

## SPECIFICATION RT57-09-01-03

### EXTRA HEAVY CONSTRUCTION MOTOR GRADERS (1000Nm) 19,000kg

**COMPLY / NOT COMPLY**  
**(\*Delete/Cross-Out whichever is not applicable)**  
**Noted**

(Bidder to initial each noted item)

1. **NOTE. Equipment supplied against this specification must also comply with the General Specification for earth moving equipment**  
  
\*Comply / Not Comply
2. **OPERATING MASS**  
  
The operating mass of the complete machine, when fully equipped as specified shall not be less than 19 000 kg. A mass certificate shall be supplied with bidder's offer.  
  
\*Comply / Not Comply  
  
The mass on the front axle shall be not less than 5 600kg and on the rear axles not less than 13 600kg.  
  
\*Comply / Not Comply
3. **ENGINE**  
  
The net power output of the diesel engine shall not be less than 145 kW. This power rating must apply in all gears.  
  
\*Comply / Not Comply  
  
The net torque shall be not less than of 1000 Nm.  
  
\*Comply / Not Comply  
  
The engine shall be turbo charged.  
  
\*Comply / Not Comply  
  
The engine shall be fitted with an engine cut out to prevent excessive idling.  
  
\*Comply / Not Comply
4. **TRANSMISSION**  
  
A power shift transmission is required. An inching facility shall be incorporated.  
  
\*Comply / Not Comply  
  
The transmission shall incorporate not less than six forward and six reverse speeds.  
  
\*Comply / Not Comply  
  
Traction shall be by means of four rear wheels, tandem mounted and all driven. Final drives shall be of the planetary type.  
  
\*Comply / Not Comply  
  
The graders shall be capable of a forward road speed of not less than 40 km/h.  
  
\*Comply / Not Comply  
  
The transmission must have an electronically controlled over speed protection.  
  
\*Comply / Not Comply  
  
The differential must be fitted with a diff-lock or be of a no-spin type.  
  
\*Comply / Not Comply
5. **FRONT WHEELS and STEERING**  
  
Hydraulic powered frame articulation of up to 20° to each side shall be featured.  
  
\*Comply / Not Comply  
  
Articulation shall be behind the cab  
  
\*Comply / Not Comply  
  
Full leaning wheel capability with power steering is required.  
  
\*Comply / Not Comply

The total arc of wheel lean when travelling straight ahead must be a minimum of 15 degrees.

\*Comply / Not Comply

## 6. BRAKES

Foot controlled, power assisted disc brakes on the tandem wheels shall be provided.

\*Comply / Not Comply

Brakes shall be of the multiple disc oil immersed type.

\*Comply / Not Comply

A separately actuated, mechanical parking brake shall be fitted.

\*Comply / Not Comply

## 7. TYRES

17.5x25-12 ply G3 having a bi-directional tread pattern, fitted to 3 piece rims are required on all wheels.

\*Comply / Not Comply

## 8. CAB

The cab shall be fitted with a roll over protective structure (ROPS).

\*Comply / Not Comply

The differential lock switch is to illuminate when the diff lock is in the **on** position.

\*Comply / Not Comply

## 9. MOULDBOARD

The mouldboard length shall not be less than 4.27 m (14ft).

\*Comply / Not Comply

Replaceable cutting edges and overlay end pieces shall be fitted. Edges shall be of high carbon steel and heat treated.

\*Comply / Not Comply

The mouldboard, cutting edges and overlay end pieces must have hole spacing to the American Association of State Highway Officials standard and take M16 plough bolts.

\*Comply / Not Comply

The blade down force is not to be less than 8 600 kg.

\*Comply / Not Comply

Hydraulic control shall be provided for:

\*Comply / Not Comply

(a) mouldboard side shift

\*Comply / Not Comply

(b) circle side shift

\*Comply / Not Comply

(c) mouldboard lift and lower

\*Comply / Not Comply

(d) blade pitch adjustment

\*Comply / Not Comply

The circle shall be hydraulically operated through 360°.

\*Comply / Not Comply

The shoulder reach to the outside of the rear tyres with straight frame to the right must not be less than 1860 mm and to the left must not be less than 1750 mm.

