RENTAL RATE BLUE BOOK

FOR

CONSTRUCTION EQUIPMENT

VOLUME 1

The Standard Reference
for
Rental Rates on All Classes
of Construction Equipment

Researched and Published to
meet the needs of the
construction industry in
RENTAL AGREEMENTS - CONSTRUCTION CONTRACTS
FORCE ACCOUNTS - CLAIM WORK - LITIGATION
COST ACCOUNTING

Published
by
EquipmentWatch, A PRIMEDIA Business Directories & Book Group
1735 Technology Drive, Suite 410
San Jose, CA 95110
Phone: (800) 669-3282

The Rental Rate Blue Book, Volume 1 is a continuous service of EquipmentWatch. Subscribers are mailed current revisions of each handbook section on a regular basis throughout the term of their subscription and are entitled to explanations and quick reference data by the staff of EquipmentWatch.

Extraordinary research of rental rate guidelines from telephone, written, or other requests must be charged on a time and expense basis. The use of EquipmentWatch data or information, whether from this publication or from any other material supplied by EquipmentWatch or from other parties, may not be used in any type of legal or administrative proceedings without the express authorization of an officer of EquipmentWatch in advance and in writing. Similarly, no EquipmentWatch employee may be asked to testify in any such legal or administrative proceeding in connection with, or as a result of, the disclosure of EquipmentWatch data.

This publication is designed to provide accurate and authoritative information in regard to the subject matter covered. For this material to be useful to current subscribers, EquipmentWatch will grant a limited permission to copy small portions of the publications, for specific individual use, which would not reduce EquipmentWatch's ability to sell this product. For example, a photocopy of a page for the purpose of supporting bids of other documents would be allowed. However, this permission is granted only to current paid subscribers for their individual use. Providing copies to other parties is strictly prohibited.

On a case-by-case basis, EquipmentWatch will grant limited permission to put data on a spreadsheet or for other electronic applications. This use is also restricted to individual use and requires specific permission from EquipmentWatch. Please call our toll free number for details. Call (800)669-3282.

OTHER CONSTRUCTION EQUIPMENT PUBLICATIONS AVAILABLE FROM EQUIPMENTWATCH

COST GUIDES
Rental Rate Blue Book, Volume 2
Rental Rate Blue Book, Volume 3
Blue Book for Railroad Equipment
Contractors' Equipment Cost Guide
Cost Reference Guide

VALUE GUIDES
Green Guide, Volume 1
Green Guide, Volume 2
Green Guide for Older Equipment
Green Guide for Off-Highway Trucks & Trailers
Green Guide for Lift Trucks (Gas & Diesel)
Green Guide for Electric Lift Trucks

AUCTION GUIDES
The Last Bid - Construction Equipment
The Last Bid - Truck & Trailer Monthly

SERIAL NUMBER GUIDES
Serial Number Guide for Used Construction Equipment
Lift Truck Serial Number Guide

SPECIFICATION BOOKS
Wheel & Crawler Tractors
Wheel & Crawler Loaders
Motor Graders
Motor Scrapers
Hydraulic Excavators
Hydraulic Cranes
Truck Cranes (Mechanical)
Crawler Cranes, Volumes 1 & 2 (thru 90 Tons)
Crawler Cranes, Volume 3 (over 90 Tons)
Off-Highway Haul Units
Compaction Equipment
Paving Equipment
Trenching Equipment
Forestry Equipment
Lift Trucks, Volume 1 (Gas & Diesel, under 10,000 lbs.)
Lift Trucks, Volume 2 (Gas & Diesel, over 10,000 lbs.)
Electric Lift Trucks
Personnel & Maintenance Elevating Lifts
Specification Reference Book
Pocket Specs for Lift Trucks, Volume 1 (IC-Cushion Tire)
Pocket Specs for Lift Trucks, Volume 2 (IC-Pneumatic Tire)
Pocket Specs for Lift Trucks, Volume 3 (Electric-Counterbalanced)
Pocket Specs for Lift Trucks, Volume 4 (Narrow Aisle)

