply primer paint and powder coating process is used to apply the topcoat to the exterior metal sheet parts. Some external parts are made of plastic providing long life and high impact resistance.

### **Sealed DT Connectors**

Main harnesses and controller connections are equipped with sealed DT connectors providing high reliability, water resistance, and dust resistance.



# EASY MAINTENANCE



# **Equipment Management Monitoring System** (EMMS)

The monitor is mounted in front of the operator for easy



viewing, allowing the operator to easily check gauges and warning lights.

A specially designed two-spoke steering wheel allows the operator to easily see the instrument panel.

### **Maintenance Control and Troubleshooting Functions**

- Action code display function: If an abnormality occurs, the monitor displays action details on the character display at the center bottom of the monitor.
- Monitor function: The controller monitors engine oil pressure, coolant temperature, air cleaner clogging, etc.
   If the controller finds abnormalities, the error is displayed on the LCD.
- Replacement time notice function: The monitor informs replacement time of oil and filters on the LCD when replacement intervals are reached.
- Trouble data memory function: The monitor stores abnormality data for effective troubleshooting.

### **Gull-wing Type Engine Side Doors Open Wide**

The operator can open and close each gull-wing type engine side door easily, with the assistance of a gas spring, to perform daily service checks from the ground.



### **Easy Radiator Cleaning**

If the machine is operating in adverse conditions, the operator can reverse the hydraulic cooling fan from inside the cab by pressing a switch on the control panel.

### **Automatic Reversible Fan**

The engine fan is driven hydraulically and can be operated in reverse automatically. When the switch is in the automatic position, the fan revolves in reverse intermittently for 2 minutes every 2 hours. (Default setting)



**B**: Manual Reverse Mode

A: Normal Rotation Mode

C: Auto Reverse Mode

# **OPERATOR ENVIRONMENT**

# Easy and Comfortable Operation

### **Excellent Visibility With Forks**

The new PZ loader linkage design enables the operator to see the fork tine tips to aid in loading pallets and other materials onto the forks.

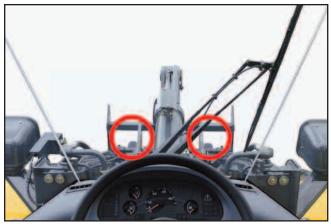


Photo may include optional equipment.

# Multi-function Loader Control Lever with Forward & Reverse Switch

A new multi-function control lever integrated with forward and

reverse switch allows the operator to easily operate the work equipment, providing low operator fatigue and good controllability. The adjustable wrist rest provides the operator with a variety of comfortable operating positions.



### **Right-side Control Panel**

The operator can select the speed range, maximum travel speed in 1st, tractive effort, and reversible fan setting.



- 1: Speed range selector switch
- 2: Variable shift switch
- 3: Traction control switch
- 4: Max. traction switch
- 5: Fan reverse switch
- 6: Quick coupler lock switch
- 7: Two mode bucket leveler switch
- 8: Directional selector activation switch

### **Low-noise Design**

Noise level at operator's ear: 70 dB(A) Dynamic noise level (outside): 104 dB(A)

The large cab is mounted with Komatsu's unique ROPS/FOPS viscous mounts. The low-noise engine, hydraulically driven fan, and hydraulic pumps are mounted with rubber cushions, and the cab sealing is improved to provide a quiet, low-vibration, pressurized, and comfortable operating environment.

### **Rear-hinged Full Open Cab Doors**

The large cab doors are rear-hinged to open fully, offering easy entry/exit. Exit from the cab is easily accomplished by having steps in view of the operator. Sloped hand rails help guide the foot onto the first step.



### **Tiltable Steering Column**

The operator can tilt the steering column to provide a comfortable working position.



# **SPECIFICATIONS**



Model
AspirationTurbocharged, aftercooled
Number of cylinders
Bore x stroke
Piston displacement
Governor
Horsepower
SAE J1995
ISO 9249/SAE J1349Net 103 kW 138 HP
Hydraulic fan at maximum speed Net 100 kW 134 HP
Rated rpm
Fan drive method for radiator cooling
Fuel system
Lubrication system:
MethodGear pump, force-lubrication FilterFull-flow type
Air cleaner



### **TRANSMISSION**

EPA Tier 3 and EU Stage 3A emissions certified.

