

# SPECIFICATIONS

# HL970

| ENGINE            |   |
|-------------------|---|
| Maker / Model     | SCANIA / DC09 085A  |
| Type              | Watercooled, 4-cycle, turbocharged charge aircooled, direct injection, electronic controlled diesel engine. |
| Gross power       | 232 kW (311 HP) / 2,100 rpm   |
| Net power         | 230 kW (308 HP) / 2,100 rpm   |
| Maximum torque    | 174 kg.m (1259 lb.ft) / 1,200 rpm   |
| No. of cylinders  | 5   |
| Bore x Stroke     | 130 mm (5.12") x 140 mm (5.51")   |
| Displacement      | 9.3 l (568 cu in)   |
| Compression ratio | 17.0 : 1  |
| Air cleaner       | Dry, two stage dual elements  |
| Alternator        | 24 V, 100 A   |
| Battery           | 2 x 12 V, 900 CCA   |
| Starting motor    | 24 V, 6.0 kW  |

| TRANSMISSION          |                                       |
|-----------------------|---------------------------------------|
| Torque converter type | 3-elements, single-stage single-phase |
| Tire                  | 26.5 R25, L3                          |

\* Full automatic power shift, countershaft type with soft-shift in range and direction. Properly matched torque converter to engine and transmission for excellent working ability.

| Travel speed, km/h (mph) | 4 speed T/M |             | 5 speed T/M with lock up clutch |             |
|--------------------------|-------------|-------------|---------------------------------|-------------|
|                          | 1st         | 2nd         | 3rd                             | 4th         |
| Forward                  | 7.3 (4.5)   | 12.2 (7.6)  | 19.7 (12.2)                     | 28.1 (17.5) |
|                          | 12.2 (7.6)  | 17.0 (10.6) | 24.9 (15.5)                     | 34.4 (21.3) |
|                          | 17.0 (10.6) | 22.8 (14.2) | 30.3 (18.8)                     | 40.2 (25.0) |
|                          | 22.8 (14.2) | 28.6 (17.8) | 36.1 (22.4)                     | 46.0 (28.6) |
|                          | 28.6 (17.8) | 34.4 (21.3) | 40.2 (25.0)                     | 46.0 (28.6) |
| Reverse                  | 7.3 (4.5)   | 12.2 (7.6)  | 17.0 (10.6)                     | 22.8 (14.2) |
|                          | 12.2 (7.6)  | 17.0 (10.6) | 22.8 (14.2)                     | 28.6 (17.8) |
|                          | 17.0 (10.6) | 22.8 (14.2) | 28.6 (17.8)                     | 34.4 (21.3) |

| AXLES                 |   |
|-----------------------|---|
| Drive system          | Four-wheel drive system                         |
| Mount                 | Rigid front axle and oscillating rear axle      |
| Rear axle oscillation | Oscillation $\pm 11^\circ$ of center pin-loaded |
| Hub reduction         | Planetary reduction at wheel end                |
| Differential          | Conventional                                    |
| Reduction ratio       | 24.666  |

| OVERVIEW              |  |                 |                 |
|-----------------------|--|-----------------|-----------------|
| Description           | UNIT                                     | HL970           | HL970 XT        |
| Operating weight      | kg (lb)                                  | 23,500 (51,809) | 24,300 (53,572) |
| Bucket capacity       | Heaped m <sup>3</sup> (yd <sup>3</sup> ) | 4.2 (5.5)       | 4.2 (5.5)       |
|                       | Struck m <sup>3</sup> (yd <sup>3</sup> ) | 3.6 (4.7)       | 3.6 (4.7)       |
| Breakout force-bucket | kg (lb)                                  | 21,775 (48,006) | 21,715 (47,873) |
| Tipping load          | Straight kg (lb)                         | 18,000 (39,683) | 16,100 (35,494) |
|                       | Full turn kg (lb)                        | 15,580 (34,348) | 13,850 (30,534) |

| TIRES           |   |
|-----------------|---|
| Type            | Tubeless, loader design tires   |
| Standard        | 26.5 R25, ★, L3   |
| Options include | 26.5-25, 20PR, L3<br>26.5-25, 20PR, L5<br>26.5, R25 XHA2<br>23.5-25, 20PR, L3<br>26.5-25, 28PR, L3<br>26.5-25, 32PR, L3 |