RENTAL RATE BLUE BOOK

FOR

CONSTRUCTION EQUIPMENT

VOLUME 1

§1 INTRODUCTION

2004

INTRODUCTION

The Rental Rate Blue Book Volume 1 is a comprehensive, current guide to cost recovery for equipment currently manufactured or discontinued from manufacture within the past five years. The rates in this manual are intended as guidelines paralleling amounts an equipment owner should charge during rental or contractual periods to recover equipment-related costs on a single shift (8-hour) basis.

These rates are derived from cost formulas and factors developed from our own research and from analytic methods used in the construction industry. Generally, these methods consider purchase price, depreciation, maintenance and overhaul costs, indirect equipment costs, and average annual use hours. Specific market conditions, such as local supply and demand, are not considered in these calculations. **These rates are not a tabulation of rates being charged nationally.** They do not reflect rates charged by rental companies, except by coincidence.

The publication of these rates is not intended to influence the construction equipment rental market as a whole. To enter into agreement, combination, understanding, or action with any person or party with intent to establish rental rates at specific levels in this or any other publication may constitute a violation of Fair Trade Practices and be subject to prosecution.

This publication is designed to provide accurate and authoritative information in regard to the subject matter covered. It is sold with the understanding that the publisher is not engaged in rendering legal or accounting services. While all efforts have been made to assure total accuracy, the variable nature of the information and informational sources precludes any warranties of specific accuracy in any specific instance.

RENTAL RATE STRUCTURE: Definitions and Methodology

Rental rates in this guide are based on ownership and operating costs for contractor-owned equipment. The term "rental" does not refer to third-party contracts for the use of equipment. Profit, project overhead, and general company overhead costs such as office facilities and supplies are **not** included in the rates shown is this guide.

OWNERSHIP COSTS

a. *Depreciation Costs.* Depreciation in this guide is a straight line, even accrual of funds over an established economic life to offset the original purchase price of a machine. As applied in this context, it is not to be confused with other methods of determining depreciation for taxation or other accounting purposes.

   Depreciation costs are based on the purchased price plus sales tax and original freight costs, minus the cost of a set of new tires if tire mounted, and minus an allowance for salvage value at the end of a machine's economic life. The purchase price used in this guide is the last or most recent manufacturer's suggested list price available to EquipmentWatch analysts at the time of research and publication of the data being revised. These prices have been reduced to allow for an average discount off list price as determined by EquipmentWatch analysts.

   Under certain circumstances, for example in projects governed by federal cost principles, the depreciation portion of the rates in this guide may need to be adjusted to reflect the original purchase price of a machine rather than the last list price. See the explanation of the "Rate Adjustment Tables" on page 1-4 of this introduction, for instructions on this procedure.

b. *Indirect Equipment Costs.* Allowances are made for indirect costs that result directly from equipment ownership. These costs include normal risk insurance, property taxes, mechanics' supervision, storage, licenses, and record keeping costs.

These indirect costs are sometimes recovered in project or general company overhead. If any of these costs need to be eliminated from the basic rates in this volume of Blue Book, refer to the Rate Element Tables at the front of each section. See the explanation of the "Rate Element Tables" on page 1-6 of this Introduction for instructions on this procedure.

