

University of Nebraska - Lincoln

DigitalCommons@University of Nebraska - Lincoln

---

Nebraska Tractor Tests

Tractor Test and Power Museum, The Lester F.  
Larsen

---

January 1965

## Test 929: Allis-Chalmers 190 XT (Gasoline)

Nebraska Tractor Test Lab

University of Nebraska-Lincoln, [tractortestlab@unl.edu](mailto:tractortestlab@unl.edu)

Follow this and additional works at: <https://digitalcommons.unl.edu/tractormuseumlit>



Part of the [Energy Systems Commons](#), [History of Science, Technology, and Medicine Commons](#), [Other Mechanical Engineering Commons](#), [Physical Sciences and Mathematics Commons](#), [Science and Mathematics Education Commons](#), and the [United States History Commons](#)

---

Nebraska Tractor Test Lab, "Test 929: Allis-Chalmers 190 XT (Gasoline)" (1965). *Nebraska Tractor Tests*. 1306.

<https://digitalcommons.unl.edu/tractormuseumlit/1306>

This Article is brought to you for free and open access by the Tractor Test and Power Museum, The Lester F. Larsen at DigitalCommons@University of Nebraska - Lincoln. It has been accepted for inclusion in Nebraska Tractor Tests by an authorized administrator of DigitalCommons@University of Nebraska - Lincoln.

# NEBRASKA TRACTOR TEST 929 - ALLIS-CHALMERS ONE-NINETY XT GASOLINE

## POWER TAKE-OFF PERFORMANCE

| Hp  | Crankshaft speed rpm | Fuel Consumption |              | Hp-hr per gal | Temperature Degrees F |              |              | Barometer inches of Mercury |
|---|----------------------|------------------|--------------|---------------|-----------------------|--------------|--------------|-----------------------------|
|   |                      | Gal per hr       | Lb per hp-hr |               | Cooling medium        | Air wet bulb | Air dry bulb |                             |
| <b>MAXIMUM POWER AND FUEL CONSUMPTION</b>               |                      |                  |              |               |                       |              |              |                             |
| <b>Rated Engine Speed—Two Hours</b>                     |                      |                  |              |               |                       |              |              |                             |
| 89.53   | 2201                 | 8.033            | 0.553        | 11.15         | 191                   | 54           | 75           | 28.962                      |
| <b>Standard Power Take-off Speed (540 rpm)—One Hour</b> |                      |                  |              |               |                       |              |              |                             |
| 82.30   | 1937                 | 7.179            | 0.538        | 11.46         | 189                   | 55           | 76           | 28.960                      |
| <b>VARYING POWER AND FUEL CONSUMPTION—TWO HOURS</b>     |                      |                  |              |               |                       |              |              |                             |
| 78.58   | 2273                 | 7.651            | 0.601        | 10.27         | 183                   | 54           | 74           | .....                       |
| 0.00  | 2431                 | 2.884            | .....        | .....         | 172                   | 54           | 73           | .....                       |
| 40.69   | 2353                 | 5.306            | 0.804        | 7.67          | 179                   | 55           | 74           | .....                       |
| 89.77   | 2201                 | 8.069            | 0.554        | 11.13         | 190                   | 56           | 76           | .....                       |
| 20.66   | 2391                 | 4.125            | 1.231        | 5.01          | 176                   | 56           | 76           | .....                       |
| 59.82   | 2307                 | 6.255            | 0.645        | 9.56          | 183                   | 57           | 76           | .....                       |
| Av 48.25  | 2326                 | 5.715            | 0.731        | 8.44          | 180                   | 55           | 75           | 28.967                      |

## DRAWBAR PERFORMANCE

| Hp | Drawbar pull lbs | Speed miles per hr | Crankshaft speed rpm | Slip of drivers % | Fuel Consumption |              | Hp-hr per gal | Temp Degrees F |              |              | Barometer inches of Mercury |
|----|------------------|--------------------|----------------------|-------------------|------------------|--------------|---------------|----------------|--------------|--------------|-----------------------------|
|    |                  |                    |                      |                   | Gal per hr       | Lb per hp-hr |               | Cooling med    | Air wet bulb | Air dry bulb |                             |

