MARKET DATA: MARCH 2017

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

$28,525,457,426

RESALE
$27,947,734,484
379,181 Assets

AUCTION
$304,722,942
13,349 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**.

MARKET SUMMARY

For more detailed articles, visit *EquipmentWatch* Intelligence online.

How is the Price Stability INDEX calculated?

MARKET ACTIVITY	YEAR OVER YEAR MARKET METRICS	MONTH OVER MONTH MARKET METRICS	MONTH OVER MONTH PRICE STABILITY INDEX ™
CONSTRUCTION $15,656,992,595 MARKET VALUE 8417,160 ASSETS	VALUES ▲ 0.2% FMV ▼ 3.2% FLV VOLUME ▲ 18.6% RESALE ▲ 17.5% AUCTION	VALUES ▼ 0.7% FMV ▼ 0.9% FLV VOLUME ▼ 14.9% RESALE ▲ 36.2% AUCTION	99.25 (95 – 105; DEFLATED / STABLE / INFLATED)
LIFT/ACCESS $1,129,496,678 MARKET VALUE 37,489 ASSETS	VALUES ▼ 2.1% FMV ▼ 1.7% FLV VOLUME ▼ 0.2% RESALE ▼ 44.9% AUCTION	VALUES ▲ 1.0% FMV ▲ 1.2% FLV VOLUME ▲ 4.2% RESALE ▲ 12.3% AUCTION	99.57 (95 – 105; DEFLATED / STABLE / INFLATED)
AGRICULTURE $8,706,590,185 MARKET VALUE 103,063 ASSETS	VALUES ▲ 8.9% FMV ▼ 9.2% FLV VOLUME ▼ 37.7% RESALE ▼ 15.1% AUCTION	VALUES ▼ 1.7% FMV ▼ 1.9% FLV VOLUME ▼ 23.5% RESALE ▲ 78.0% AUCTION	98.31 (95 – 105; DEFLATED / STABLE / INFLATED)
COMMERCIAL TRUCK $2,759,377,968 MARKET VALUE 64,818 ASSETS	VALUES ▼ 5.7% FMV ▼ 4.8% FLV VOLUME ▲ 216.1% RESALE ▼ 16.2% AUCTION	VALUES ▼ 1.1% FMV ▼ 0.2% FLV VOLUME ▼ 6.1% RESALE ▲ 113.4% AUCTION	98.09 (95 – 105; DEFLATED / STABLE / INFLATED)

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CONSTRUCTION

How is the Price Stability INDEX calculated?

MARKET ACTIVITY

$15,656,992,595
MARKET VALUE

187,160
ASSETS

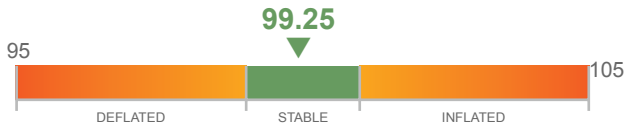
YEAR OVER YEAR MARKET METRICS

VALUES	▲ 0.2% FMV	▼ 3.2% FLV
VOLUME	▲ 18.6% RESALE	▲ 17.5% AUCTION

MONTH OVER MONTH MARKET METRICS

VALUES	▼ 0.7% FMV	▼ 0.9% FLV
VOLUME	▼ 14.9% RESALE	▲ 36.2% AUCTION

MONTH OVER MONTH PRICE STABILITY INDEX ™



MARKET PERFORMANCE

In recent years the month of March has surpassed February in auction activity, and 2017 followed that trend with a strong 3.1% month-over-month growth. Resale activity dropped almost 15% in March, but still maintained an 18.6% increase over March 2016. This produced another month in the Stable zone of the Price Stability Index.™

