

**SUMMARY** 

CONSTRUCTION

LIFT/ACCESS

**AGRICULTURE** 

COMMERCIAL TRUCK

## **MARKET DATA: AUGUST 2016**

EquipmentWatch remains the largest sales database on the planet with 20x the sales data of any other source.

\$32,860,117,695

**RESALE** 

\$32,734,030,583

412,757 Assets

**AUCTION** 

\$126,087,112

4,409 Assets

The EquipmentWatch Market Report™ is a monthly resource for the construction, lift/access, agriculture and commercial truck industries to make better-informed decisions by leveraging key equipment values, market activity, age and usage metrics.

How is the Price Stability INDEX calculated?

MARKET SUMMARY	For more detailed articles, visit <i>EquipmentWatch</i>	Intelligence online.	
MARKET ACTIVITY	YEAR OVER YEAR MONTH OVER MONTH		
	MARKET METRICS	MARKET METRICS	PRICE STABILITY INDEX ™
CONSTRUCTION	VALUES ▲ 1.1% ▼ 2.5% FMV FLV	VALUES ▲ 0.5% ▼ 0.1% FLV	102.29 95 T 105
<b>\$15,622,183,482 174,032</b> MARKET VALUE ASSETS	VOLUME ▲ 58.3% ▼ 8.6% AUCTION	VOLUME ▲ 11.2% ▼ 28.9 % AUCTION	DEFLATED STABLE INFLATED
LIFT/ACCESS	VALUES ▼ 0.1% ▼ 1.1% FMV FLV	VALUES ▲ 0.2% ▲ 0.1% FLV	100.24 95 105
<b>\$1,419,233,414 45,060</b> MARKET VALUE ASSETS	VOLUME ▲ 1.1% ▼ 12.2% AUCTION	VOLUME ▲ 1.5% ▼ 51.8% RESALE AUCTION	DEFLATED STABLE INFLATED
AGRICULTURE	VALUES ▼ <b>6.9%</b> ▼ <b>7.2%</b> FMV FLV	VALUES ▼ 0.3% ▼ 0.4 % FLV	95 <b>100.27</b>
<b>\$13,288,351,819 142,181</b> MARKET VALUE ASSETS	VOLUME ▲ 13.8% ▼ 41.8% AUCTION	VOLUME ▲ 18.0% ▼ 19.5% RESALE AUCTION	DEFLATED STABLE INFLATED
COMMERCIAL TRUCK	VALUES ▲ 2.3% ▲ 3.1% FMV FLV	VALUES ▲ 1.2% ▼ 0.6% FLV	97.01 95 V 105
<b>\$2,530,348,980 55,893</b> MARKET VALUE ASSETS	VOLUME ▼ 12.7% ▼ 41.8% AUCTION	VOLUME ▲ 32.0% ▼ 41.1% AUCTION	DEFLATED STABLE INFLATED

SEPTEMBER 22, 2016 VERSION: FREE | UPDATED MONTHLY



SUMMARY

CONSTRUCTION

LIFT/ACCESS

AGRICULTURE

COMMERCIAL TRUCK

CONSTRUCTION

**OVERALL** 

TYPE TRENDS

BRAND TRENDS

**REGIONAL TRENDS** 

How is the Price Stability INDEX calculated?



### MARKET PERFORMANCE

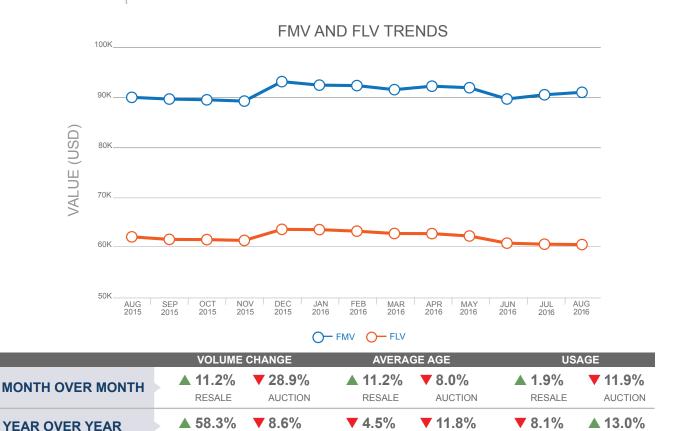
Fair Market and Forced Liquidation values rose in the market for used construction equipment across North America in August. Combined with an 11.2% increase in resale market activity from July, this pushed the Price Stability Index™ to an Inflated value of 102.29.