Type .........Hydrostatic, 1 pump, 2 motors with speed range select

Travel speed: km/h mph Measured with 17.5-25 tires

	1st	2nd	3rd	4th
Both Forward	3.6 - 11.7	11.7	16.2	34.2
and Reverse	2.2 - 7.3	7.3	10.1	21.2

### Measured with 20.5-25 tires

	1st	2nd	3rd	4th
Both Forward	4.0 - 13.0	13.0	18.0	38.0
and Reverse	2.5 - 8.1	8.1	11.2	23.6



•	Four-wheel driveFixed, semi-floating
Rear	Center-pin support, semi-floating,
	24° total oscillation
Reduction gear	Spiral bevel gear
Differential gear	
Final reduction gear	Planetary gear, single reduction



Service brakes	
We	et disc brakes actuate on four wheels
Parking brakeWet, mu	ulti-disc brake on transfer output shaft
Emergency brake	Parking brake is commonly used



### STEERING SYSTEM

Type	Full-hydraulic power steering
Steering angle	. 38° each direction (40° end stop)
Minimum turning radius at	
the center of outside tire	5175 mm <b>17'0"</b>



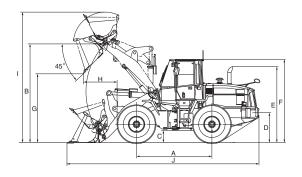
### HYDRAULIC SYSTEM

Steering system: Hydraulic pump
Loader control: Hydraulic pump
Type
Boom cylinder
Boom
Raise       5.7 sec         Dump       1.6 sec         Lower (Empty)       3.3 sec

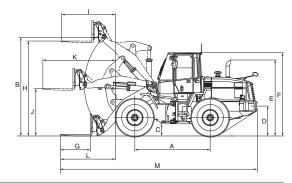


Cooling system	5.8 U.S. gal
Fuel tank	49.1 U.S. gal
Engine	6.1 U.S. gal
Hydraulic system 67 ltr	17.7 U.S. gal
Axle (each front and rear)	4.8 U.S. gal
Transfer case 5 ltr	1.3 U.S. gal

# DIMENSIONS



	Units: mm <b>ft in</b>	17.5-25 tires		20.5-25 tires	
	Tread	1930	6'4"	1930	6'4"
	Width over tires	2375	7'10"	2470	8'1"
Α	Wheelbase	2900	9'6"	2900	9'6"
В	Hinge pin height, at max. height	3895	12'9"	3965	13'0"
	Hinge pin height, at carry position	371	1'3"	441	1'5"



	Units: mm ft in	17.5-25 tires		20.5-25 tires	
С	Ground clearance	395	1'4"	465	1'6"
D	Hitch height	880	2'11"	950	3'1"
Ε	Overall height, top of the stack	2855	9'4"	2925	9'7"
F	Overall height, ROPS cab	3130	10'3"	3200	10'6"

### **Bucket**

Measured with 20.5-25-12PR (L2) tires, ROPS/FOPS cab

		General Purpose Bucket w/ BOCE		
	Bucket capacity: heaped	2.3 m³ <b>3.0 yd³</b>	1.9 m³ <b>2.5 yd³</b>	
	struck	2.0 m³ <b>2.6 yd³</b>	1.6 m³ <b>2.1 yd³</b>	
	Bucket width	2692 mm <b>8'10"</b>	2685 mm <b>8'10"</b>	
	Bucket weight	1092 kg <b>2,408 lb</b>	1015 kg <b>2,236 lb</b>	
G	Dumping clearance, max. height and 45° dump angle*	2861 mm <b>9'5"</b>	2935 mm <b>9'8"</b>	
Н	Reach at max. height and 45° dump angle*	1088 mm <b>3'7"</b>	1015 mm <b>3'4"</b>	
	Reach at 2130 mm <b>7'</b> clearance and 45° dump angle *	1672 mm <b>5'6"</b>	1637 mm <b>5'4"</b>	
	Reach with arm horizontal and bucket level*	2552 mm <b>8'4"</b>	2448 mm <b>8'0"</b>	
Ι	Operating height (fully raised)	5358 mm <b>17'7"</b>	5255 mm <b>17'3"</b>	
J	Overall length: Bucket on ground	7337 mm <b>24'1"</b>	7233 mm <b>23'9</b> "	
	Bucket at carry	7281 mm <b>23'11"</b>	7210 mm <b>23'8"</b>	
	Loader clearance circle*(bucket at carry, outside corner of bucket)	12236 mm <b>40'2"</b>	12180 mm <b>40'0"</b>	
	Digging depth: 0°	110 mm <b>4.3</b> "	110 mm <b>4.3</b> "	
	10°	338 mm <b>13.3"</b>	320 mm <b>12.6"</b>	
	Static tipping load: straight	8925 kg <b>19,676 lb</b>	9420 kg <b>20,767 lb</b>	
	40° full turn	7765 kg <b>17,119 lb</b>	8195 kg <b>18,067 lb</b>	
	Breakout force	108 kN 11000 kgf <b>24,250 lb</b>	118 kN 12015 kgf <b>26,490 lb</b>	
	Operating weight	12600 kg <b>27,778 lb</b>	12520 kg <b>27,601 lb</b>	