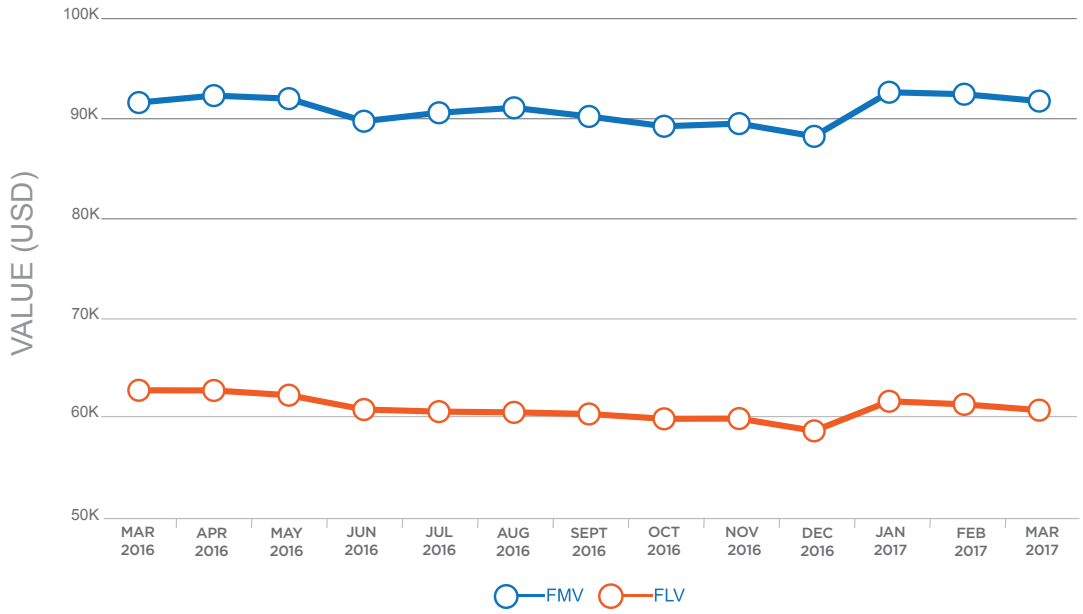
MARKET HIGHLIGHTS

- Resale market activity dropped 15% in February and March 2017, but these months contained 13.2% and 18.6% more activity relative to February and March 2016.
- The average age and usage for equipment is up 3.1% on the Resale channel and 16% on the auction channel.
- Average usage on the Auction channel jumped 47.2% from February to March even as average age only increased 16%, signaling that March auctions were mostly populated by equipment nearing the end of economic life.

MARKET FORECAST

The year-over-year and month-over-month increases in market activity at the end of the first quarter for both channels, coupled with a stable market, indicate that April and May 2017 will likely exhibit annual growth in activity and relatively mild fluctuations in average FMV and FLV.

FMV AND FLV TRENDS



	VOLUME CHANGE		AVERAGE AGE		USAGE	
MONTH OVER MONTH	▼ 14.9% RESALE	▲ 36.2% AUCTION	▲ 3.1% RESALE	▲ 3.1% AUCTION	▲ 2.5% RESALE	▲ 47.2% AUCTION
YEAR OVER YEAR	▲ 18.6% RESALE	▲ 17.5% AUCTION	▼ 14.8% RESALE	▲ 14.9% AUCTION	▼ 3.6% RESALE	▲ 16.2% AUCTION

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LIFT/ACCESS

OVERALL | TYPE TRENDS | BRAND TRENDS | REGIONAL TRENDS

How is the Price Stability INDEX calculated?

MARKET ACTIVITY

$1,129,496,678
MARKET VALUE

37,489
ASSETS

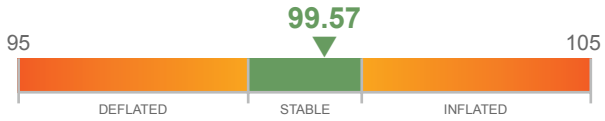
YEAR OVER YEAR MARKET METRICS

VALUES	▼ 2.1% FMV	▼ 1.7% FLV
VOLUME	▼ 0.2% RESALE	▼ 44.9% AUCTION

MONTH OVER MONTH MARKET METRICS

VALUES	▲ 1.0% FMV	▲ 1.2% FLV
VOLUME	▲ 4.2% RESALE	▲ 12.3% AUCTION

MONTH OVER MONTH PRICE STABILITY INDEX ™



MARKET PERFORMANCE

As compared to February, lift values increased by about 1% in both channels in March. Auction volume increased again in March, with it being the largest month for auctions.