### VARYING DRAWBAR POWER AND FUEL CONSUMPTION WITH BALLAST

|  |      |      |      |      |       |       |      |     |    |    |        |
|--|------|------|------|------|-------|-------|------|-----|----|----|--------|
| <b>Maximum Available Power—Two Hours—4th Gear</b>      |      |      |      |      |       |       |      |     |    |    |        |
| 76.65  | 6827 | 4.21 | 2204 | 9.82 | 8.463 | 0.681 | 9.06 | 182 | 38 | 43 | 29.005 |
| <b>75% of Pull at Maximum Power—Ten Hours—4th Gear</b> |      |      |      |      |       |       |      |     |    |    |        |
| 60.78  | 5031 | 4.53 | 2291 | 6.60 | 6.965 | 0.707 | 8.73 | 183 | 52 | 56 | 28.560 |
| <b>50% of Pull at Maximum Power—Two Hours—4th Gear</b> |      |      |      |      |       |       |      |     |    |    |        |
| 43.08  | 3379 | 4.78 | 2351 | 3.99 | 5.955 | 0.853 | 7.23 | 182 | 31 | 34 | 29.085 |

### MAXIMUM POWER WITH BALLAST

|       |      |       |      |       |          |       |     |    |    |        |
|-------|------|-------|------|-------|----------|-------|-----|----|----|--------|
| 67.60 | 9199 | 2.76  | 2293 | 14.95 | 2nd Gear | ..... | 188 | 41 | 45 | 28.890 |
| 76.03 | 8676 | 3.29  | 2205 | 13.13 | 3rd Gear | ..... | 189 | 41 | 45 | 28.890 |
| 79.24 | 7029 | 4.23  | 2207 | 9.49  | 4th Gear | ..... | 185 | 40 | 45 | 29.000 |
| 80.67 | 6144 | 4.92  | 2203 | 8.30  | 5th Gear | ..... | 188 | 40 | 45 | 29.000 |
| 81.26 | 4915 | 6.20  | 2200 | 6.32  | 6th Gear | ..... | 188 | 41 | 45 | 28.890 |
| 81.61 | 3175 | 9.64  | 2198 | 4.03  | 7th Gear | ..... | 188 | 41 | 45 | 28.890 |
| 77.58 | 2107 | 13.81 | 2188 | 2.99  | 8th Gear | ..... | 188 | 41 | 45 | 28.890 |

### MAXIMUM POWER WITHOUT BALLAST

|       |      |      |      |       |          |       |     |    |    |        |
|-------|------|------|------|-------|----------|-------|-----|----|----|--------|
| 62.88 | 5648 | 4.18 | 2293 | 14.89 | 4th Gear | ..... | 188 | 32 | 39 | 29.060 |
|-------|------|------|------|-------|----------|-------|-----|----|----|--------|

### VARYING DRAWBAR PULL AND TRAVEL SPEED WITH BALLAST—4th Gear

|                       |       |       |       |       |       |       |
|-----------------------|-------|-------|-------|-------|-------|-------|
| Pounds pull           | 7029  | 7292  | 7277  | 7238  | 7160  | 7127  |
| Horsepower            | 79.24 | 73.16 | 64.68 | 56.30 | 47.84 | 39.50 |
| Crankshaft speed, rpm | 2207  | 1977  | 1751  | 1533  | 1312  | 1090  |
| Miles per hour        | 4.23  | 3.76  | 3.33  | 2.92  | 2.51  | 2.08  |
| Slip of drivers, %    | 9.49  | 10.20 | 10.20 | 10.08 | 9.95  | 10.08 |