<sup>\*</sup>At the end of B.O.C.E.

Static tipping load and operating weight shown include lubricant, coolant, full fuel tank, ROPS cab, and operator. Machine stability and operating weight affected by counterweight, tire size, and other attachments.

Apply the following weight changes to operating weight and static tipping load.

### **Fork**

Measured with 20.5-25-12PR (L2) tires, ROPS/FOPS cab

G	Fork tine length		1524 mm	60"
	Fork weight	683 kg	1506 lb	
Н	Ground to top of tine at maximum lift		3820 mm	12'6"
	Reach at maximum height		2324 mm	7'7"
J	Ground to top of tine – boom and tine level		1817 mm	6'0"
K	Reach – boom and tine level		3233 mm	10'7"
L	Reach – tine level on ground		2573 mm	8'5"
M	Overall Length – tine level on ground		8034 mm	26'4"
	Static tipping load – boom a	nd		
	fork level, 610 mm <b>24"</b>	Straight	6630 kg	14,616 lb
	load center	Full turn (40°)	5770 kg	12,721 lb
	Operating height, fully raised		5255 mm	17'3"
	Operating load		2885 kg	6,360 lb
	Operating weight		12160 kg	26,808 lb

Operating load per SAE J1197 (Feb. 1991), 50% of static tipping load.

Static tipping load and operating weight shown include lubricant, coolant, full fuel tank, ROPS cab and operator. Machine stability and operating weight affected by tire size and attachments.

All dimensions, weights, and performance values based on SAE J732c and J742b standards.



### **WEIGHT AND DIMENSION CHANGES**

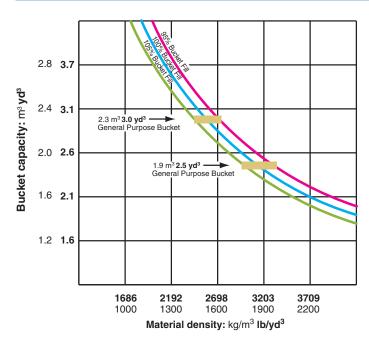
### **Bucket**

	Change in		Change in Tipping Load				Change in		Change in	
	Operating	y Weight	Stra	ight	Full Turn		Vertical Dimensions		Reach	
17.5-25-16PR (L2)	–300 kg	-661 lb	-200 kg	-441 lb	-170 kg	-375 lb	–70 mm	-2.8"	70 mm	2.8"
17.5-25-16PR (L3)	–260 kg	-573 lb	-170 kg	-375 lb	-150 kg	-331 lb	–70 mm	-2.8"	70 mm	2.8"
20.5-25-12PR (L3)	165 kg	364 lb	110 kg	243 lb	95 kg	209 lb	0 mm	0"	0 mm	0"
Install ROPS canopy (instead of cab)	–165 kg	-364 lb	-145 kg	-320 lb	-125 kg	-276 lb				

### **Fork**

	Change in		Change in Tipping Load				Change in		Change in	
	Operating	y Weight	Straight		Full Turn		Vertical Dimensions		Reach	
17.5-25-16PR(L2)	–300 kg	-661 lb	-140 kg	-309 lb	-125 kg	-276 lb	–70 mm	-2.8"	70 mm	2.8"
17.5-25-16PR(L3)	–260 kg	-573 lb	-125 kg	-276 lb	-110 kg	-243 lb	–70 mm	-2.8"	70 mm	2.8"
20.5-25-12PR(L3)	165 kg	364 lb	80 kg	176 lb	70 kg	154 lb	0 mm	0"	0 mm	0"
Install ROPS canopy (instead of cab)	-165 kg	-364 lb	-105 kg	-231 lb	–90 kg	-198 lb				

