

WATSON INCORPORATED

Model 3100TM/Model 3100CM Specifications

General Description:

The Model 3100 is a self-contained drill unit. Typical mountings include crane carrier 4-axle truck and hydraulically driven crawler undercarriage. Typical units include two-element kelly bar systems with drill depths to 80' and three-element kelly bar systems to 120'.

The following outlines standard unit specifications with 80' (nominal) drill depth:

POWER UNIT:	John Deere diesel, 200 hp
TRANSMISSION:	Torque converter driven powershift, Clark Model 32000
ROTARY:	Double reduction with spur gear primary and straight bevel ring gear and pinion final. Roller type kelly drive; output torque to 113,000 ft. lbs.
MAST:	Lattice type structure. Mast is elevated with two parallel hydraulic cylinders which allow positioning 10 degrees past vertical
KELLY:	Telescoping two-element, 8" outer/6" (5/8" wall) inner bar (kelly stub per customer's requirement)
Kelly operating Performance:	Outer element is controlled full length by a hydraulic cylinder. Crowd force to 50,000#
KELLY AND SERVICE HOISTS:	The inner kelly hoist and service hoists are controlled by air clutches mounted on a power shaft powered by a reversible hydraulic motor. With the air clutch disengaged, drum is controlled by a band brake actuated by a foot controlled air diaphragm
	Kelly hoist: Line pull – 25,000# Line speed – 200 ft./min. Cable size – 7/8" diameter
	Service hoist: Line pull – 16,000# Cable size – 5/8" diameter

ROTATING FRAME: Mounted to a slew ring bearing with gear teeth. Rotation is provided by two hydraulic motors and gear boxes with an integral braking system. Rotational swing 360 degrees

SLIDE FRAME: Incorporates engine, hoists, mast mount and operator's control position. Slide travel is 60". Extended drill radius is 156"

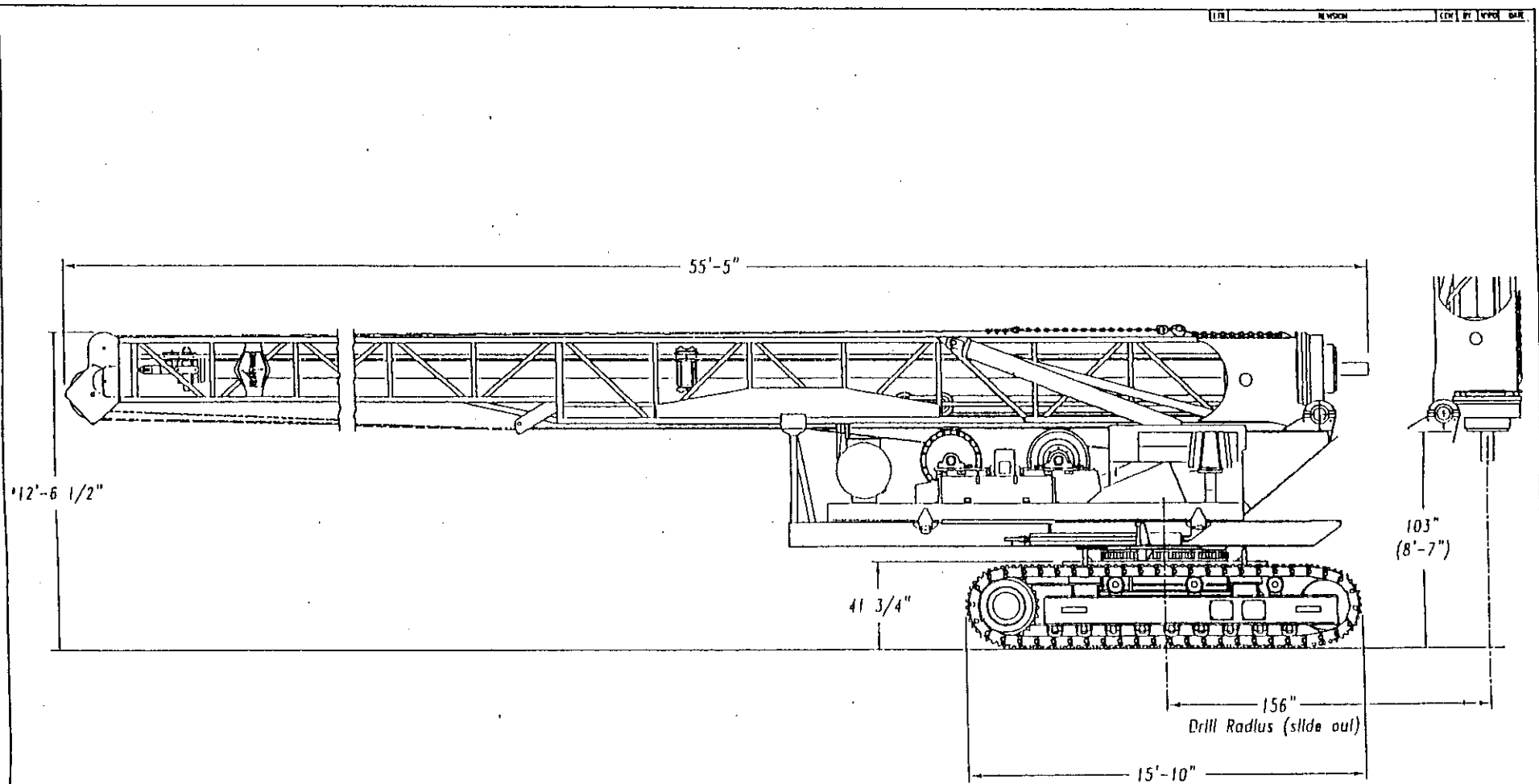
MOUNTING OPTIONS: Crane type carrier, 8x4, GVW rating 86,000#. Beam type out/down outriggers. Outriggers are operator controlled and powered by upper unit