c. *Cost of Facilities Capital.* Cost of facilities capital (CFC), which is not the same as interest charges, is an allowance for the cost of money invested in machinery, whether the machinery is purchased in cash or financed over time. CFC is calculated by the following formula:

$$\frac{[(N-1) \times (1+S) + 2] \times CMR \times P}{2 \times N} = CFC$$

Where:
- N = Economic life of machine in years
- S = Salvage value percentage
- CMR = Cost of money rate (as set by the Treasury Department each January 1 and July 1)
- P = Purchase price of the machine
- CFC = Annual cost of facilities capital

d. *Major Overhaul.* The ownership rates in this guide include an allowance for major overhaul costs necessary to keep a machine functional throughout its economic life. This allowance covers the periodic rebuilding of engines, transmissions, undercarriages, and other major equipment components. Equipment that is operated in normal job applications well beyond normal economic life cycles, may require complete overhauls, or remanufacturing to keep the equipment productive. In such cases, overhaul or remanufacturing costs commonly average between 60% and 70% of a new replacement machine. These costs are typically considered capital expenditures, and such costs are then depreciated over a newly established economic life. Remanufactured equipment is usually given a new serial number identification, and is considered "good-as-new." In some instances, the year of manufacture is changed. The rates in this guide do not include allowances for overhaul or remanufacturing beyond average economic life cycles. Special economic considerations should be given to such cases.

The life-cycle ownership costs–depreciation, indirect costs, cost of facilities capital, and major overhaul–are annualized and then adjusted to reflect the average annual working season to obtain a monthly rental rate. Weekly, daily and hourly rates are then derived from the monthly rate. Rates for shorter use periods are increased to account for lost availability and productivity during shorter use periods.

The weekly Blue Book rate is approximately 28% of the monthly rate. This percentage presumes the loss of roughly 32 hours during a month when machinery usage is on a weekly basis.

The daily Blue Book rate is approximately 25% of the weekly rate, based on the loss of roughly 60 hours during a month when machinery is used on a day to day basis.

The hourly Blue Book rate is approximately 15% of the daily rate, based on the loss of roughly 80 hours during a month when machinery is used on an hourly basis.

OPERATING COSTS

The Estimated Operating Cost Per Hour presented in this manual assumes that the equipment is in good operating condition. No allowances are made for equipment operating in severe conditions or beyond periodic maintenance services.

The Estimated Operating Cost Per Hour includes the following expenses:

a. The cost of labor and parts needed for routine, daily servicing of the equipment. This includes repairing and/or replacing small components such as pumps, carburetors, injectors, filters, belts, gaskets, and worn lines.

b. The cost of operating expendables. These include fuel, computed in accordance with horsepower, average load factors, and the price of fuel; lubrications, including filters, oil, and grease, as well as the labor and the lube truck involved in lubrication; tires; and ground engaging components, including pads, blades, bucket teeth, etc. Tire costs are calculated by average tire life factors and take into consideration typical discounts from list prices. Electricity costs (where applicable) are calculated according to generally accepted duty cycles for the total motor load.

c. The cost of extraordinary operating expendables. The "Estimated Operating Cost/Hr." in Blue Book may not include all operating expenses. Certain ground engaging components, such as hammer and drill bits, drill steel, augers, saw blades, and tooth-bits, are normally excluded from the "Estimated Operating Cost/Hr." because of their highly variable wear patterns. It is recommended that these costs be recovered separately.

Operator's wages are not included in the Estimated Operating Cost/Hour. Whenever operating costs are shown as "N/A," not enough information has been received to justify an estimate.

HOW TO USE YOUR RENTAL RATE BLUE BOOK

1. *Read the entire Introduction.* It contains information you need to use this book effectively.

2. Turn to the *Index* to find the section which has the type of equipment in which you are interested.

3. Use the *Table of Contents* at the beginning of each section to locate the pages which cover the specific kind of equipment for which you are looking.

4. Within a section, equipment is identified in one of two ways.

   a. By manufacturer (in alphabetical order) and model number:

SKID-STEER LOADERS

Model (Yr. Disc)	*Operating Capacity*	*HP*
Diesel Powered		
BOBCAT		
453 (2001)	700 lbs.	15.70
553	950 lbs.	22.50
751 (2000)	1,250 lbs.	38.00
CASE		
75XT	2,200 lbs.	69.00
85XT	2,400 lbs.	69.00
90XT	2,450 lbs.	74.00

   b. By size and type of equipment:

MULTI-SHANK RIPPERS

Eng HP	*No. Shanks*	*Ripper Type*
Hydraulic Powered		
To 84	3	Radial
85-129	3	Parallelogram
85-129	3	Radial
130-189	3	Parallelogram

There are separate listings for gasoline, diesel, electric, hydraulic, and/or PTO powered units for some equipment. Other specifications, such as transmission or bucket size, are given in order to facilitate equipment identification."ROPS = "Roll over protection system." "EROPS" = "Enclosed roll over protection system."