### **MARKET HIGHLIGHTS**

- The average age of construction equipment on the resale and auction channels dropped by 1% and 8% (respectively) from July to August.
- Average usage for equipment on the resale channel was 8.1% lower than August 2015, but it was 13% higher than last year on the auction channel.
- Auction channels remained depressed in August, as the average FLV dropped slightly even though market activity, age, and usage all showed monthover-month declines.

#### MARKET FORECAST

With another surprising increase in FMV in August, the resale channel for used construction equipment has now seen sustained improvement in average values for two months in a row. Much of the variation can be explained by decreases in annualized usage, but there is also some evidence that confidence in the construction markets has improved.



**RESALE** 

AUCTION

RESALE

**AUCTION** 

RESALE

AUCTION

APRIL 19, 2016 VERSION: PREMIUM | UPDATED MONTHLY

SUMMARY

CONSTRUCTION

LIFT/ACCESS

**AGRICULTURE** 

COMMERCIAL TRUCK

**CONSTRUCTION** 

**OVERALL** 

**TYPE TRENDS** 

BRAND TRENDS

**REGIONAL TRENDS** 





SEPTEMBER 22, 2016 VERSION: FREE | UPDATED MONTHLY



SUMMARY

CONSTRUCTION

LIFT/ACCESS

**AGRICULTURE** 

COMMERCIAL TRUCK

LIFT/ACCESS

**OVERALL** 

TYPE TRENDS

BRAND TRENDS

**REGIONAL TRENDS** 

How is the Price Stability INDEX calculated?



### **MARKET PERFORMANCE**

After a strong overall increase in values in July, August saw values remain flat across both channels. Resale activity increased by about 1% over the past month, while auction activity declined by over 50%.

### MARKET HIGHLIGHTS

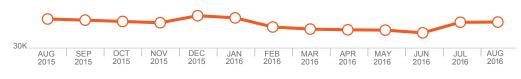
- Auction market activity decreased by over 50% as compared to July, and is down over 12% as compared to last year.
- Fair market values and market activity remained flat as compared to July.
- Average utilization is up across both channels over the past year, almost 19% on the resale channel and about 28% on the auction channel.

#### MARKET FORECAST

Look for values and market activity to remain about even over the next month.









	VOLUME CHANGE		AVERAGE AGE		USAGE	
MONTH OVER MONTH	▲ 1.6%	<b>▼</b> 51.8%	<b>1.95</b> %	<b>▼</b> 5.3%	<b>▲ 1.1%</b>	<b>▲ 14.7%</b>
	RESALE	AUCTION	RESALE	AUCTION	RESALE	AUCTION
YEAR OVER YEAR	<b>▲</b> 1.1%	<b>▼</b> 12.2%	<b>▲ 1.7%</b>	<b>▲ 2.4%</b>	<b>▲</b> 18.9%	<b>▲ 28.3%</b>
	RESALE	AUCTION	RESALE	AUCTION	RESALE	AUCTION