OR Crawler type undercarriage, 11' 11" wide by 15' 9" long tracks, triple grousers. Carbody incorporates tilt system with 5 degree tilt adjustment. Crawlers are hydraulically driven with independently controlled tracks

DRILL UNIT OPTIONS: Open back mast for air circulation
Solid inner kelly bar
Kelly/mast configuration for alternate drill depths
Reaction jack installation for crawler unit
Separate man hoist
Quick disconnect mast installation
Operator controlled panel cover
Operator's cab with optional heater and air conditioning
Short mast assembly

TRUCK/CARRIER OPTIONS: Detachable rear scissor-type outriggers
52,000# tandem rear axle assembly with heavy duty suspension
Dash mounted air conditioning

Watson Model 3100 CM Standard 80' Drill Depth



- Typical crawler installation.
- Track toe to centerline of Kelly bar, slide out, is 61".
- Drill radius, slide out, 156".
- Slide is 60".

*Based on 4 1/4" bearing-to-ground height.
Approximate Weight is 87,000#

ITEM QTY	PART NUMBER	COMP. NO.	NAME	VENUE/STOCK SIZE	D/E
<p>NOTE: SEE DRAWING FOR DIMENSIONS 1. ALL DIMENSIONS ARE IN INCHES 2. DIMENSIONS ARE TO CENTER UNLESS OTHERWISE SPECIFIED 3. ALL DIMENSIONS ARE TO CENTER UNLESS OTHERWISE SPECIFIED 4. DIMENSIONS ARE TO CENTER UNLESS OTHERWISE SPECIFIED 5. DIMENSIONS ARE TO CENTER UNLESS OTHERWISE SPECIFIED 6. DIMENSIONS ARE TO CENTER UNLESS OTHERWISE SPECIFIED</p>					
			INCORPORATED <small>1000 WEST 10TH AVENUE, DENVER, COLORADO 80202</small>		
			CM STANDARD		
			3-7-87		
			3100		

CAD TRANSFER DATE: _____ TRANSFER BY: _____ ITEM QTY: _____ NAME ASSY: _____

3-7-02

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Model 3100 CM with 80' (nominal) Drill Depth

OVERALL UNIT LENGTH: 55'-5"

CARBODY WIDTH (FIXED): 143" (11'-11")

ROTARY CLEARANCE: 103" (8'-7")

OVERALL UNIT HEIGHT: 150 1/2" (12'-6 1/2")