5. When horsepower is shown, it is the horsepower used for calculation of estimated operating costs per hour, or for identification of variations in like models of the same manufacturer. Whenever possible, flywheel horsepower is used based upon manufacturer ratings. For motors, it is 1.341 times the kilowatt rating or as listed by the manufacturer for a given RPM.

6. As cubic yard capacities of equipment vary with material and swell factors, comparisons will be kept consistent by using struck capacity at an average weight of 2,400 pounds per cubic yard.

7. Rental rates are given by the month, week, day, and hour for each piece of equipment. Hourly operating costs are listed separately.

Monthly	*Weekly*	*Daily*	*Hourly*	*Estimated Operating Cost/Hr.*
$2,870.00	$805.00	$200.00	$30.00	$6.70
10,645.00	2,980.00	745.00	110.00	25.75
5,480.00	1,535.00	385.00	58.00	12.40

8. When applicable, the rental rates should be modified by the Rate Adjustment Table Factors to reflect a depreciation allowance indexed to the year a machine was originally manufactured and sold.

9. Rental rates should be increased or decreased to account for regional differences in annual use hours, cost of labor, freight, taxes, etc. The amount by which basic rates should be increased or decreased is shown on the adjustment maps at the beginning of each section.

10. To figure the *total cost* for owning and operating a piece of equipment, add the following items:
    - Hourly Rental Rate for Equipment (modified by Regional Adjustment Maps and Rate Adjustment Tables when applicable)
    - Rate for attachments (where applicable)
    - Estimated Operating Cost
    - Operator's Wage (including fringe benefits)
    - Additional costs for operating or maintenance personnel required

The total cost suggested here is a guideline. It is not meant to define the actual rate a lessor may charge. The actual rate may be increased or decreased by factors not taken into account in this book, such as severe job conditions, etc.

ADJUSTING RATES IN RENTAL RATE BLUE BOOK

1. Rate Adjustment Tables. Adjusting for machine age differences.

Blue Book allowances for depreciation costs are based on current or latest price levels for the machinery. To compensate for different purchase price levels for older machines, the Rate Adjustment Tables in this guide are designed to index depreciation costs to the year a machine was originally manufactured. These adjustments are necessary for the rates in this guide to comply with federal cost principles concerning depreciation cost allowances.

Depreciation allowances, being one of four ownership costs in these rates, represent a percentage of the total Blue Book rate. This percentage is adjusted to reflect the differences between current price levels and historical price levels for specific equipment types. EquipmentWatch analysts have used the Producer Price Index, published by the U.S. Department of Labor, Bureau of Labor Statistics, and manufacturer's price literature to determine historical and current price levels.

INTRODUCTION

The Rate Adjustment Table factors, which are listed by equipment type in the front of each section, apply only to the basic ownership rates; they do not apply to the "Estimated Operating Cost per Hour." Rate Adjustment Tables copyrighted 1999 can only be applied to rates copyright in 1999. Likewise, Rate Adjustment Tables copyrighted in 1996 can only be used with rates copyrighted 1996.

INSTRUCTIONS FOR USING RATE ADJUSTMENT TABLES

a. Adjustments to current models:

i. Determine the year your machine was manufactured. (You may need to refer to an equipment serial number guide.)

Example: AMERICAN HC80 Crawler Mounted Lattice Boom Crane manufactured in 1994.

ii. Find the rate adjustment factor for the type of machine you have and the year it was manufactured.