LIFT/ACCESS

NEXT TYPE TRENDS

**APRIL 19. 2016 VERSION: PREMIUM | UPDATED MONTHLY** 

SUMMARY

CONSTRUCTION

LIFT/ACCESS

**AGRICULTURE** 

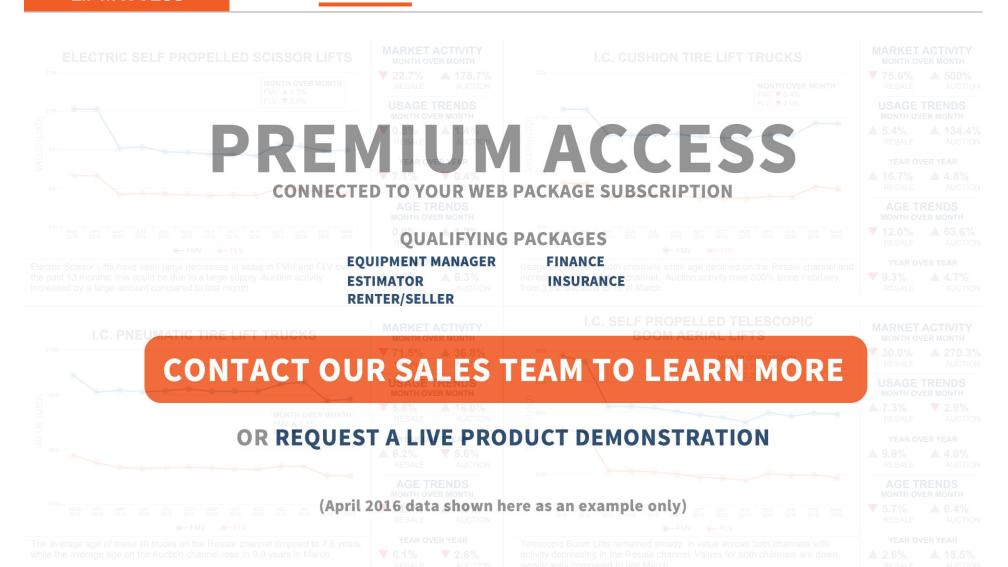
COMMERCIAL TRUCK

LIFT/ACCESS

TYPE TRENDS

**BRAND TRENDS** 

REGIONAL TRENDS



LIFT/ACCESS

**SEPTEMBER 22. 2016 VERSION: FREE | UPDATED MONTHLY** 



SUMMARY

CONSTRUCTION

LIFT/ACCESS

**AGRICULTURE** 

COMMERCIAL TRUCK

**AGRICULTURE** 

**OVERALL** 

TYPE TRENDS

BRAND TRENDS

REGIONAL TRENDS

How is the Price Stability INDEX calculated?



### **MARKET PERFORMANCE**

Both FMV and FLV were down month over month and year over year for August. Volume increased above last month and this time last year for the resale channel, but the auction channel has continued to drop. Average age increased significantly for auction since August 2015 resulting in the only increase in average usage for the market this month.

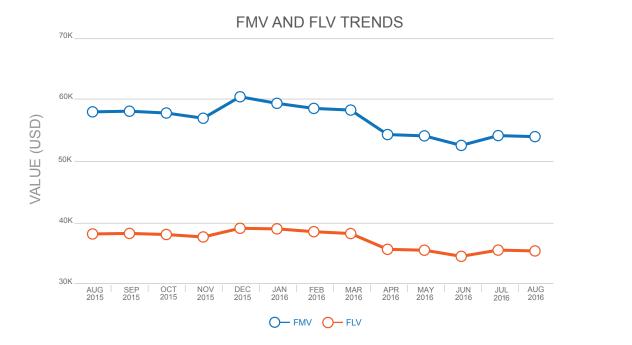
### **MARKET HIGHLIGHTS**

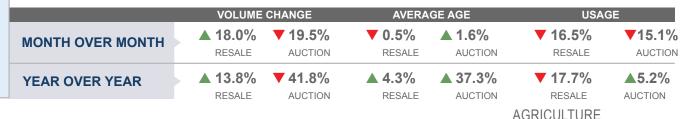
- · While FMV and FLV showed small drops during August, volume changed much more significantly with an increase in resale and drop in auction.
- Despite fluctuations in FMV throughout the past 12 months, August 2016 fell nearly 7% below 2015.
- · Average usage was also down from July on both the resale and auction channels almost identical percentage points.

### MARKET FORECAST

As summer is coming to an end and the colder weather begins, expect volume to continue an upward incline with relatively stable pricing.