| HYDRAULIC SYSTEM |  |
|------------------|--|
| Type             | Load sensing hydraulic system  |
| Pump             | Variable displacement piston pump, 323 lpm   |
| Control valve    | 2 Spool (Bucket, Boom)<br>3 Spool (Bucket, Boom, Aux)  |
| System pressure  | 280 kgf/cm <sup>2</sup>  |
| Lift Circuit     | The valve has four functions; Raise / Hold / Lower / Float<br>Can adjust automatic kickout from horizontal to full lift.   |
| Tilt Circuit     | The valve has three functions; Tilt back / Hold / Dump<br>Can adjust automatic bucket positioner to desired load angle.  |
| Cylinder         | Type : Double acting<br>No. of cylinders-bore x stroke;<br>Lift 2-160 mm (6.3") x 780 mm (30.7")<br>Tilt 1-180 mm (7.1") x 565 mm (22.2")<br>Tilt 1-180 mm (7.1") x 570 mm (22.4") |
| Cycle Time       | Raise: 5.7 sec<br>Dump: 1.4 sec<br>Lower: 3.1 sec<br>Total: 10.2 sec   |

| BRAKES          |  |
|-----------------|--|
| Service Brakes  | Hydraulically actuated, wet disc brakes actuate all 4 wheels independent axle-by-axle system.<br>Self adjusting & wheel speed brake. |
| Parking Brake   | Spring applied, hydraulic released brake   |
| Emergency Brake | When brake oil pressure drops, indicator light alerts operator and parking brake automatically applies.                              |

| STEERING SYSTEM      |  |
|----------------------|--|
| Type                 | Load sensing hydrostatic articulated steering    |
| Pump                 | Variable displacement pump, 208 lpm              |
| Relief Valve Setting | 210 kgf/cm <sup>2</sup>                          |
| Cylinder             | Double acting<br>2-95 mm (3.7") x 480 mm (18.9") |
| Steering Angle       | 40° to both right and left angle, respectively   |

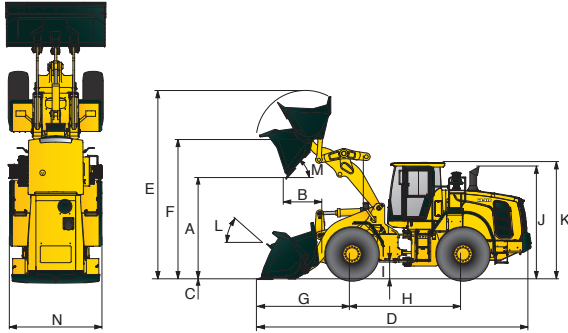
Features:  
Center-point frame articulation. Tilt and telescopic steering column.

| SERVICE REFILL CAPACITIES         |                     |
|-----------------------------------|---------------------|
| Fuel tank                         | 300 l (79.3 Us gal) |
| DEF tank                          | 60 l (15.9 Us gal)  |
| Cooling system                    | 42 l (11.1 Us gal)  |
| Crankcase                         | 36 l (9.5 Us gal)   |
| Transmission                      | 43 l (11.4 Us gal)  |
| Front axle                        | 51 l (13.5 Us gal)  |
| Rear axle                         | 40 l (10.6 Us gal)  |
| Hydraulic tank                    | 152 l (40.2 Us gal) |
| Hydraulic system (including tank) | 276 l (72.9 Us gal) |

# HL970

## DIMENSIONS

All dimensions are approximate.



