



Government of Samoa



Samoa Water Authority

SWA DRILL RIG SPECIFICATIONS



Make: Ingersoll-Rand [Rotary Drill]
 Unit Serial Number: 2662
 Model: T3W / NTTA855 / 825HR2
 Customer: Scranton / Kestler Well Drilling
 Order Number: 631-30461
 Date: 30th January 1988

Truck Chassis

Make: International
 Model: F-1954 S-Series
 GVWR: 54000 lbs [24,493.99 kg]
 Wheel Base: 224 inches [5.689 6 meter]
 Front Axle Rating: 16,000 lbs [7,257.48 kg]
 Front Tyres: 15 x 22.5 (16 ply)
 Rear Axle Rating: 38,000 lbs [17,236.51 kg]
 Rear Tyres: 10 x 20 (12 ply)
 Rear Suspension: RT30 (38,000 lbs)
 Engine: DT466 (210 hp) [154.5 kw]
 Transmission: RT6613 (13 speed)
 Alternator: 80 amps
 Power Steering & Air Brakes (13 cfm [6.135 l/s] Compressor), Air Suspension driver seat

(Information inside truck cabin)

Navistar International Corporation

Model: F-1954 6X4
Date Manufactured: 03/11/87
VIN: 1HTLKTVR9HH500674

Power Pack Engine

Make / Model: Cummins / NTTA 855 (or NTA 855) C450
Rating: 450 hp [331 kw]
Air Cleaners: 2 stage, dry type
Exhaust: silenced for reduced noise levels

Plate taken off engine:

Engine Number: 11631484
Model: NTA-855-C450
Advertised HP: 450 at 2100rpm
Date of mfg.: 07-91

Compressor

Make: Ingersoll-Rand screw
Type: HR2 over / under
Volume: 825 cfm @ 350 psi [389.36 l/s @ 2,413.17 kPa]
Pressure Range: 120 – 350 psi [827.37 – 2,413.17 kPa]

Hydraulic System

Reservoir Capacity: 100 gallons [378.54 liters]
Filtration: Oil filtered through 10 micron elements

Pumps

3-Stage Gear Pump

Stage 1: 66 gpm [4.16 l/s]
Stage 2: 29 gpm [1.830 l/s]
Stage 3: 29 gpm [1.830 l/s]

Functions: levelling jacks, retractable table, derrick hoisting cylinders, water injection, carousel, breakout wrench, draw-works, and hydraulic cooling fan.

Axial Piston Pump

Capacity: 14.8 gpm [0.93 l/s]
Function: Pulldown / Pullback

Axial Piston Pump

Capacity: 63 gpm [3.97 l/s]
Function: Tophead Rotation

Cooling Package

Type: Triple cooling package (engine, compressor, hydraulics)
Fan Type: Hydraulic motor @ 17,000 rpm
Fan Type: Suction
Cooling Package: Rated at 120°F [49°C] ambient at amsl

Deck

Length: 20 ft. 7 in. [6.274 metres]
Width: 8 ft. [2.44 metres]

Levelling Jacks

Standard four (4) 5-3/4" bore x 36" stroke hydraulic cylinders with 14" diameter jack pads.

Drill Pipe Rack

Mounted on left side of deck. Storage rack holds ten (10) 4-1/2" drill pipes.

Drill Pipe Carousel

Located in the derrick in a fixed position and indexed by a hydraulic motor in both directions from the operator console.

Capacity: Seven (7) 4-1/2" x 20' drill pipes.

Derrick

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|----------------------|---|
| Construction: | Welded cold finished steel tubing |
| Rated Capacity: | 45,000 lbs [20,412 kg] |
| Length: | 33 ft. [10.06 metres] |
| Width: | 36 in. [0.84 metres] |
| Depth: | 28 in. [0.71 metres] |
| Rotary Head Retract: | Pneumatically controlled by foot pedal by operator. |
| Working Clearance: | 30 ft. 11-1/2 in [9.44 metres] |

Retract Table

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| Table is retracted by a 3-1/2" bore x 10" stroke hydraulic cylinder. | |
| Table Opening: | 10-3/4" diameter |
| Table Base: | Consists of two half plates. The rear plate retracts and the front half is hinged to swing out 160 degrees to enable handling of casing. |
| Bottom Holding Wrench: | An air operated wrench which fits the drill pipe flats. |

Breakout Wrench

A 3-1/2" bore x 10" stroke hydraulic cylinder operates an adjustable 60" steel pipe wrench which develops 19000 ft-lbs [25,761 N.m].

Rotary Head

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|------------------------|---|
| Power: | Four (4) 9.9 in ³ hydraulic drive motors |
| Rotation: | 0 – 115 rpm |
| Torque: | 60,000 in. lbs [6,779 N.m.] |
| Swivel / Piping: | 2 inch air and swivel piping |
| Swivel Loading Rating: | 27,000 lbs [12,247 kg] @ 100 rpm |

Pulldown

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| The T3W employs a single cylinder, cable feed system. | |
| Hydraulic Cylinder: | 6" bore x 156" stroke |
| Pulldown: | 24,000 lbs [10,886 kg] |
| Pullback: | 26,500 lbs [12,020 kg] |
| Drill Feed Rate: | 27 ft./min. [0.137 m/s] |
| Fast Feed Rate Down: | 79 ft./min. [0.401 m/s] |

Drawworks (Hydraulic)

| | |
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| Speed Up/Down: | 160 ft./min. [0.813 m/s] |
| Lifting Capacity: | 12,000 lbs [5,443 kg] single line, bare drum |

Water Injection

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|---|---------------------------|
| CAT Piston Pump | |
| Capacity: | 0 – 12 GPM [0 – 0.76 l/s] |
| Pressure: | 550 psi [3,792 kPa] max |
| Supplied with pulse pump for foam injection | |

Dimensions & Weight for Shipping

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|----------------------------|----------------------------|
| Width: | 8 ft. [2.44 m] |
| Length (Derrick Down): | 35 ft. [10.67 m] |
| Height (Derrick Down): | 12 ft. 6 inches [3.20 m] |
| Height (Derrick Up): | 39 ft. 10 inches [12.13] |
| Derrick: | 28 inch x 36 inch x 35 ft. |
| Gross Weight (less pipes): | 43800 lbs [19,867.35 kg] |

Drill Pipes

4.5 inch OD x 20 feet long, external flush, 2 7/8 inch API IF box up/pin down connections (standard).