13





APRIL 19, 2016 VERSION: PREMIUM | UPDATED MONTHLY

SUMMARY

CONSTRUCTION

LIFT/ACCESS

**AGRICULTURE** 

COMMERCIAL TRUCK

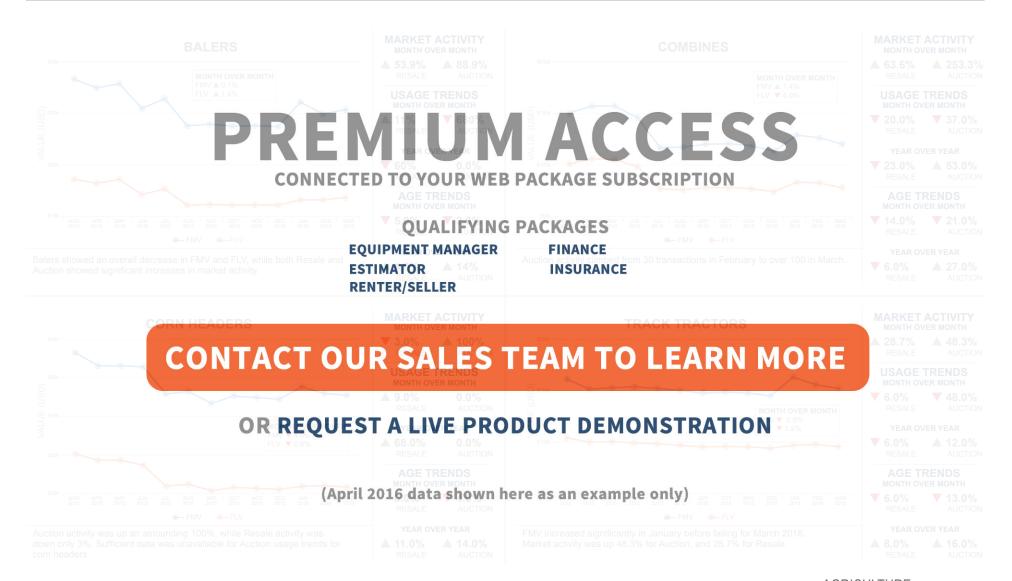
**AGRICULTURE** 

**OVERALL** 

**TYPE TRENDS** 

BRAND TRENDS

REGIONAL TRENDS



14

**SEPTEMBER 22, 2016 VERSION: FREE | UPDATED MONTHLY** 

SUMMARY

CONSTRUCTION

LIFT/ACCESS

**AGRICULTURE** 

**COMMERCIAL TRUCK** 

# **COMMERCIAL TRUCK**

**OVERALL** 

TYPE TRENDS

BRAND TRENDS

REGIONAL TRENDS

How is the Price Stability INDEX calculated?



### MARKET PERFORMANCE

FMV was up during August as volume increased well above July, but FLV dropped only slightly with an even larger drop in volume. Age was down for the entire truck market over the last month as well as August 2015. Average usage increased for the resale channel both month over month and year over year, yet auction average usage decreased.

### MARKET HIGHLIGHTS

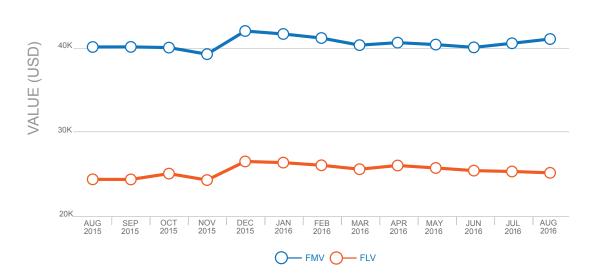
- Even though average age decreased at similar rates between the resale and auction channels from July, average usage increased for resale and dropped for auction.
- · The increase in resale volume over last month may seem high, but it was still a slow month in comparison to the same time last year.
- The only price decrease for the overall market average was on FLV from July with a small -0.6%

### MARKET FORECAST

If August to September prices follow 2015 markets, expect minimal changes in both FMV and FLV between now and the end of September.