| Description   | UNIT       | HL970                                | HL970 XT         |                  |
|---|------------|--------------------------------------|------------------|------------------|
| Bucket Type   |            | General purpose bolt-on cutting edge |                  |                  |
| A. Dumping clearance at max. height and 45° dump angle. | mm (ft-in) | 3,080 (10' 1.3")                     | 3,570 (11' 8.6") |                  |
| B. Reach  | Full lift  | mm (ft-in)                           | 1,270 (4' 2.0")  |                  |
|   | 7ft height | mm (ft-in)                           | 1,905 (6' 3.0")  |                  |
| C. Digging depth  | mm (in)    | 100 (3.9")                           | 115 (4.5")       |                  |
|   | on ground  | mm (ft-in)                           | 8,740 (28' 8.1") | 9,280 (30' 5.4") |
| D. Overall length                                       | at carry   | mm (ft-in)                           | 8,640 (28' 4.2") | 9,145 (30')      |

| Description                      | UNIT             | HL970             | HL970 XT          |
|----------------------------------|------------------|-------------------|-------------------|
| E. Overall height (fully raised) | mm (ft-in)       | 5,970 (19' 7.0")  | 6,460 (21' 2.3")  |
| F. Bucket pivot max. height      | mm (ft-in)       | 4,330 (14' 2.5")  | 4,815 (15' 9.6")  |
| G. Front overhang                | mm (ft-in)       | 3,025 (9' 11.1")  | 3,455 (11' 4.0")  |
| H. Wheelbase                     | mm (ft-in)       | 3,500 (11' 5.8")  | 3,500 (11' 5.8")  |
| I. Ground clearance              | mm (ft-in)       | 480 (1' 6.9")     | 480 (1' 6.9")     |
| J. Height over exhaust           | mm (ft-in)       | 3,515 (11' 6.4")  | 3,515 (11' 6.4")  |
| K. Height over cab               | mm (ft-in)       | 3,590 (11' 9.3")  | 3,590 (11' 9.3")  |
| L. Roll-back angle               | on ground        | deg               | 43                |
|                                  | at carry         | deg               | 47                |
| M. Dump angle                    | deg              | 50                | 50                |
| Clearance circle                 | mm (ft-in)       | 11,950 (39' 2.5") | 11,950 (39' 2.5") |
|                                  | N. Overall width | with bucket       | mm (ft-in)        |
|                                  | without bucket   | mm (ft-in)        | 2,975 (9' 9.1")   |

## HL970/ DENSITY OF OPERATING MATERIALS

| Loose Material  | Material Density           |
|-----------------|----------------------------|
| Earth/Clay      | 1.5 ~ 1.7                  |
| Sand and Gravel | 1.5 ~ 1.7                  |
| Aggregate       | 25 ~ 76 mm (1" to 3 in)    |
|                 | 19 mm (0.75 in) and larger |