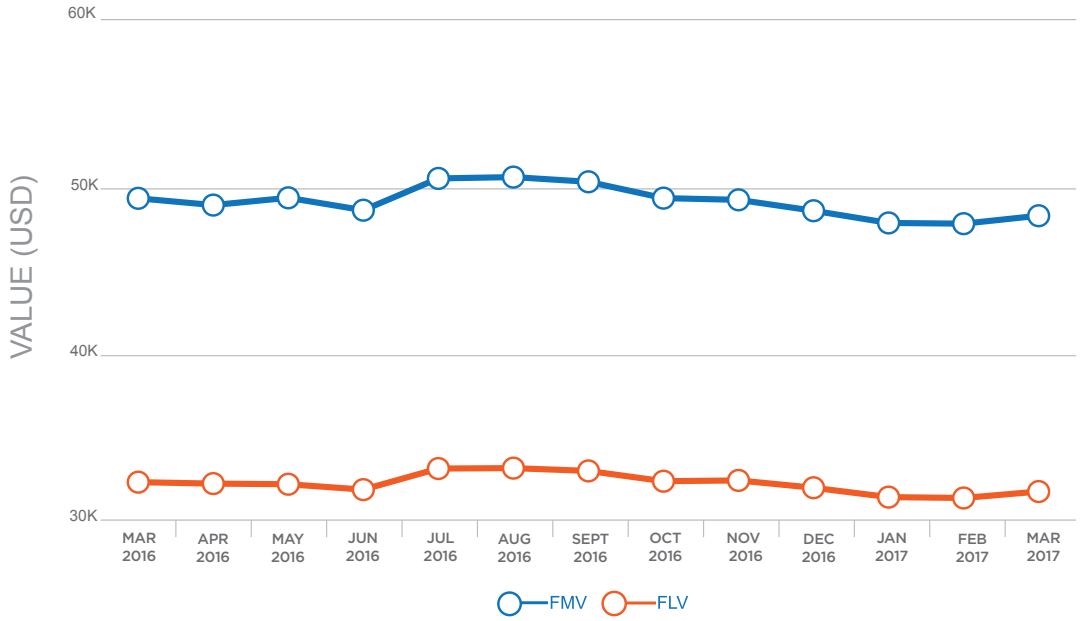
MARKET HIGHLIGHTS

- While auction volume increased again in March, it failed to match the volume from last March, which was the highest auction volume we have ever seen.
- The Price Stability Index™ was 99.57 in March, down slightly from last month, but still stable.
- Average utilization increased across both channels in March, while volume also increased across both channels.