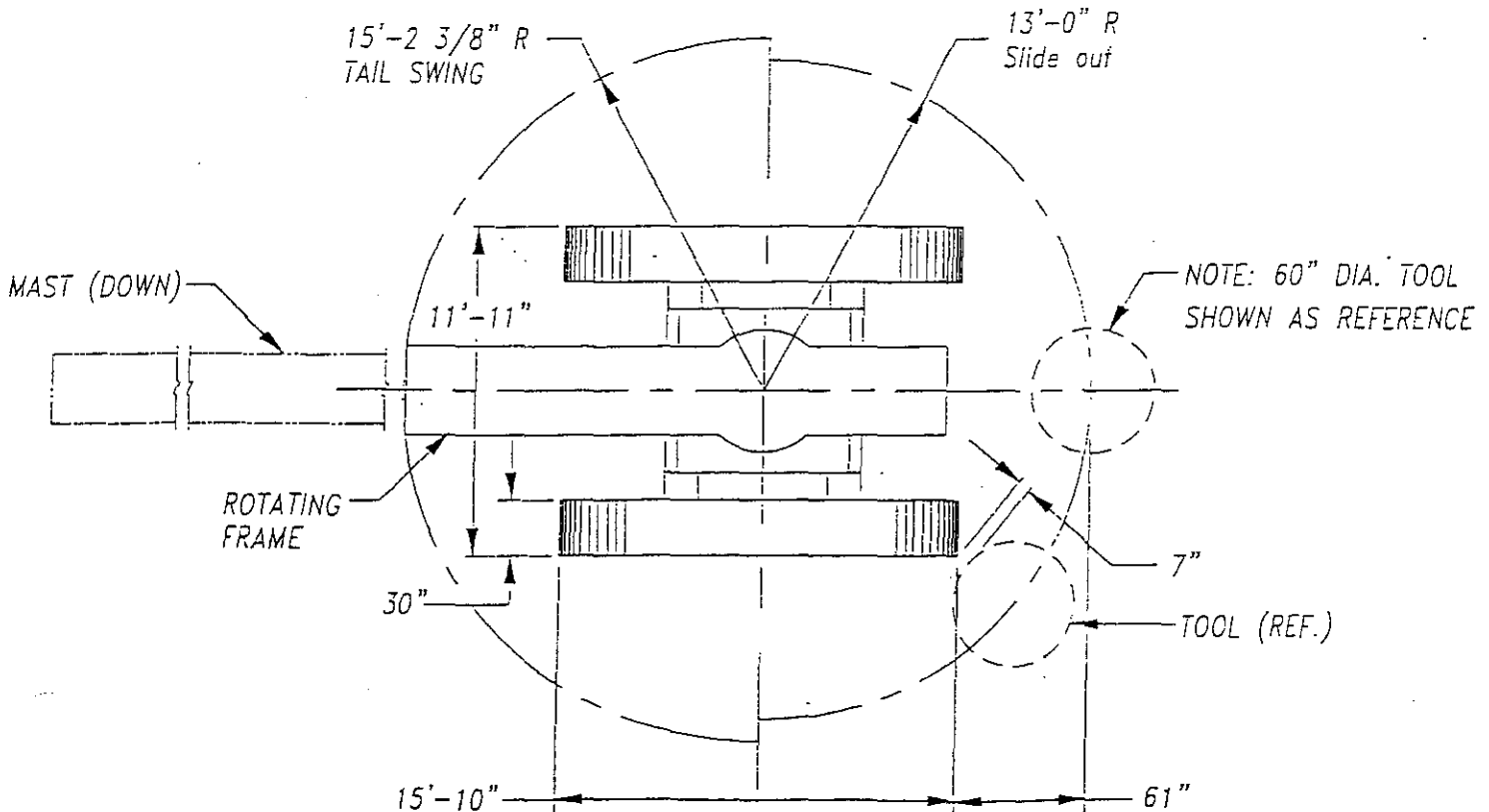
APPROX. WEIGHT UNIT: 87,000 LBS.
(hollow inner kelly)

DRILL RADIUS (slide out)
C/L rotation to C/L kelly: 156" (13'-0")

DISTANCE OFF TRACK TOE TO KELLY C/L:

Slide in: 1"
Slide out: 61"

SLIDE DISTANCE: 60"



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Model 3100TM

TYPICAL CARRIER

Specifications listed below apply to a typical 8x4 carrier recommended for use with the Model 3100TM drill unit. This type vehicle is generally available to complement quoted delivery on drill units.

