Highlights
The 12-month moving average of production continued in its declining trend while the purchases growth rate was positive. In August, tie production rebounded from July's seasonally low volume, though still below first quartile. Purchases exhibited a similar pattern.

Long-Term Trends
Production dropped at a 9.1% annual rate.
Purchases advanced at a 2.5% annual rate.
Inventory's 12 month moving average (12MMA) grew by 5.8% from year ago levels.
Inventory-to-Sales Ratio’s 12MMA grew from 0.8 to 0.84.
Table of Annual Observations

*Production and Purchases are 12 months rolling totals, Inventory and ISR are 12MMA*

<table>
<thead>
<tr>
<th>Date</th>
<th>Production</th>
<th>Purchases</th>
<th>Inventory</th>
<th>ISR</th>
</tr>
</thead>
<tbody>
<tr>
<td>August 2020</td>
<td>20,007</td>
<td>17,830</td>
<td>14,678</td>
<td>0.80</td>
</tr>
<tr>
<td>August 2021</td>
<td>18,190</td>
<td>18,279</td>
<td>15,529</td>
<td>0.84</td>
</tr>
</tbody>
</table>

Tie Production and Purchases - 12 Months Rolling Total

Tie Inventory - 12 Months Moving Average
Analysis of Quarterly Data

Production in Q2 increased by 8.8% from last quarter and dwindled by 9.3% from year ago. For the same intervals, purchases increased by 66.2% and rose by 8.7% respectively. Inventory’s 3MMA fell by 8.1% from last quarter and expanded by 1% from year ago levels. From Q1 to Q2 2021, the 3MMA of Inventory-to-Sales Ratio dropped from 0.87 to 0.83. Year ago, the ratio was 0.86.

<table>
<thead>
<tr>
<th>Date</th>
<th>Production</th>
<th>Purchases</th>
<th>Inventory</th>
<th>ISR</th>
</tr>
</thead>
<tbody>
<tr>
<td>June 2020</td>
<td>4,986</td>
<td>5,377</td>
<td>14,913</td>
<td>0.86</td>
</tr>
<tr>
<td>March 2021</td>
<td>4,154</td>
<td>3,517</td>
<td>16,393</td>
<td>0.87</td>
</tr>
<tr>
<td>June 2021</td>
<td>4,521</td>
<td>5,846</td>
<td>15,068</td>
<td>0.83</td>
</tr>
</tbody>
</table>
Quarterly pattern of production and purchases uses data from January 2000. The top graph shows data analysis within each quarter. It shows the median, upper quartile and lower quartile boundary (a more detailed explanation is available in the Appendix section). It also displays what the production and purchases were in each quarter of reporting year represented by black points in relation to quarterly statistical values. The second graph shows the contribution of each quarter to the total annual production and purchases.

Analysis of Monthly Data
Production expanded by 32.6% from last month and dropped by 10.5% from year ago. For the same time intervals, purchases rose by 21.7% and decreased by 1.6% respectively. Inventory levels decreased by 1% from last month and came down by 0.6% from year ago levels. From month ago, the Inventory-to-Sales Ratio dropped from 0.81 to 0.8, and from year ago, the ratio decreased from 0.83.
Table of Monthly Observations

<table>
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<tr>
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<th>Production</th>
<th>Purchases</th>
<th>Inventory</th>
<th>ISR</th>
</tr>
</thead>
<tbody>
<tr>
<td>August 2020</td>
<td>1,803</td>
<td>1,793</td>
<td>14,776</td>
<td>0.83</td>
</tr>
<tr>
<td>July 2021</td>
<td>1,217</td>
<td>1,448</td>
<td>14,837</td>
<td>0.81</td>
</tr>
<tr>
<td>August 2021</td>
<td>1,613</td>
<td>1,763</td>
<td>14,687</td>
<td>0.80</td>
</tr>
</tbody>
</table>

Sales-to-Production Ratio shows the replenishment/diminishment of inventory. Ratio above one signals diminishment and ratio below one replenishment of inventory stock.

The following graph tells the same story as the graph above, just the ratio is reversed - Production-to-Sales Ratio.
Inventory-to-Sales Ratio (ISR) histogram of relative frequencies shows the monthly ISR data distribution and the black point represents the value for the current reporting month.

12% of the time, the values of ISR were between 0.783 and 0.798.
**Box Plot Explained**

Underlying data displayed as 'jittered' points

- Maximum value.
  - The three datapoints are outliers because they are beyond 1.5 times the interquartile range (IQR).

- 1.5*IQR
  - Upper quartile - 75% of observations are below this line and 25% above this line
  - Median - half of observations are less than and half more than the median
  - Lower quartile - 25% of observations are below this line and 75% above this line

This datapoint is not an outlier because it is within defined distance from the lower quartile line

- Minimum value - in this case, also an outlier - barely

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**Histogram of Relative Frequencies Explained**

12% of the time, the values of ISR were between 0.795 and 0.81.