# **BUCKET SELECTION GUIDE**



This guide, representing bucket sizes not necessarily manufactured by Komatsu, will help you select the proper bucket size for material density, loader configuration, and operating conditions. Optimum bucket size is determined after adding or subtracting all tipping load changes due to optional equipment. Bucket fill factors represent the approximate amount of material as a percent of rated bucket capacity. Fill factors are primarily affected by material, ground conditions, breakout force, bucket profile, and the cutting edge of the bucket used.

### **Approximate Material Densities**

Material (loose)	kg/m³	lb/yd³
Caliche	1250	2,100
Cinders	590	1,000
Clay and gravel, dry	1420	2,400
Clay and gravel, wet	1540	2,600
Clay, dry	1480	2,500
Clay, natural bed	1660	2,800
Clay, wet	1660	2,800
Coal, anthracite, broken	1100	1,850
Coal, bituminous, broken	830	1,400
Earth, dry, packed	1510	2,550
Earth, loam	1250	2,100
Earth, wet, excavated	1600	2,700
Granite, broken or large crushed	1660	2,800
Gravel, dry	1510	2,550
Gravel, dry 13 to 50 mm 1/2" to 2"	1690	2,850
Gravel, pit run (graveled sand)	1930	3,250
Gravel, wet 13 to 50 mm 1/2" to 2"	2020	3,400
Gypsum, crushed	1600	2,700
Limestone, broken or crushed	1540	2,600
Magnetite, iron ore	2790	4,700
Phosphate rock	1280	2,160
Pyrite, iron ore	2580	4,350
Sand and gravel, dry	1720	2,900
Sand and gravel, wet	2020	3,400
Sand, dry	1420	2,400
Sand, wet	1840	3,100
Sandstone, broken	1510	2,550
Shale	1250	2,100
Slag, broken	1750	2,950
Stone, crushed	1600	2,700
Topsoil	950	1,600



- 3-spool valve for boom and bucket controls
- Air conditioner
- Alternator, 60 A
- Back-up alarm
- Back-up lamp
- Batteries, 110 Ah/2 x 12 V
- Boom kick-out
- Bucket positioner
- Counterweight, standard and additional (300 kg 661 lb)
- Deluxe air suspension seat
- Directional signal
- Engine, Komatsu SAA6D107E-1 diesel

- Floor mat
- Front fenders
- Fuel pre-filter with water separator
- Hydraulic-driven fan with auto-reverse rotation
- KOMTRAX™
- Lift cylinders and bucket cylinder
- Loader linkage with PZ lift arm
- Main monitor panel with Equipment Management Monitoring System (EMMS)
- Mono-lever loader control with transmission F/R switch + 1 lever
- Quick coupler

- Radiator mask, lattice type
- Rear defroster (electric)
- Rear view mirrors, inside (2), outside (3)
- Rear window washer and wiper
- Rims for 20.5-25 tires
- ROPS/FOPS Level 2 cab
- Seat belt, 76 mm 3" retractable
- Service brakes, wet disc type
- Starting motor, 4.5 kW/24 V
- Steering wheel, tiltable
- Sun visor
- Transmission speed ranges, 4 forward and 4 reverse



**Quick coupler** 



- AM/FM stereo radio cassette
- Electronically Controlled Suspension System (ECSS)
- Engine pre-cleaner with extension
- JRB bucket, general purpose, for use with coupler, with BOCE 1.9 m<sup>3</sup> 2.5 yd<sup>3</sup>
- JRB bucket, general purpose, for use with coupler, with BOCE 2.3 m<sup>3</sup> 3.0 yd<sup>3</sup>
- JRB construction forks for use with coupler, 1524 mm 60"
- JRB utility pallet forks for use with coupler, 1372 mm 54"
- JRB extendable boom, 3-section, for use with coupler
- Limited slip differential (F&R)
- Rear full fenders
- Rims for 17.5-25 tires
- Secondary steering (SAE)
- Wide core radiator

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