

TECHNICAL SECTION

1.0 GENERAL

The Karock Mobile Scaler Rockbreaker is powered by a DEUTZ F4L 912W air-cooled diesel engine complete with 12-Volt electric engine start and electrics. Engine protection by means of JETSTOP Mechanical drive, brake and engine monitoring instruments are fitted.

Drive is via a Vickers hydrostatic pump through two Brevini Series 3300 wheel motors. The wheel motors are not only the means of steering the scaler, but also give the vehicle the ultra maneuverability that makes it so suited to this application.

Braking is through the two front wheels using independently operated oil immersed multi discs with further dynamic braking through the hydrostatic drive.

To this basic undercarriage the heavy-duty boom is fitted.

2.0 ENGINE

- 2.1 Make / Model : Deutz F4L 912 W
- 2.2 Power Rating : 41 KW @ 2300 rpm
- 2.3 Torque Rating : 199 Nm @ 1550 rpm
- 2.4 Donaldson air cleaner fitted with an informer restriction. "T" bolt type
Clamps used on all air cleaner hoses.
- 2.5 The engine is fitted with a Bosch electric starter.
- 2.6 All oil and fuel filters are of screw – off cable fitted within easy reach of the operator.

3.0 DRIVE

- 3.1 Variable displacement hydraulic double pump driving two Brevini Wheel Motors allowing for independent rotation of each wheel.

Pumps: 2 x Vickers TA 1919
Twin variable displacement axial piston pump 41 cm³/rev.
Displacement.

Motors: Brevini

- 3.2 A hydraulic clutch lever disengages the hydro – static drive during engine Start – up and can also be used as a simple free – wheeling device should towing be required.

4.0 **BRAKES**

- 4.1 Hydraulic, fail – safe, spring applied, multiple wet discs built into wheelmotors, lifted hydraulically.
- 4.2 Brakes activated by a pushbutton valve from operator's normal driving position. A red warning light is placed on the dashboard to indicate that the brakes are applied.
- 4.3 Brakes are released for towing purposes either manually or with powered supply.
- 4.4 The brakes are capable of stopping the machine within a distance of 4m, while travelling down an 11° decline at a speed of 1,5m/s.
- 4.5 Machine to be fitted with two appropriate stop blocks which the operator can place under the wheels when parked.

5.0 **STEERING**

- 5.1 Steering is foot controlled, via pedals, incorporating speed control.

6.0 **HYDRAULICS**

- 6.1 All hoses and fittings have a safety factor of at least four.
- 6.2 All hydraulic fittings are JIC 37° flare and SAE 100/R2 Type A hydraulic hoses are used.
- 6.3 Hoses are route – protected where possible for minimum wear. Blue protection covers and side covers are used inside the machine.
- 6.4 Steel pipe manifolds are fitted where possible.
- 6.5 The cylinders have hard chromed EN19T and ground piston rods and are fitted with over center valves to protect against hose failure.
- 6.6 The cylinder sizes are as follows:

Boom lifting Cyl. x 2 Ø 100 x Ø 65 x 493 stroke (Spacer removed)

Hammer Tilt Cyl. x 1 Ø 100 x Ø 63 x 696 stroke

Cylinders designed for pressure of up to 250 bar.

- 6.7 A Bosch tandem pump of 16 – 11 cm³ displacement powers the cylinders.

7.0 **FILTRATION**

- 7.1 100 micron strainer in main tank.
- 7.2 10 micron fine filter in hydrostatic charge line.
- 7.3 10 micron fine filter in cylinder return line.
- 7.4 5 micron filters with block indication for cylinders pressure lines.

8.0 **RESERVOIRS**

- 8.1 Fuel : 230 liters
- 8.2 Hydraulic oil : 230 liters
- 8.3 Engine oil : 9,5 liters
- 8.4 Sight glasses are fitted to the hydraulic tank and fuel tank.

9.0 **ELECTRICAL SYSTEM**

- 9.1 All wiring is fully protected, either by armored cable, tubing or nylon spiral ducting.
- 9.2 All electrical systems are protected by separate thermal reset circuit breakers and are labeled individually.
- 9.3 Voltage = 12V
- 9.4 Battery – Code 682 Sabbat
- 9.5 Alternator – Bosch, 55 Ampere
- 9.6 A heavy-duty double pole battery isolator switch is placed within easy reach of the driver.
- 9.7 A hooter is fitted to the machine. A reverse hooter with manual select is fitted as well.
- 9.8 An amber rotating light, visible from both directions, is fitted.
- 9.9 Four lights with rubber enclosed halogen 55 Watt sealed beams or 135 mm are fitted, two facing the front and two the rear, with separate switch for each pair. Light 10 lux at 20 meters.

10.0 **CONTROL PANEL**

10.1 All control levers are positioned within easy reach and gives the operator an unobstructed view whilst driving.

10.2 All gauges and control levers for cylinders are labeled with engraved metal tags, in the case of cylinders symbolic.

10.3 In the case of all levers the result of moving the lever in either direction is indicated.

10.4 The following gauges / meters are provided:

Engine oil pressure gauge (mechanical)
Engine temperature gauge (mechanical)
Pressure gauge for brake lifting Voltmeter
Hour meter operated from engine oil pressure
Main hydraulic pressure gauge
Warning light for alternator charge
Warning light for brakes applied
Ignition fey
Starter button incorporating pre – heating
Hooter button

10.5 The pressure gauges are glycerine filled and colour coded to indicate safe operating ranges.

11.0 **ROCKBREAKER HAMMER**

11.1 TBA

12.0 **TYRES**

12.1 Pneumatic mining special tyres are used on the drive wheels (14 x 24, 16 Ply)

12.2 The jockey wheel is a 14,5L x 15 NHS tyre. (NB. General tyres is the only suppliers for this wheel)

13.0 **OPTIONAL FIRE PROTECTION SYSTEM**

Machine is fitted with a mantis fire protection system.