18





	VOLUME CHANGE		AVERAGE AGE		USAGE	
MONTH OVER MONTH	▲ 32.0%	<b>▼41.1%</b>	<b>28.4%</b>	<b>▼</b> 23.1%	<b>▲</b> 5.1%	<b>▼</b> 4.1%
	RESALE	AUCTION	RESALE	AUCTION	RESALE	AUCTION
YEAR OVER YEAR	<b>▼</b> 12.7%	<b>▼</b> 41.8%	<b>T</b> 12.7%	<b>T</b> 12.4%	<b>▲</b> 10.6	<b>▼</b> 18.3%
	RESALE	AUCTION	RESALE	AUCTION	RESALE	AUCTION

COMMERCIAL TRUCK

**TYPE TRENDS NEXT** 

APRIL 19, 2016 VERSION: PREMIUM | UPDATED MONTHLY



SUMMARY

CONSTRUCTION

LIFT/ACCESS

**AGRICULTURE** 

**COMMERCIAL TRUCK** 

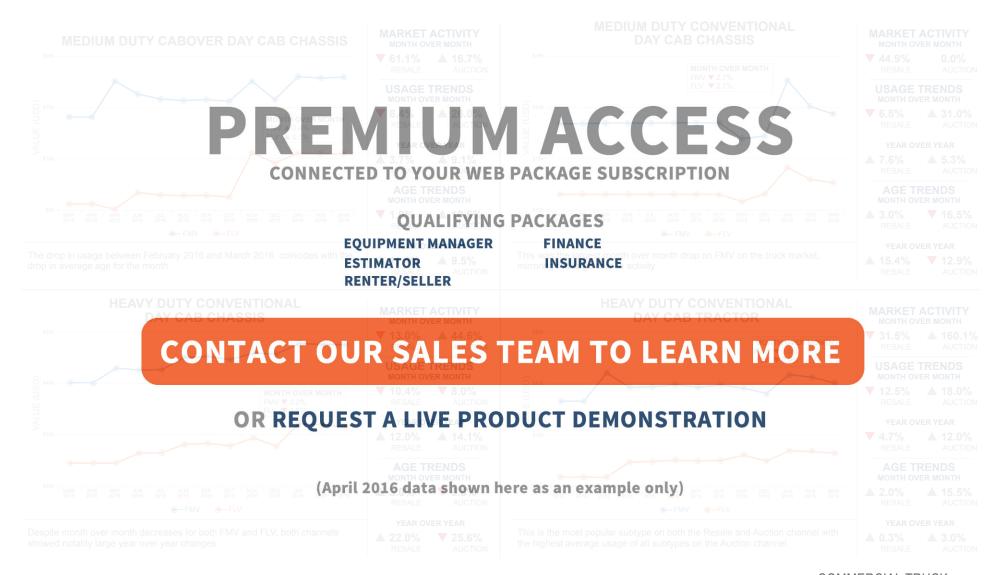
**COMMERCIAL TRUCK** 

**OVERALL** 

**TYPE TRENDS** 

BRAND TRENDS

**REGIONAL TRENDS** 



19



**APRIL 19. 2016** 

**VERSION: PREMIUM | UPDATED MONTHLY** 

# **APPENDIX**

### INTRODUCTION

The EquipmentWatch Market Report is a compilation of a wide array of EquipmentWatch's data, designed to bring you an in-depth look at used equipment markets over the last month.

This Appendix is designed to answer your questions regarding this report. Here we define and illustrate how we think about values, market activity, age, Usage, and regional influence for the most common types of equipment seen on used markets across North America.

### **OUR DATA**

## **Selection Criteria for OEMs and Subtypes**

EquipmentWatch tracks Resale and Auction prices and activity for over 15,000 models across 389 manufacturers throughout North America. With over \$800 billion in collected equipment transactions, EquipmentWatch is your primary source for intelligence regarding used equipment markets.

The data in this report is divided into four distinct equipment markets: Construction, Lift/Access, Agriculture, and Commercial Trucks. For each market, we selected the top equipment types based on their market share from January 2015 to December 2015. They're listed in the table to the right.