MARKET FORECAST

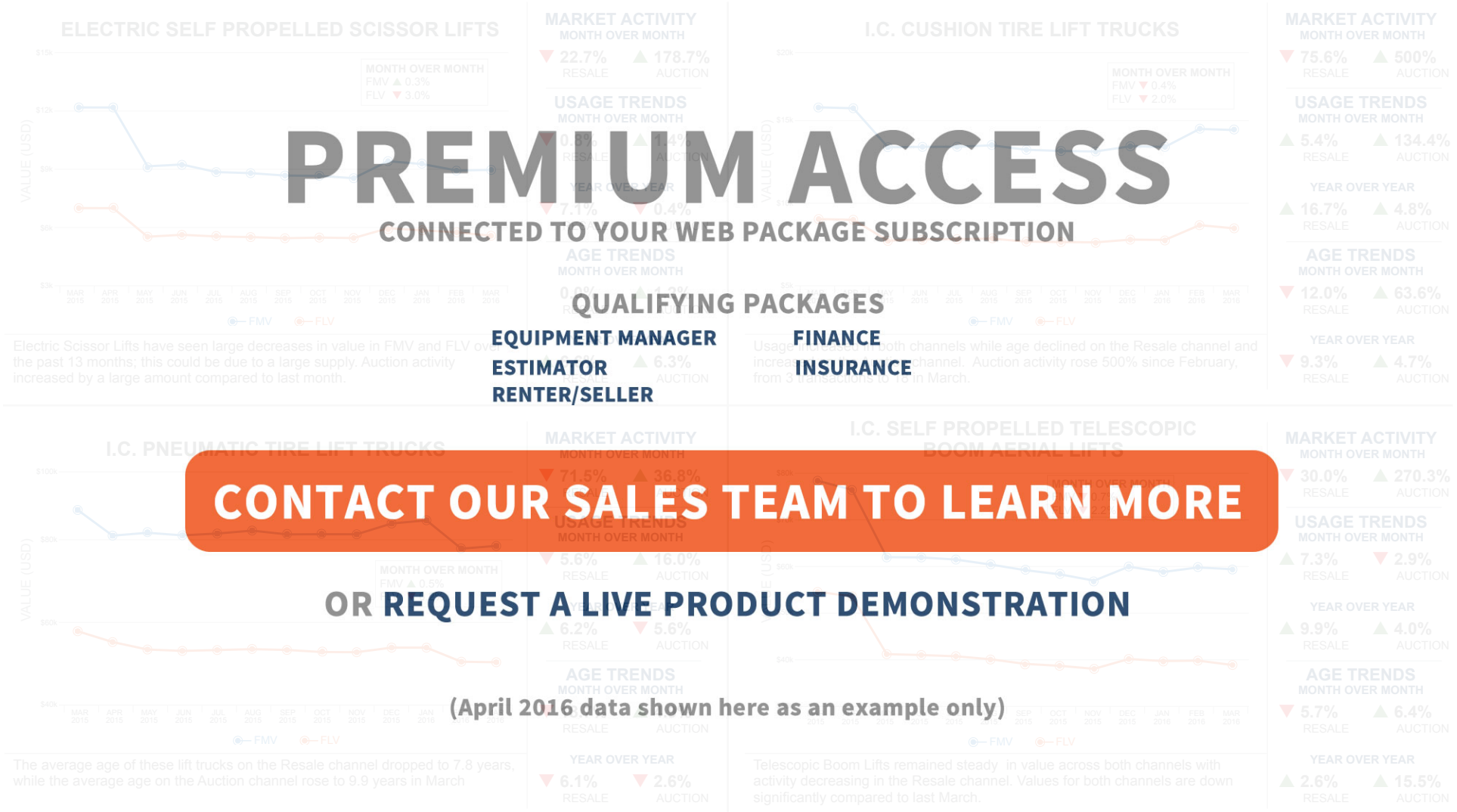
Values and resale volume should continue to increase slightly with the summer months looming. Auction volume should decrease by a very large amount in April.

FMV AND FLV TRENDS



	VOLUME CHANGE		AVERAGE AGE		USAGE	
MONTH OVER MONTH	▲ 4.2% RESALE	▲ 12.3% AUCTION	▼ 6.5% RESALE	▲ 7.2% AUCTION	▲ 0.3% RESALE	▲ 18.0% AUCTION
YEAR OVER YEAR	▼ 0.2% RESALE	▼ 44.9% AUCTION	▼ 3.4% RESALE	▲ 17.0% AUCTION	▼ 1.1% RESALE	▼ 0.4% AUCTION

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AGRICULTURE

OVERALL | TYPE TRENDS | BRAND TRENDS | REGIONAL TRENDS

How is the Price Stability INDEX calculated?

MARKET ACTIVITY

$8,706,590,185
MARKET VALUE

103,063
ASSETS

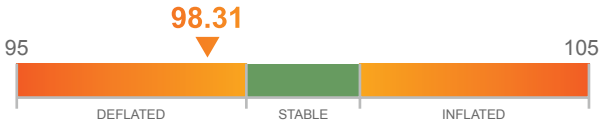
YEAR OVER YEAR MARKET METRICS

VALUES	▼ 8.9% FMV	▼ 9.2% FLV
VOLUME	▼ 37.7% RESALE	▼ 15.1% AUCTION

MONTH OVER MONTH MARKET METRICS

VALUES	▼ 1.7% FMV	▼ 1.9% FLV
VOLUME	▼ 23.5% RESALE	▲ 78.0% AUCTION

MONTH OVER MONTH PRICE STABILITY INDEX ™



MARKET PERFORMANCE

FMV and FLV dropped in March after their increase in both January and February. Prices fell nearly 9% below where they were this time last year. Volume for the resale market was down below February while auction increased. This was the opposite of what showed in year over year changes as resale was up and auction dropped.