There are two tables: Table 1 is for years 2003-1994 and Table 2 is for years 1993-1984.

Example: Lattice Boom Cranes; Table 1 = .942 (Factor for 1994)

iii. Multiply the rate found in Blue Book by the adjustment factor for the year your machine was built.

Example:	$12,015	=	Monthly Published rate for AMERICAN HC80
	X .942	=	Adjustment factor for 1994
	$11,318	=	Adjusted monthly rate for 1994 AMERICAN HC80

b. Adjustment to discontinued models:

i. Determine the year your machine was manufactured, (you may need to refer to an equipment serial number guide).

Example: Case 9050B Crawler Mounted Hydraulic Excavator manufactured in 1997

ii. Determine the year in which this model was discontinued, (the year of discontinuation appears in parenthesis next to the model number).

Example: Case 9050B was discontinued in 2001

Note: If the year of your machine is identical to the year discontinued, then no adjustment to the published rate is necessary. Adjustment Factor = 1.

iii. If the year your machine was manufactured is different from the year that model was discontinued, perform the following calculation using the Rate Adjustment Tables listed in the beginning of each section (There are two tables: Table 1 is for years 2003-1994 and Table 2 is for years 1993-1984:

A/B = Rate adjustment factor for discontinued model

Where:

A = Adjustment factor for the year of your machine
B = Adjustment factor for year that model was discontinued

Example: Case 9050B Crawler Mounted Hydraulic Excavator manufactured in 1997

A = .967 (1997 Adjustment factor for Hydraulic Excavators)
B = .993 (2001 Adjustment factor for Hydraulic Excavators)

.967/.993 = .974

.974 = Rate adjustment factor for 1997 Case 9050B Crawler Mounted Hydraulic Excavator

iv. Note that the calculated adjustment factor for a discontinued model is a higher number than the one shown in the Rate Adjustment Table for a machine of the same age. For example, the factor for a 1997 Excavator from Table 1 is .967, whereas the factor for a 1997 model discontinued in 2001 would be .974. This is because the rate adjustment factors are all indexed to the current year and discontinued models must be indexed to the year discontinued.

v. Multiply the rate found in Blue Book by the adjustment factor derived from the above formula.

Example:
$9,015 = Monthly Published rate for Case 9050B (2001)
X .974 = Adjustment Factor for 1997
$8,780 = Adjusted monthly rate for 1997 Case 9050B

2. *Rate Element Tables: Adjusting for standby, job severity, and duplication of costs.*

The Rate Element Tables in this guide are designed to allow for greater accuracy when adjusting Blue Book rates for standby, job severity, and duplication of costs. As defined earlier in this introduction, the basic Blue Book rate contains allowances for depreciation, major overhaul repairs, cost of facilities capital (CFC), and indirect equipment costs. These tables show the percentage of the total Blue Book rate that each cost allowance comprises. For example, with Skid Steer Loaders, the tables list these data:

Equipment Type:	*Depr.*	*Major Overhaul*	*CFC*	*Indirect Costs*
Skid Steer Loaders	.26	.60	.08	.06

For current models, the data in the Rate Element Tables are within +/- 3%; for the discontinued models the accuracy is between +/- 5% and +/- 10%. This diminished accuracy for discontinued models is due to the high variations in resale values for older machines. A basic rule of thumb is that the overhaul portion of the rates for older machines increases with age.

The data in these tables do not apply to the Estimated Operating Cost per Hour. The application of the data in these tables need not be limited to the situations described below.

a. *Standby Rates.* Standby refers to the situation where equipment is on the job and available for work, but is not put into operation until needed. Under certain circumstances, for example during forced or legal standby, contractors may be entitled to payments for their equipment on standby. These payments are meant to reimburse the contractor for fixed costs such as depreciation, cost of facilities capital, and indirect equipment costs.