## HL970/ DENSITY OF OPERATING MATERIALS

| Lift arm                       | Bucket          | Type                           | m³ (yd³)        | Material Density [t/m³]              |           |                                      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
|--------------------------------|-----------------|--------------------------------|-----------------|--------------------------------------|-----------|--------------------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
|                                |                 |                                |                 | 0.9                                  | 1.0       | 1.1                                  | 1.2 | 1.3 | 1.4 | 1.5 | 1.6 | 1.7 | 1.8 | 1.9 | 2.0 | 2.1 | 2.2 | 2.3 | 2.4 | 2.5 |  |  |
| Standard lift arm              | General Purpose | Cutting edge                   | 5.2 (6.8)       | 6.0 m³ (7.8 yd³) to 5.0 m³ (6.5 yd³) |           |                                      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
|                                |                 | 1-Bolt on tooth                | 5.0 (6.5)       | 5.8 m³ (7.6 yd³) to 4.7 m³ (6.1 yd³) |           |                                      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
|                                |                 | Cutting edge                   | 4.2 (5.5)       | 4.8 m³ (6.3 yd³) to 4.0 m³ (5.2 yd³) |           |                                      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
|                                |                 | 1-Bolt on tooth & segment edge | 4.2 (5.5)       | 4.8 m³ (6.3 yd³) to 4.0 m³ (5.2 yd³) |           |                                      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
|                                |                 | 2-Bolt on tooth & segment edge | 4.2 (5.5)       | 4.8 m³ (6.3 yd³) to 4.0 m³ (5.2 yd³) |           |                                      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
|                                |                 | 1-Bolt on tooth                | 4.0 (5.2)       | 4.6 m³ (6.0 yd³) to 3.8 m³ (5.0 yd³) |           |                                      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
|                                |                 | 2-Bolt on tooth                | 4.0 (5.2)       | 4.6 m³ (6.0 yd³) to 3.8 m³ (5.0 yd³) |           |                                      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
|                                |                 | Cutting edge                   | 3.5 (4.6)       | 4.0 m³ (5.2 yd³) to 3.3 m³ (4.3 yd³) |           |                                      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
|                                |                 | High lift arm (XTD)            | General Purpose | Cutting edge                         | 5.2 (6.8) | 6.0 m³ (7.8 yd³) to 5.0 m³ (6.5 yd³) |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
|                                |                 |                                |                 | 1-Bolt on tooth                      | 5.0 (6.5) | 5.8 m³ (7.6 yd³) to 4.7 m³ (6.1 yd³) |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
| Cutting edge                   | 4.2 (5.5)       |                                |                 | 4.8 m³ (6.3 yd³) to 4.0 m³ (5.2 yd³) |           |                                      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
| 1-Bolt on tooth & segment edge | 4.2 (5.5)       |                                |                 | 4.8 m³ (6.3 yd³) to 4.0 m³ (5.2 yd³) |           |                                      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
| 2-Bolt on tooth & segment edge | 4.2 (5.5)       |                                |                 | 4.8 m³ (6.3 yd³) to 4.0 m³ (5.2 yd³) |           |                                      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
| 1-Bolt on tooth                | 4.0 (5.2)       |                                |                 | 4.6 m³ (6.0 yd³) to 3.8 m³ (5.0 yd³) |           |                                      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
| 2-Bolt on tooth                | 4.0 (5.2)       |                                |                 | 4.6 m³ (6.0 yd³) to 3.8 m³ (5.0 yd³) |           |                                      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
| Cutting edge                   | 3.5 (4.6)       |                                |                 | 4.0 m³ (5.2 yd³) to 3.3 m³ (4.3 yd³) |           |                                      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |

115% 100% 95%

| CABIN & INTERIOR  | STD | OPT |
|---|-----|-----|
| <b>Alternator, 100 A</b>  | ●   |     |
| <b>Alarms, audible and visual</b>   |     |     |
| Air filter clogging   | ●   |     |
| Transmission error  | ●   |     |
| Battery voltage   | ●   |     |
| Brake oil pressure  | ●   |     |
| Engine oil pressure   | ●   |     |
| Parking brake   | ●   |     |
| Fuel level  | ●   |     |
| Hydraulic oil temperature   | ●   |     |
| Coolant temperature   | ●   |     |
| Transmission oil temperature  | ●   |     |
| Service brake oil pressure  | ●   |     |
| Coolant level   | ●   |     |
| Water in fuel   | ●   |     |
| <b>Alarm, back-up</b>   | ●   |     |
| <b>Batteries, PT</b>  |     |     |
| 925 CCA, 12 V, (2)  | ●   |     |
| <b>Gauges</b>   |     |     |
| Engine coolant temperature  | ●   |     |
| Fuel level  | ●   |     |
| Speedometer   | ●   |     |
| Transmission oil temperature  | ●   |     |
| <b>Horn, electric</b>   | ●   |     |
| <b>Indicator lights</b>   |     |     |
| T/C lock up   |     | ●   |
| High beam   | ●   |     |
| Turn signal   | ●   |     |
| FNR joystick steering   |     | ●   |
| Pilot cut off   | ●   |     |
| <b>LCD Display</b>  |     |     |
| Clock and fault code  | ●   |     |
| Operating hour counter  | ●   |     |
| Engine rpm  | ●   |     |
| Transmission gear range   | ●   |     |
| Indicator   | ●   |     |
| Job time and distance   | ●   |     |
| Temperature (coolant, hydraulic oil, t/m oil)                             | ●   |     |
| <b>Lighting system</b>  |     |     |
| LED dome light  | ●   |     |
| 2 stop and tail lights  | ●   |     |
| 4 turn signals  | ●   |     |
| Brake lights (counterweight)  | ●   |     |
| 2 head lights on front tower  | ●   |     |
| 2 working lights on front roof  | ●   |     |
| 4 working lights on front roof, 2 working lights on rear roof             |     | ●   |
| 4 working lights (2 xenon) on front roof, 2 working lights on rear roof   |     | ●   |
| 4 working lights (LED) on front roof, 2 working lights (LED) on rear roof |     | ●   |
| 2 working lights on grill   | ●   |     |
| <b>Switches</b>   |     |     |
| Hazard  | ●   |     |
| Ignition  | ●   |     |
| Parking   | ●   |     |
| Battery master switch   | ●   |     |
| FNR   |     | ●   |
| Diff, lock  |     | ●   |
| Secondary steering test   |     | ●   |
| Pilot cut off   | ●   |     |
| <b>Membrane Switches in monitor</b>                                       |     |     |
| Main light  | ●   |     |
| Work light  | ●   |     |
| Auto grease   |     | ●   |
| Quick coupler   |     | ●   |
| Ride control  |     | ●   |
| Work load   | ●   |     |
| Beacon lamp   |     | ●   |
| Rear wiper  | ●   |     |
| Mirror heat   |     | ●   |
| Auto position   | ●   |     |
| Fine modulation   |     | ●   |
| <b>Cab (sound suppressed and pressurized) with</b>                        |     |     |
| Cigar lighter & ashtray   | ●   |     |
| Coat hook   | ●   |     |