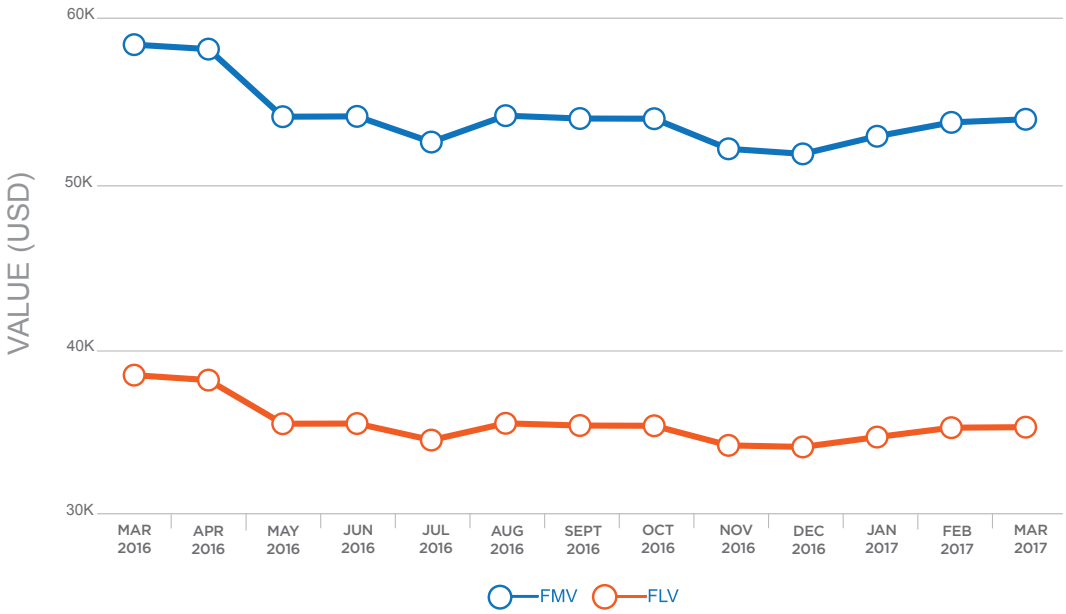
MARKET HIGHLIGHTS

- Average usage was down in March for both channels, yet average age also dropped on resale.
- There was younger equipment on the resale channel in March than both February and this time last year as auction was up.
- The drop in volume on resale as well as drop in average age and usage indicates a shift in assets on the market with the older equipment leaving.

MARKET FORECAST

If prices follow along last year's Q2 trends, expect FMV and FLV to drop in April and again in June as the start of summer brings lower prices before Q3.

FMV AND FLV TRENDS



	VOLUME CHANGE		AVERAGE AGE		USAGE	
MONTH OVER MONTH	▼ 21.0% RESALE	▲ 78.0% AUCTION	▼ 16.7% RESALE	▲ 12.3% AUCTION	▼ 17.4% RESALE	▼ 6.9% AUCTION
YEAR OVER YEAR	▲ 2.8% RESALE	▼ 15.1% AUCTION	▼ 11.1% RESALE	▲ 1.2% AUCTION	▼ 6.1% RESALE	▲ 9.4% AUCTION

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AGRICULTURE
NEXT TYPE TRENDS

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COMMERCIAL TRUCK

OVERALL | TYPE TRENDS | BRAND TRENDS | REGIONAL TRENDS

How is the Price Stability INDEX calculated?

MARKET ACTIVITY

$2,759,377,968
MARKET VALUE

64,818
ASSETS

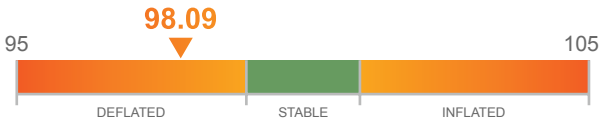
YEAR OVER YEAR MARKET METRICS

VALUES	▼ 5.7% FMV	▼ 4.8% FLV
VOLUME	▲ 216.1% RESALE	▼ 16.2% AUCTION

MONTH OVER MONTH MARKET METRICS

VALUES	▼ 1.1% FMV	▼ 0.2% FLV
VOLUME	▼ 6.1% RESALE	▲ 113.4% AUCTION

MONTH OVER MONTH PRICE STABILITY INDEX ™



MARKET PERFORMANCE

Both FMV and FLV were down during March, but the percentages were low. FMV year over year was down at a higher rate than FLV as the year over year volume for the resale channel had a significant increase whereas auction dropped. These market changes resulted in a slightly deflated market index for the month of March.

