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MANUAL PREVIEW

# *Allis Chalmers*

## Operator's Manual

### 4W-305

### Diesel 4 Wheel Drive

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AC-O-4W-305

**4W-305**

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## SPECIFICATIONS

## PERFORMANCE

Manufacturers maximum observed PTO horsepower at rated engine speed ..... 250.0 PTO H.P. (186.5 kW)

## ENGINE

Type ..... Turbo-charged w/counterbalanced Crankshaft  
 Model ..... Allis-Chalmers 6120 T  
 Number of Cylinder ..... 6 in line  
 Bore ..... 5.250" (133.35 mm)  
 Stroke ..... 5.625" (142.88 mm)  
 Displacement ..... 731 cu. in. (119 79 cm<sup>3</sup>)  
 Compression ratio ..... 16.25:1  
 Firing order ..... 1 - 5 - 3 - 6 - 2 - 4  
 Operating speed range ..... 950 - 2580 RPM  
 Rated Speed ..... 2300 RPM  
 High Idle ..... 2430 - 2580 RPM  
 Low Idle ..... 950 - 1050 RPM  
 Valve Lash - Hot  
 Intake ..... .015" (0.38 mm)  
 Exhaust ..... .020" (0.51 mm)  
 Fuel Injection Pump  
 Make ..... Bosch  
 Model ..... P with RQV Governor  
 Injection Timing ..... 40° BTDC  
 Fuel Injection Nozzles  
 Make ..... Bosch  
 Opening Pressure ..... 4100 - 4150 PSI  
 (18270 - 28614 kPa)  
 Engine equipped with Ether Starting Aid

## DIMENSIONS (With 20.8 x 38 rear and front tires)

Height at hood ..... 97" (2464 mm)  
 Height to top of Cab ..... 139" (3531 mm)  
 Width at ends of axles ... 95.5" Standard (2426 mm) -  
 119.5" Optional (3035 mm)  
 Wheelbase ..... 126" (3200 mm)  
 Overall Length ..... 285" (7239 mm)  
 Clearance  
 Front Axle ..... 25.8" (655 mm)  
 Rear Axle ..... 29.9" (759 mm)  
 Drawbar swing - 3-Point Hitch ..... 16" (406 mm)  
 Wide Swing ..... 36" (914 mm)  
 Ground Clearance ..... 17" (432 mm)

## CAPACITIES

Fuel Tanks ..... 200 Gal. (757 litres)  
 Cooling System ..... 72 Qts. (68.1 litres)  
 Crankcase oil and two full flow filter change ... 46 Qts.  
 (43.5 litres)  
 Crankcase oil and three oil filter change ..... 60 Qts.  
 (56.8 litres)  
 Transmission oil filter and dropbox change ... 11 Gal.  
 (41.6 litres)  
 Rear Differential & Rear Frame oil and two filters  
 change ..... 26 Gal. (98 litres)  
 Front Axle Oil Change ..... 15.5 Gal. (58.6 litres)  
 Power Take-off speed - Independent (Standard) . 1017  
 RPM  
 Approx. Shipping Weight of Typical Tractor 27100 lbs.  
 (12 292 kg)

## ELECTRICAL SYSTEM

Type ..... 12 volt negative ground  
 Voltage Regulator ... Solid State Built into Alternator  
 Starting Motor ..... Solenoid Engaged  
 Lights ..... 2 Headlights, 2 Dual Beam Headlights,  
 1 Rear Floodlight, 1 Tail Light, 4 Warning Lights

## ENGINE SPEED VERSUS P.T.O. SPEED

| Engine RPM            | Power Take-Off RPM 1000 |
|-----------------------|-------------------------|
| Low Idle 950 - 1050   | 420 - 464               |
| Rated Speed 2300      | 1017                    |
| High Idle 2430 - 2580 | 1075 - 1141             |

Allis-Chalmers reserves the right to make changes in the above specifications or to add improvements at any time without notice or obligation.

## WHEEL TREADS

## 4W-305 TRACTOR WITH OPTIONAL CATEGORY IV – N COUPLER

To prevent interference with tires, sway blocks must be positioned to present all sway when tread width is less than indicated below.