| CABIN & INTERIOR   | STD | OPT |
|--|-----|-----|
| <b>Automatic climate control</b>   |     |     |
| Air conditioner & heater   | ●   |     |
| Defroster  | ●   |     |
| Intermittent wiper and washer, front and rear  | ●   |     |
| <b>Seat</b>  |     |     |
| <b>2" retractable seat belt &amp; adjustable</b>   | ●   |     |
| 2" static seat belt & adjustable mechanical suspension (heated)  |     | ●   |
| 3" static seat belt & adjustable mechanical suspension   |     | ●   |
| 2" retractable seat belt & adjustable air suspension (heated)  |     | ●   |
| <b>Personal storage space</b>  |     |     |
| Console box  | ●   |     |
| Holder, can and cup  | ●   |     |
| Rear view mirrors (1 inside)   | ●   |     |
| Rear view mirrors (2 outside)  | ●   |     |
| Rear view mirrors (2 outside, Heated)  |     | ●   |
| Steering column, tilt and telescopic   | ●   |     |
| Steering wheel with knob   | ●   |     |
| Roller type sunshade (front window)  | ●   |     |
| Roller type sunshade (rear window)   |     | ●   |
| Tinted safety glass  | ●   |     |
| One door cab   | ●   |     |
| Magazine pocket  | ●   |     |
| <b>Pedals</b>  |     |     |
| One accelerator pedal  | ●   |     |
| One brake pedal  | ●   |     |
| Dual-Brake pedal   |     | ●   |
| Radio/USB player   | ●   |     |
| Rubber floor mat   | ●   |     |
| Wrist rest   | ●   |     |
| 24-volt to 12-volt DC converter (20A)  |     | ●   |
| <b>ENGINE</b>  |     |     |
| Antifreeze   | ●   |     |
| <b>Engine, SCANIA, DC09 085A</b>   |     |     |
| Tier 4 Final / Stage 4   | ●   |     |
| Engine enclosure, lockable   | ●   |     |
| Engine fuel priming pump   | ●   |     |
| Fan guard  | ●   |     |
| Fuel/water separator (return)  | ●   |     |
| <b>Clean emission module</b>   |     |     |
| DOC and SCR  | ●   |     |
| Rain cap, engine air intake  | ●   |     |
| Radiator   | ●   |     |
| Fuel heater  | ●   |     |
| Coolant level sight gauge  | ●   |     |
| Engine oil level dipstick gauge  | ●   |     |
| 3 Stage Air Precleaner   |     | ●   |
| Air cleaner with auto dust eject   | ●   |     |
| <b>POWER TRAIN</b>   |     |     |
| Brakes : Service, enclosed wet-disc  | ●   |     |
| Parking brake  | ●   |     |
| Torque converter   | ●   |     |
| Transmission F4 / R3, computer controlled, electronic soft shift, auto-shift and kick-down features included | ●   |     |
| Transmission F5 / R3 with lock-up clutch   |     | ●   |
| Transmission oil sight level   | ●   |     |
| Limited slip differential (front, rear)  |     | ●   |
| Transmission oil cooler  | ●   |     |
| Transmission oil cooler with thermostat  |     | ●   |
| Hydraulic lock differential (front)  |     | ●   |
| Axle cooling system  |     | ●   |
| <b>Tires</b>   |     |     |
| 26.5 R25, L3   | ●   |     |
| 26.5-25, 20PR, L3  |     | ●   |
| 26.5-25, 20PR, L5  |     | ●   |
| 26.5 R25, XHA2   |     | ●   |
| 23.5-25, 20PR, L3  |     | ●   |
| 26.5-25, 28PR, L3  |     | ●   |
| 26.5-25, 32PR, L3  |     | ●   |
| <b>Travel speed limiter (20-40 km/h)</b>   |     | ●   |