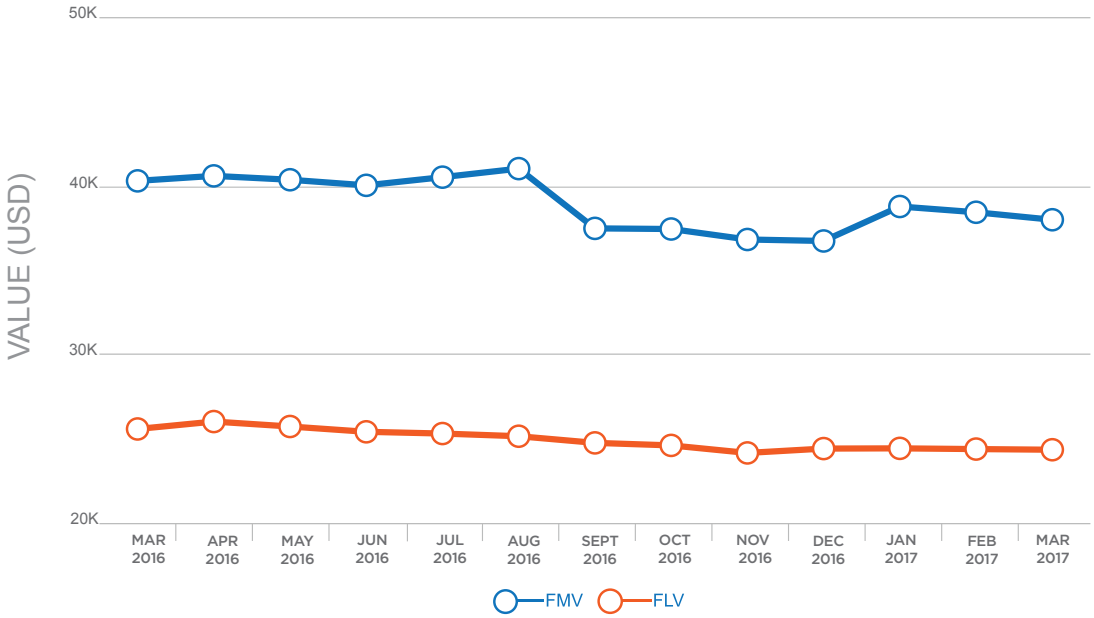
MARKET HIGHLIGHTS

- While the average age on resale assets declined for the month, the auction ages dropped well below where they were last month, yet both channels increased over this time last year.
- Even though average age dropped for the month on both channels, the average usage increased as higher mileage trucks are on the market despite their age dropping the prices.
- With FMV and FLV dropping the past two months, expect both channels to pick up on a few subtypes and brands heading into the summer months.

MARKET FORECAST

Expect slight increases in both FMV and FLV for the overall market in the next month.

FMV AND FLV TRENDS



	VOLUME CHANGE		AVERAGE AGE		USAGE	
MONTH OVER MONTH	▼ 6.1% RESALE	▲ 113.4% AUCTION	▼ 2.9% RESALE	▼ 10.0% AUCTION	▲ 3.7% RESALE	▲ 7.4% AUCTION
YEAR OVER YEAR	▲ 216.1% RESALE	▼ 16.2% AUCTION	▲ 0.5% RESALE	▲ 18.4% AUCTION	▲ 12.9% RESALE	▲ 12.8% AUCTION

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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 Cab (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			

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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:

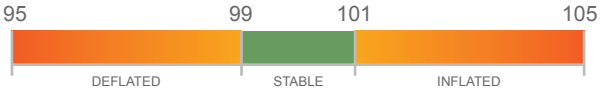
$$P_L = \frac{\sum(p_{c,t_n}) * (q_{c,t_0})}{\sum(p_{c,t_0}) * (q_{c,t_0})}$$

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™ 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™, 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™ 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.

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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™ 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.

Country	Region	State/Province
USA	A	CT, DE, MA, ME, NH, NJ, MY, RI, VT
USA	B	MD, P, VA, WV
USA	C	AL, FL, GA, KY, MS, NC, SC, TN
USA	D	IL, IN, MI, OH, WI
USA	E	IA, KS, MO, NE
USA	F	AR, LA, OK, TX
USA	G	AZ, CO, NM, UT
USA	H	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.

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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.

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.

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