## SINGLE WHEEL

| TIRE SIZE         |        | NON-POWER SHIFT |      |           |      | POWER SHIFT |      |           |      |
|-------------------|--------|-----------------|------|-----------|------|-------------|------|-----------|------|
|                   |        | Short Axle      |      | Long Axle |      | Short Axle  |      | Long Axle |      |
|                   |        | Inches          | mm   | Inches    | mm   | Inches      | mm   | Inches    | mm   |
| 18.4 x 38<br>R-1  | A Min. | 45.5            | 1156 | 45.5      | 1156 | 41.13       | 1045 | 41.13     | 1045 |
|                   | B Min. | 68.0            | 1727 | 68.0      | 1727 | 61.0        | 1549 | 61.0      | 1549 |
|                   | E Max. | 110.87          | 2816 | 134.87    | 3426 | 118.87      | 3019 | 142.87    | 3629 |
|                   | B Max. | 91.0            | 2311 | 115.0     | 2921 | 99.0        | 2515 | 123.0     | 3124 |
| 20.8 x 38<br>R-1  | A Min. | 45.5            | 1156 | 45.5      | 1156 | 42.54       | 1131 | 42.54     | 1131 |
|                   | B Min. | 68.0            | 1727 | 68.0      | 1727 | 65.0        | 1631 | 65.0      | 1651 |
|                   | E Max. | 113.46          | 2882 | 137.46    | 3491 | 121.46      | 3085 | 145.46    | 3695 |
|                   | B Max. | 91.0            | 2311 | 115.0     | 2921 | 99.0        | 2515 | 123.0     | 3124 |
| 23.1 x 30<br>R-20 | A Min. | 40.05           | 1017 | 40.05     | 1017 | ---         | ---  | ---       | ---  |
|                   | B Min. | 65.0            | 1651 | 65.0      | 1651 | ---         | ---  | ---       | ---  |
|                   | E Max. | 117.95          | 2996 | 141.95    | 3606 | ---         | ---  | ---       | ---  |
|                   | B Max. | 94.0            | 2388 | 128.0     | 3251 | ---         | ---  | ---       | ---  |
| 23.1 x 30<br>R-1  | A Min. | 39.02           | 991  | 39.05     | 992  | ---         | ---  | ---       | ---  |
|                   | B Min. | 64.0            | 1626 | 64.0      | 1626 | ---         | ---  | ---       | ---  |
|                   | E Max. | 117.95          | 2996 | 141.95    | 3606 | ---         | ---  | ---       | ---  |
|                   | B Max. | 94.0            | 2388 | 128.0     | 3251 | ---         | ---  | ---       | ---  |
| 24.5 x 32<br>R-20 | A Min. | 42.54           | 1081 | 42.54     | 1081 | ---         | ---  | ---       | ---  |
|                   | B Min. | 69.0            | 1753 | 69.0      | 1753 | ---         | ---  | ---       | ---  |
|                   | E Max. | 130.46          | 3314 | 154.46    | 3923 | ---         | ---  | ---       | ---  |
|                   | B Max. | 104.0           | 2642 | 128.0     | 3251 | ---         | ---  | ---       | ---  |
| 30.5 x 32<br>R-1  | A Min. | 40.06           | 1018 | 40.06     | 1018 | ---         | ---  | ---       | ---  |
|                   | B Min. | 73.0            | 1854 | 73.0      | 1854 | ---         | ---  | ---       | ---  |
|                   | E Max. | 142.95          | 3631 | 166.94    | 4240 | ---         | ---  | ---       | ---  |
|                   | B Max. | 110.0           | 2794 | 134.0     | 3404 | ---         | ---  | ---       | ---  |
| 18.4 x 38<br>R-2  | A Min. | 42.13           | 1070 | 42.13     | 1070 | ---         | ---  | ---       | ---  |
|                   | B Min. | 62.0            | 1575 | 62.0      | 1575 | ---         | ---  | ---       | ---  |
|                   | E Max. | 110.87          | 2816 | 134.87    | 3426 | ---         | ---  | ---       | ---  |
|                   | B Max. | 91.0            | 2311 | 115.0     | 2921 | ---         | ---  | ---       | ---  |
| 24.5 x 32<br>R-1  | A Min. | 40.54           | 1030 | 40.54     | 1030 | ---         | ---  | ---       | ---  |
|                   | B Min. | 67.0            | 1702 | 67.0      | 1702 | ---         | ---  | ---       | ---  |
|                   | E Max. | 130.46          | 3314 | 154.46    | 3923 | ---         | ---  | ---       | ---  |
|                   | B Max. | 104.0           | 2642 | 128.0     | 3251 | ---         | ---  | ---       | ---  |