| HYDRAULIC SYSTEM                                       | STD | OPT |
|--|-----|-----|
| Boom kickout, automatic                                | ●   |     |
| Bucket positioner, automatic                           | ●   |     |
| Diagnostic pressure taps                               | ●   |     |
| Hydraulic oil cooler                                   | ●   |     |
| Hydraulic control, 2 spool                             | ●   |     |
| Hydraulic control, 3 spool                             | ●   |     |
| Joystick Control (EH control)                          | ●   |     |
| Lever control-single axle (EH control)                 |     | ●   |
| Joystick Steering                                      | ●   |     |
| Ride control system                                    | ●   |     |
| Secondary steering system                              | ●   |     |
| Extra piping-for auxiliary function                    |     | ●   |
| Quick coupler piping                                   |     | ●   |
| Auto grease system                                     |     | ●   |
| <b>OTHER</b>   |     |     |
| Articulation locking bar                               | ●   |     |
| Counterweight  | ●   |     |
| Optional counter weight                                |     | ●   |
| Door and cab locks, one key                            | ●   |     |
| Doors, service access (locking)                        | ●   |     |
| Drawbar with pin                                       | ●   |     |
| Ergonomically located and slip resistant, left & right | ●   |     |
| Handrails  | ●   |     |
| Ladders  | ●   |     |
| Platforms  | ●   |     |
| Steps  | ●   |     |
| Fenders (front / rear)                                 | ●   |     |
| Hydraulic oil level sight gauge                        | ●   |     |
| Lift and tie-down hooks                                | ●   |     |
| Loader linkage, sealed                                 | ●   |     |
| Z-bar design   | ●   |     |
| Vandalism protection caplocks                          | ●   |     |
| Tool kit   |     | ●   |
| Tooth, 1 piece, bolt-on type                           |     | ●   |
| Tooth, 2 pieces, bolt-on type                          |     | ●   |
| Cutting edge, bolt-on type                             |     | ●   |
| Pallet forks   |     | ●   |
| <b>Guards</b>  |     |     |
| Crankcase  | ●   |     |
| Transmission   | ●   |     |
| Mud guards   | ●   |     |
| Wheel chock  | ●   |     |
| License plate & lamp                                   |     | ●   |
| Hi MATE (Remote Management System)                     | ●   |     |
| Rearview camera  | ●   |     |
| <b>SAFETY</b>  |     |     |
| Beacon light, rotating                                 |     | ●   |
| Fire extinguisher                                      |     | ●   |
| Operator suit  |     | ●   |

STD = Standard  
OPT = Optional

- \* Standard and optional equipment may vary. Contact your Hyundai dealer for more information.
- \* The machine may vary according to International standards.
- \* The photos may include attachments and optional equipment that are not available in your area.
- \* Materials and specifications are subject to change without advance notice.
- \* All imperial measurements rounded off to the nearest pound or inch.
- \* The air conditioning system on this machine contains the fluorinated greenhouse gas refrigerant HFC-134a (Global Warming Potential = 1430). The system contains 0.75 kg of refrigerant which has a CO<sub>2</sub> equivalent of 1.0725 metric tonne.