Blade adjustment for bank sloping of 90° on both sides shall be provided.

\*Comply / Not Comply

Blade control shall incorporate a float facility.

\*Comply / Not Comply

Replaceable wear strips between frame and circle shall be fitted.

\*Comply / Not Comply

The motor grader is to be fitted with pressure relief valves on all hydraulic circuits of the blade assembly to prevent undue stress to the components of the blade assembly should they come into contact with an immovable object whilst in motion.

\*Comply / Not Comply

A slip clutch may be fitted to the circle motor in place of a pressure relief valve.

## **10. RIPPER/ SCARIFIER**

A heavy duty rear mounted ripper/ scarifier shall be fitted.

\*Comply / Not Comply

The ripping depth shall be not less than 400mm and a minimum of 3 shanks and 5 shank positions shall be fitted.

Comply / Not Comply

The scarifying depth shall not be less than 300 mm. A minimum of eight shanks shall be fitted.

\*Comply / Not Comply

Shanks shall be supplied complete with replaceable tips.

\*Comply / Not Comply

The ripper is to be fitted with a pressure relief valve on the hydraulic circuit to prevent undue stress to the components of the ripper/scarifier assembly should it come into contact with an immovable object while in motion.

\*Comply / Not Comply

At each end of the ripper/scarifier frame, a piece of 30 mm inside diameter pipe (or 30x30 square tube), 200 mm long and closed off at the lower end, is to be welded at an angle of approximately 75 degrees to the horizontal (to hold red warning flags).

\*Comply / Not Comply

The total mass of the assembly shall be not less than 1000kg

\*Comply / Not Comply

## **11. LIGHTING AND ELECTRICAL**

An orange rotating light shall be fitted on the roof of the cab in accordance with the OHS Act of 1993.

\*Comply / Not Comply

## **12. FRAME WARRANTY**

The grader frame must carry a minimum of a 10 year warranty

\*Comply / Not Comply

## **13. OPTIONAL EXTRAS**

The following optional extras are to be quoted for separately

### **13.1 CENTRALISED LUBRICATION SYSTEM**

The supply and installation of a single line centralised lubrication system (Vogel KFU 2-40/24V or equivalent) for the front suspension.

\*Comply / Not Comply

### **13.2 SPARE RIM AND TYRE**

Bidders are to quote separately for a spare rim and tyre of the same size as that fitted to the grader.

\*Comply / Not Comply

### **13.3 ENGINE MONITORING SYSTEM**

An engine monitoring system (Sentinel/ Lubrivent or equivalent) as specified in the General Conditions.

\*Comply / Not Comply

### **13.4 UDF FILTER**

The fitment of a UDF (Ultrafine Depth Filtration) diesel fuel filter as specified in the General Conditions.

\*Comply / Not Comply

### **13.5 OIL SAMPLING VALVES**

The fitment of oil sampling valves as specified in the General Conditions.

\*Comply / Not Comply

<b>13.6</b>	<b>SERVICE PLAN</b>	
	1000h, 2000h and 3000h full maintenance service plans as specified in the General Specifications	*Comply / Not Comply
<b>13.7</b>	<b>NUMBER PLATES</b>	
	Supply of 2 number plates as specified in the General Specifications.	*Comply / Not Comply
<b>13.8</b>	<b>LICENSING ON eNaTIS</b>	
	Licensing on eNaTIS as specified in the General Specifications.	*Comply / Not Comply
<b>13.9</b>	<b>WEST COAST PAINT SPECIFICATION</b>	
	Painting to the "West Coast" specification as specified in the General Specifications.	*Comply / Not Comply
<b>13.10</b>	<b>MANUALS</b>	
	Operators, workshop and spares manuals as specified in the General Specifications.	*Comply / Not Comply
<b>13.11</b>	<b>ORANGE LED LIGHT STRIPS</b>	
	The fitment of orange LED light strips to the cab as specified in the General Specifications.	*Comply / Not Comply
<b>13.12</b>	<b>TYRE PUMP</b>	
	A power driven tyre pump as specified in the General Specifications.	*Comply / Not Comply
<b>13.13</b>	<b>AIR CONDITIONING</b>	
	Air conditioning for the cab.	*Comply / Not Comply
<b>13.14</b>	<b>TRAINING</b>	
	Training of operators and mechanics in terms of the General Specifications.	*Comply / Not Comply