Construction	Lift/Access	Agriculture	Commercial Trucks	
4-Wd Articulated Wheel Loaders	Electric Self Propelled Scissor Lifts	Track Tractors	Heavy Duty: Conventional - Sleeper (Heavy Tractor)	
Articulated Frame Graders	I.C. Pneumatic Tire Lift Trucks	Balers	Heavy Duty: Conventional - Day Cab (Heavy Tractor)	
Articulated Rear Dumps	I.C. Self Propelled Telescopic Boom Aerial Lifts	Combines	Heavy Duty: Conventional - Day Cab (Heavy Cab Chassis)	
Compact Track Loaders	I.C. Self-Propelled Articulating Boom Aerial Lifts	Corn Headers	Medium Duty: Conventional - Day Cal (Cab Chassis)	
Crawler Mounted Compact Excavators	Telescoping Boom Rough Terrain Lift Trucks	Wheel Tractors	Medium Duty: Cabover - Day Cab (Cab Chassis)	
Crawler Mounted Hydraulic Excavators	I.C. Cushion Tire Lift Trucks	Planters	Medium Duty: Crew (Cab Chassis)	
Large Generator Sets				
Single Drum Vibratory Compactors				
Skid Steer Loaders				
Standard Crawler Dozers				
Tandem Vibratory Compactors				
Tractor-Loader- Backhoes				



# **APPENDIX**

We have also limited the scope of the EquipmentWatch Market Report to the following brands in each market:

Construction	Lift/Access	Agriculture	Commercial Truck
Bobcat	Caterpillar	Deere	International
Case	Genie	Case IH	Freightliner
Caterpillar	JLG	New Holland	Volvo
Deere	Sky Trak	Massey Ferguson	Kenworth
Komatsu	Skyjack	Challenger	Peterbilt
Volvo	Hyster	Kubota	Hino

### THE EQUIPMENTWATCH PRICE STABILITY INDEX™

# Academic justification

The EquipmentWatch Price Stability Index™ is a new metric for understanding used equipment markets for used heavy equipment. It measures resale price capacity based on the movement of market prices and market activity among the equipment types and manufacturers presented above.

## **Methodology and Calculation**

The EquipmentWatch Price Stability Index™ is based on the Laspeyres Index, one of the many economic indices used to monitor changes in prices over time. To calculate it, we use the framework provided by the Laspeyres Index:

$$P_{L} = \frac{\sum (p_{c,t_{n}}) * (q_{c,t_{0}})}{\sum (p_{c,t_{0}}) * (q_{c,t_{0}})}$$

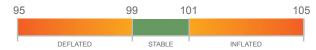
24

This equation sums the product of prices in the current month and quantity of the previous month and divides that by the product of prices in the previous month and quantity in the previous month.

We have modified this method to track the change in prices for each equipment type from month-to-month against the change in market activity for each equipment type month to month.

## Interpretation

The EquipmentWatch Price Stability Index<sup>™</sup> can be thought of as an index of price capacity. In more formal terms, it measures how efficiently used markets adjust to equilibrium given previous adjustments in prices and market activity. There are three primary ranges in the EquipmentWatch Price Stability Index<sup>™</sup>, as noted below:



When the EquipmentWatch Price Stability Index™ is higher than 101, that indicates that equipment is valued at a higher level than expected, given last month's prices and amount of market activity. We categorize this range as "Inflated".

When the EquipmentWatch Price Stability Index<sup>™</sup> is lower than 99, it indicates that equipment is valued at a lower level than expected, given last month's prices and market activity. We categorize this range as "Deflated".

When the EquipmentWatch Price Stability Index™ is between 99 and 101, it is typically demonstrating that equipment prices and market activity are moving appropriately towards market equilibrium. We categorize this range as "Stable".

It is important to note that a higher rating on EquipmentWatch Price Stability Index™ does not necessarily imply that used markets are better than a lower rating. For some, price inflation is desirable; for others, it is undesirable. However, all parties involved in buying or selling equipment on used markets can use the EquipmentWatch Price Stability Index™ to easily understand how prices in a particular region or equipment channel are moving relative to the previous month.



# **APPENDIX**

### SECTION GUIDES

### The Introduction

In the top left, we exhibit a tally of the estimated market value of market activity last month in the Resale channel and Auction channel.

In the main table, we display market activity and assets for each market, along with month over month and year over year changes in Fair Market Value and Forced Liquidation Value.