### TIRES, BALLAST and WEIGHT

|                                   |                      | With Ballast       | Without Ballast    |
|-----------------------------------|----------------------|--------------------|--------------------|
| <b>Rear tires</b>                 | —No, size, ply & psi | Two 18.4-34; 8; 16 | Two 18.4-34; 8; 16 |
| <b>Ballast</b>                    | —Liquid              | 920 lb each        | None               |
|                                   | —Cast iron           | 900 lb each        | None               |
| <b>Front tires</b>                | —No, size, ply & psi | Two 7.50-16; 6; 28 | Two 7.50-16; 6; 28 |
| <b>Ballast</b>                    | —Liquid              | None               | None               |
|                                   | —Cast iron           | None               | None               |
| <b>Height of drawbar</b>          |                      | 19½ inches         | 21 inches          |
| <b>Static weight</b>              | —Rear                | 8860 lb            | 5220 lb            |
|                                   | —Front               | 2320 lb            | 2280 lb            |
| <b>Total weight with operator</b> |                      | 11355 lb           | 7675 lb            |

Department of Agricultural Engineering

Dates of Test: NOVEMBER 9 TO NOVEMBER 16, 1965

Manufacturer: ALLIS-CHALMERS MANUFACTURING COMPANY, MILWAUKEE, WISCONSIN

**FUEL, OIL and TIME** Fuel regular gasoline Octane No 85.2 Research 92.3 (rating taken from oil company's typical inspection data) Specific gravity converted to 60°/60° 0.7410 Weight per gallon 6.168 lb Oil SAE 10W-30 API service classification MS, DM To motor 1.964 gal Drained from motor 1.455 gal Transmission and final-drive lubricant E.P. 80 Total time engine was operated 40 hours.

**ENGINE** Make Allis-Chalmers gasoline Type 6 cylinder vertical Serial No 2G-03128 Crankshaft mounted lengthwise Rated rpm 2200 Bore and stroke 3⅞" x 4¼" Compression ratio 8.0 to 1 Displacement 301 cu in Carburetor size 1½" Ignition system battery Cranking system 12 volt electric Lubrication pressure Air cleaner dry type with replaceable pleated paper element Oil filter replaceable pleated paper cartridge Oil cooler radiator for hydraulic oil Fuel filter sediment bowls with screens Muffler was used Cooling medium temperature control thermostat.

**CHASSIS** Type standard Serial No 190 6973-XT Tread width rear 64" to 80" front 60" to 84" Wheel base 105¾" Center of gravity (without operator or ballast, with minimum tread, with fuel tank filled and tractor serviced for operation) Horizontal distance forward from center-line of rear wheels 31.6" Vertical distance above roadway 39.4" Horizontal distance from center of rear wheel tread 0" to the right/left Hydraulic control system direct engine drive Transmission selective gear fixed ratio with operator controlled partial range power shifting Advertised speeds mph first 2.1 second 3.0 third 3.6 fourth 4.4 fifth 5.1 sixth 6.3 seventh 9.6 eighth 13.6 reverse 2.8 and 3.9 Clutch single plate dry disc operated by foot pedal Brakes contracting band and disc operated by two foot pedals which can be locked Steering hydraulic with power assist Turning radius (on concrete surface with brake applied) right 133" left 133" (on concrete surface without brake) right 156" left 156" Turning space diameter (on concrete surface with brake applied) right 281" left 281" (on concrete surface without brake) right 300" left 300" Belt pulley 1845 rpm at 2200 engine rpm diam 9" face 6⅞" Belt speed 4347 fpm Power take-off 540 rpm at 1937 engine rpm.

**REPAIRS and ADJUSTMENTS** No repairs or adjustments.

**REMARKS** All test results were determined from observed data obtained in accordance with the SAE and ASAE test code.

First gear was not run as it was necessary to limit the pull in second gear to avoid excessive wheel slippage.

We, the undersigned, certify that this is a true and correct report of official Tractor Test 929.

L. F. LARSEN

Engineer-in-Charge

G. W. STEINBRUEGGE, Chairman

J. J. SULEK

D. E. LANE

Board of Tractor Test Engineers

The University of Nebraska Agricultural Experiment Station  
E. F. Frolik, Dean; H. H. Kramer, Director, Lincoln, Nebraska