## TECHNICAL SCHEDULE

The Technical Schedule must be completed in full; failure to comply will invalidate your bid

Clearly delete/cross-out whichever is not applicable at YES/NO questions

### DETAILS OF OFFER

**1. MAKE AND MODEL**

Make	_____
Model	_____
Manufacturer	_____
Country of origin	_____
Year of manufacture	_____

**2. OPERATING MASS**

Complete machine	_____ kg
On front axle	_____ kg
On rear axles	_____ kg

**3. ENGINE**

(a) Make	_____
(b) Model	_____
(c) Net power output (as specified)	_____ kW
(d) Net torque output (as specified)	_____ Nm
At rpm	_____ rpm
(e) Maximum governed speed	_____ rpm
(f) Fuel consumption at full load.	_____

**4. TRANSMISSION**

(a) Make	_____
(b) Model	_____
(c) Powershift?	YES / NO
(d) Number of speeds:	
- Forward	_____
- Reverse	_____

-	Maximum forward speed:	1 <sup>st</sup>	_____ km/h
		2 <sup>nd</sup>	_____ km/h
		3 <sup>rd</sup>	_____ km/h
		4 <sup>th</sup>	_____ km/h
		5 <sup>th</sup>	_____ km/h
		6 <sup>th</sup>	_____ km/h

#### DETAILS OF OFFER

		7 <sup>th</sup>	_____ km/h
		8 <sup>th</sup>	_____ km/h
-	Reverse:	1 <sup>st</sup>	_____ km/h
		2 <sup>nd</sup>	_____ km/h
		3 <sup>rd</sup>	_____ km/h
		4 <sup>th</sup>	_____ km/h
		5 <sup>th</sup>	_____ km/h
		6 <sup>th</sup>	_____ km/h

#### 5. FRONT WHEELS AND STEERING

Frame articulation \_\_\_\_\_ °

Arc of wheel lean \_\_\_\_\_ °

#### 6. TYRES

Tyre size and ply \_\_\_\_\_

#### 7. AIR CLEANER

(a) Make and model \_\_\_\_\_

(b) Safety element make and model \_\_\_\_\_

#### 8. MOULDBOARD

(a) Length \_\_\_\_\_ mm

(b) Mouldboard side shift, left and right \_\_\_\_\_ mm \_\_\_\_\_ mm

(c) Blade down force \_\_\_\_\_ kg

(d) Maximum reach outside tyres, left and right \_\_\_\_\_ mm \_\_\_\_\_ mm

(e) Maximum lift above ground \_\_\_\_\_ mm

(f) Type of pressure relief fitted \_\_\_\_\_

**9. RIPPER/ SCARIFIER**

- (a) Ripping depth \_\_\_\_\_mm
- (b) Number of ripper shanks supplied \_\_\_\_\_
- (c) Number of shank positions \_\_\_\_\_
- (d) Are shanks supplied complete with replaceable tips? YES / NO
- (e) Scarifying depth \_\_\_\_\_mm
- (f) Number of scarifier shanks \_\_\_\_\_
- (g) Total mass of assembly \_\_\_\_\_kg

**10. GENERAL SPECIFICATIONS**

Does the bid comply with the conditions of the attached "General Specifications" YES / NO

**11. FRAME WARRANTY**

Frame warranty \_\_\_\_\_yrs

**12. OPTIONAL EXTRAS**

Have the optional extras been quoted for? YES / NO

**13. GENERAL**

- (a) Are all the required accessories fitted? YES / NO
- (b) Are all drawings, brochures, graphs and sheets submitted? YES / NO
- (c) Is the offer completely to specification? YES / NO
- (d) State all deviations from the specifications  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
- (e) Has the General Specification been completed? YES / NO

**Please not that failure to furnish all required technical specifications, brochures and information of products offered will invalidate the Bid.**