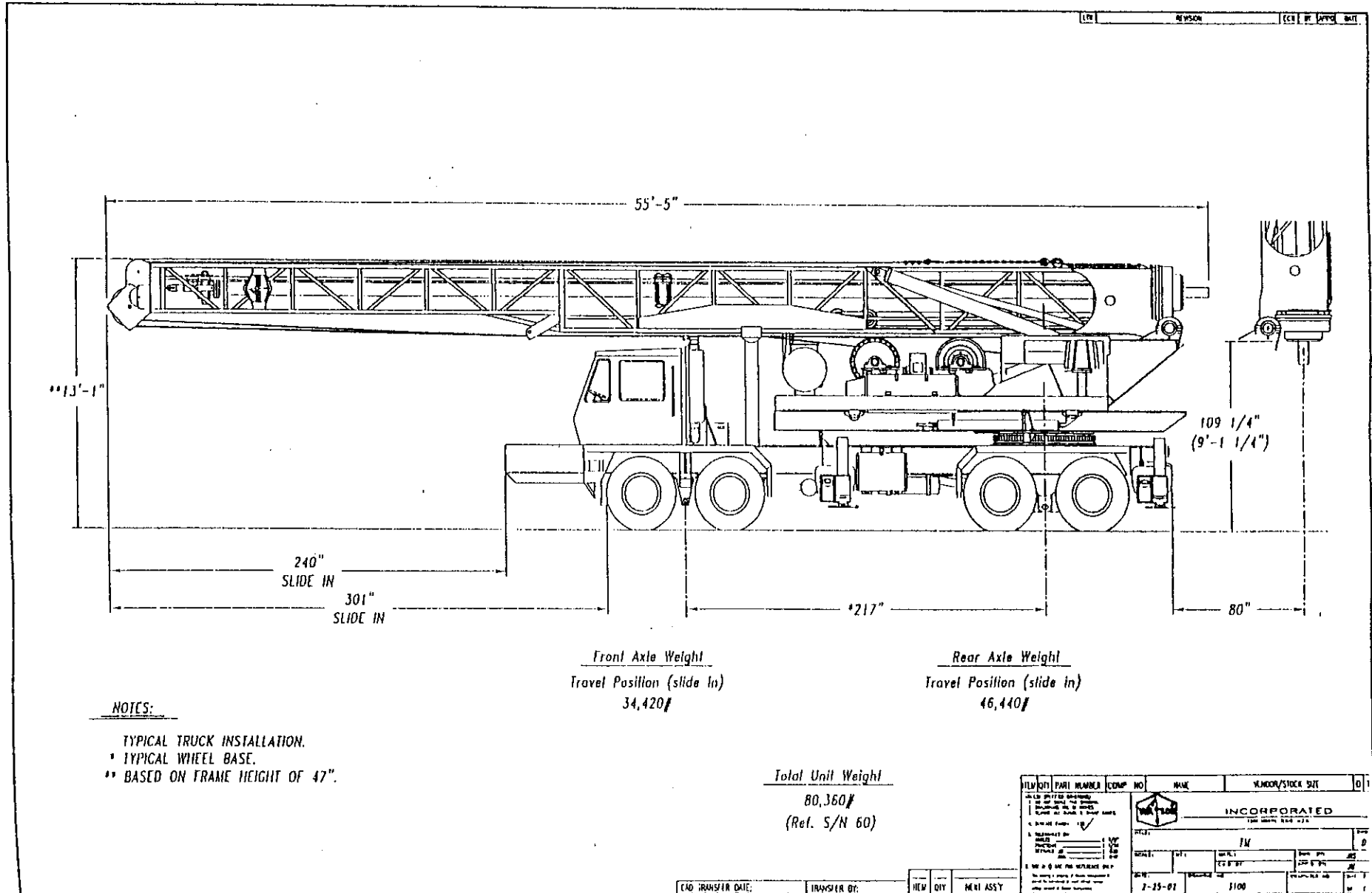
Carrier type/width:	8x4, 217" wheelbase, 8' 6" wide overall
Front axle:	40,000#
Rear axle:	46,000#
GVR rating:	86,000#
Engine:	Cummins ISM-450, 450 hp
Transmission:	Eaton Fuller RTLO-14913A
Tires:	Front: 385/65R 22.5-J Rear: 12.00R 22.5-H
Outriggers:	Sliding beam, out/down, powered by upper unit

Notes:

1. Pricing subject to confirmation at time of order
2. Minimum required clear, rear of cab to centerline of rear axle set, is 170"

Watson Model 3100 TM

Standard 80' Drill Depth



2-25-02

WATSON INCORPORATED

Model 3100 TM with 80' (nominal) Drill Depth

8 x 4 Carrier*

OVERALL UNIT LENGTH: 55'-5"

UNIT WIDTH: 102" (8'-6")

FRONT OVERHANG: (min. bumper extension)

Slide in: 240" (20'-0")

Slide out: 180" (15'-0")

ROTARY CLEARANCE: 109 1/4" (9'-1 1/4")

UNIT HEIGHT IN TRAVEL POSITION: 157" (13'-1")
depending on carrier height

APPROX. ASSEMBLED WEIGHT WITH TRUCK:
80,360 LBS.

DRILL RADIUS (slide out)
C/L rotation to C/L kelly: 156" (13'-0")

DISTANCE OFF REAR TO KELLY C/L:

Slide in: 20" (1'-8")

Slide out: 80" (6'-8")

Slide distance: 60"

*Minimum required clear, rear of cab to centerline of rear axle set is 170"