No industry standard exists regarding the computation of standby rates. However, data in the Rate Element Tables can help users identify an appropriate standby rate. For example, using the tables for Skid Steer Loaders, standby may be calculated by adding the factors for depreciation, cost of facilities capital, and indirect costs to obtain a total percentage of the Blue Book rate applicable for a standby allowance.

.26 (for depreciation)
.08 (for CFC)
+ .06 (for indirect costs)
.40 (or 40% of Blue Book rate = Standby rate)

The above example is not meant to establish a correct way of determining standby rates. Determining the specific amounts and cost allowances used in the calculation of standby rates is the responsibility of the contracting parties.

b. *Job Severity.* Blue Book rates are based on the assumption that machines are working mostly under normal job conditions, with occasional light and severe applications. In some cases, machinery may work consistently in severe conditions, and these conditions may increase actual repair costs. The Rate Element Tables may be used to isolate the Blue Book allowance for major overhaul and adjust it for severity. For example, if severe job conditions are expected to increase major overhaul by 10%, then the Blue Book rate can be increased by adding 10% to the overhaul portion of the Blue Book rate. In the Skid Steer Loaders table, overhaul is .60, or 60%, of the Blue Book rate. Multiplying this by 10% gives you 6.0%, which is the amount to increase the **total** Blue Book rate to allow for the adjustment necessitated by the above example.

   The above example does not constitute the only procedure for adjusting Blue Book rates to account for severity. For example, prolonged applications in severe job conditions may affect other cost allowances by decreasing a machine's economic life.

c. *Duplication of Costs.* If costs that are included in the Blue Book rates are handled through other procedures, these costs should be deducted from the Blue Book rate. For example, if indirect costs are included in project overhead, then deduct that portion of the Blue Book rate. Using the tables for Skid Steer Loaders, this means that one would deduct 6% from the total Blue Book rate to avoid duplicating the allowance for indirect costs.

3. *Regional Adjustment Maps: Adjusting for climate and regional costs*

The adjustment maps at the beginning of each section are designed to show regional variations of average equipment ownership costs. The amount by which the rental rates should be increased or decreased is based on several factors that influence ownership costs. These factors include local mechanics' labor, sales tax, freight, and climate. The most significant factor in regional variation is climate and its effect on the average annual use hours (the working "season"). A shorter working season means rates will be higher in order to recover fixed costs.

No attempt is made to identify specific locations, such as mountainous areas or municipalities, within any region. Extreme climatic variations should be considered separately.

Information concerning climate regions and regional adjustments is obtained from direct surveys of contractors and equipment users, government indices, industry periodicals, and climatological maps. Every effort has been made to process and review this data for statistical certainty, but the research staff of EquipmentWatch does not present these area adjustments as exact factors. Users of these maps should refer to their own judgment and experience when modifying suggested adjustments to reflect specific conditions.

Regional adjustment factors are meant to apply only to rental rates. They are not intended to be adjustments to the "Estimated Operating Cost/Hour." Instructions on the application of regional adjustment factors can be found at the beginning of each section containing maps.

4. *Multiple Shifts*

No industry standard exists regarding the computation of overtime rates. It is the responsibility of the contracting parties to agree on the appropriate method of allowing for equipment costs in the instances where overtime hours are worked. Two commonly used methods are outlined below as examples of how overtime rates may be established.

a. At the rate of 1/8th of the daily rate for each hour in excess of eight hours, 1/40th of the weekly rate for each hour in excess of forty hours, and 1/176th of the monthly rate for each hour in excess of 176 hours within a thirty-day period.

b. At 50% of the agreed upon monthly, weekly, daily, or hourly rate for each overtime hour worked.

Example:

Single Shift (8 hours)	=	$100 per day
Double Shift (16 hours)	=	$150 per day ($100 for the first 8 hours, $50 for the second 8 hours)
Triple Shift (24 hours)	=	$200 per day ($100 for the first 8 hours, and $50 each for the second 8 hours and third 8 hours)

c. Operating Costs should be charged at the full rate during all shifts.