#### **Overall Trends**

This page is an overview of each channel. The graph highlights an overall FMV and FLV trend line for all of the equipment types and manufacturers in the report for the last 13 months. It also displays very general month over month and year over year trends across the entire channel.

## **Type Trends**

This page subsets the analysis of the previous page across each of the key equipment types in this report.

#### **Brand Trends**

This page shows some of the key month over month trends for the manufacturers represented in this report, including equipment values, Usage, market activity, and age trends.

## **Regional Trends**

This page shows the EquipmentWatch Price Stability Index™ for each of the 14 regions, using the same calculation method as the EquipmentWatch Price Stability Index<sup>™</sup> shown on the first page of the report. The states and provinces which make up each region are listed in the table to the right.

Note that due to regional disparity in market activity, some regions with very little or no market activity in the last month are excluded from the analysis. These are marked with "NA" on the map.

25

Country	Region	State/Province
USA	А	CT, DE, MA, ME, NH, NJ, MY, RI, VT
USA	В	MD, P, VA, WV
USA	С	AL, FL, GA, KY, MS, NC, SC, TN
USA	D	IL, IN, MI, OH, WI
USA	Е	IA, KS, MO, NE
USA	F	AR, LA, OK, TX
USA	G	AZ, CO, NM, UT
USA	Н	ID, MN, MT, ND, SD, WY
USA	I	CA, NV, OR, WA
USA	J	HI
USA	K	AK
CAN	L	NT, NU, YT
CAN	M	AB, BC, MB, SK
CAN	N	NB, NL, NS, ON, PE, QC

## **FAQS**

## Why did you limit the equipment types in this report?

EquipmentWatch tracks market activity for over a hundred unique equipment types each month. For each channel, we selected the most popular equipment types, based on the frequency of appearance on the resale and auction channels.

## Why are there only 24 manufacturers in this report?

EquipmentWatch tracks market activity for almost 400 unique manufacturers each month. For each market, we selected the top 6 manufacturers. As the markets shift and prominence on used markets changes, we will adjust our selections accordingly.



# **APPENDIX**

### Why don't you use OLV?

Orderly Liquidation Value, or OLV, is a third major category of values. These are the values of an asset given a single seller and multiple potential buyers given a long or indefinite timeframe in which to dispose. Given the lack of clarity around the time dimension, we have chosen not to make assumptions about the orderly liquidation process. However, OLV is typically between FLV and FMV in gross value.

### IMPORTANT DEFINITIONS

**Fair Market Value (FMV)**: the value of an asset sold to a single buyer under no compulsion.

**Forced Liquidation Value (FLV)**: the value of an asset sold at a properly advertised and conducted auction in which the seller is under compulsion to sell on an as-is, where-is basis as of a specific date.

**Market Activity**: A measure of the total number of observations collected by EquipmentWatch, including publicly-available dealer listings, auction results, and final sales data.

**Meter Reads**: A measure of Usage that varies by equipment market. For most equipment types, this represents engine hours at the time of observation.

Age: the age of an asset, based on model year and the year of observation.

26

# **ABOUT EQUIPMENTWATCH**

EquipmentWatch is the trusted source for heavy equipment data and intelligence. EquipmentWatch produces the leading database information products for the construction equipment industry and is the world leader in heavy construction research and serves more than 15,000 professional, high-volume users of construction and lift-truck data. Our online and print products are valuable tools in decisions surrounding the purchase, valuation, operation, and disposal of equipment.

For nearly 50 years, EquipmentWatch has served contractors, equipment manufacturers, dealers, rental companies, lenders and insurers, and government agencies involved in heavy civil construction.

#### Terms and Conditions

This document is made available as part of your EquipmentWatch subscription and is subject to the EquipmentWatch Terms of Service (http://www.3.equipmentwatch.com/marketing/info/355/terms-of-service) (the "TOS"). This document will be deemed a "One-Time Report" for purposes of the TOS. Without limiting the generality of the foregoing, you may make a de minimis number of copies of this document for your organization's internal business purposes, but you may not redistribute the document, in whole or in part, outside your organization except under the limited circumstances permitted by the TOS.