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MANUAL PREVIEW

Allis Chalmers

Operator's Manual

645B

Wheel Loader

Operator's Manual

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AC-O-645B W/L

ENGINE (Continued)

Type - Vertical in-line, compression ignition, water cooled, supplementary jet spray piston cooling four cycle, direct injection, open combustion chamber, turbocharged

Number of cylinders	6	
Bore	4.25 in.	(108 mm)
Stroke	5 in.	(127 mm)
Crankshaft rotation (viewed from fan end)	Clockwise	
Number of main bearings	7	
Piston displacement	426 cu. in.	(6980 cm ³)
Firing order	1 - 5 - 3 - 6 - 2 - 4	
Lubrication	Full pressure	
Fuel used - Refer to FUEL SPECIFICATIONS AND STORAGE	Fuel injection pump	
Fuel supplied by	Fuel injection pump	
Low idle speed	750 - 800 rpm	
High idle speed	2360 - 2460 rpm	
Rated R. P. M. (governed at full load)	2200 rpm	
Air cleaner	Dry type	
Oil filter	Full flow	
Electrical system	24-volt	
Converter stall at 200° - 225°F. (93° - 107°C), converter temperature	2225 - 2325 rpm	
Full stall at 200° - 225°F. (93° - 107°C), converter temperature 175° - 185°F. (79° - 85°C), hydraulic oil temperature	1775 rpm min.	
Pump stall at 180° - 200°F. (82° - 93°C)	2230 rpm min.	
Oil pressure of 180° - 200°F. (82° - 93°C), 2200 rpm	35 - 55 psi	(2.5 - 3.8 kg/cm ²)
Oil pressure of 180° - 200°F. (82° - 93°C), low idle	15 psi min.	(1.0 kg/cm ²)
Belt tension:		
Fan and compressor	95 - 115 lb. run in.	(43.1 - 52.21 kgs)
Alternator Set	95 - 115 lb. run in. (each belt)	(43.1 - 52.2 kgs)
Intake manifold pressure at 2250 - 2325 rpm	13 ± 1 psi	(.91 ± .07 kg/cm ²)

CAPACITIES (APPROXIMATE) (U.S. STANDARD MEASURE)

Cooling system	42 qts.	(39.74 lts)
Crankcase (oil and filter change) (Standard Filter)	19 qts.	(17.97 lts)
Crankcase (oil and filter change - equipped with an optional filter)	29 qts.	(27.4 lts)
Transmission (oil and filter change)	35 qts.	(33.12 lts)
Differentials (Includes planetaries)		
Front	33 qts.	(31.22 lts)
Rear	26 qts.	(24.60 lts)
Steering gear	1.5 lbs.	(0.68 kg)
Fuel tank	55 gals.	(208.17 lts)
Hydraulic system	47 gals.	(177.91 lts)
Brake master cylinder	2 pts.	(.94 lts)

SPEEDS (MPH AT 2300 R.P.M.)

Forward		
1	3.0 mph	(4.8 km/h)
2	6.5 mph	(10.4 km/h)
3	11.7 mph	(18.8 km/h)
4	23.0 mph	(37.0 km/h)
Reverse		
1	2.9 mph	(4.7 km/h)
2	8.7 mph	(14.0 km/h)



FIG. 12 RIGHT SIDE OF ENGINE

T-76680

- | | | |
|-------------------------|-----------------------------|-----------------------|
| 1. Air cleaner | 5. Crankcase filler pipe | 8. Air compressor |
| 2. Turbocharger | 6. Lubricating oil dipstick | 9. Hour meter |
| 3. Engine breather tube | 7. Transmission oil filter | 10. Water conditioner |
| 4. Starting motor | | |

10-HOUR SERVICES

CHECK

1. ENGINE CRANKCASE - OIL LEVEL

Check oil level at operating temperature. After stopping the engine, allow several minutes for oil to drain back to the oil pan. Check oil level with dipstick (Fig. 12), adding specified oil as necessary to bring level to upper mark on dipstick. Refer to ENGINE LUBRICATION SYSTEM for detailed information.

2. HYDRAULIC SYSTEM - OIL LEVEL

Check oil level in the hydraulic tank by using sight gauge (Fig. 13).

NOTE: The suction line strainer and magnet (Fig. 39) should be removed and cleaned after each 250 hours of operation or more often if conditions warrant. Refer to HYDRAULIC SYSTEM for detailed information.

Legend for Fig. 42

1. Shoulder bolt Torque = 30-35 lbs. ft. (4.1-4.8 kg/m)
2. Bell Crank
3. Master Cylinder

AUTOMATIC HYDRAULIC BOOM KICK-OUT
(Special Equipment)

The automatic Boom Kick Out allows the operator to adjust the control so that the boom will stop at a pre-determined height automatically.

1. Adjust detent for desired lever effort and detent retention.

2. Fill system with brake fluid (SAE J1703)

3. Bleed system of air at point (1) in Fig. 40A. Master cylinder lever (2) in Fig. 43 may be actuated by hand or an external pressure bleeder can be connected to the master cylinder's filler cap opening to create hydraulic pressure for bleeding. Refer to the Hydraulic Service Manual for detailed information.

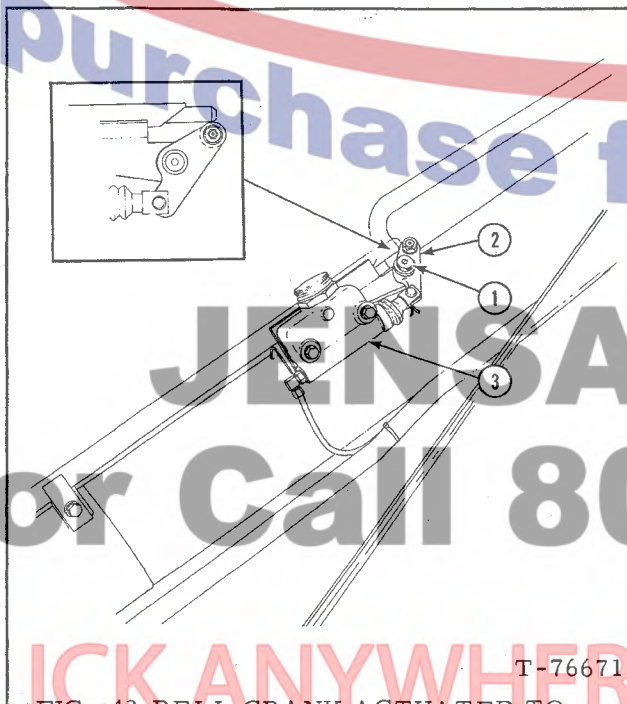


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FIG. 41 INDICATOR ROD NUTS

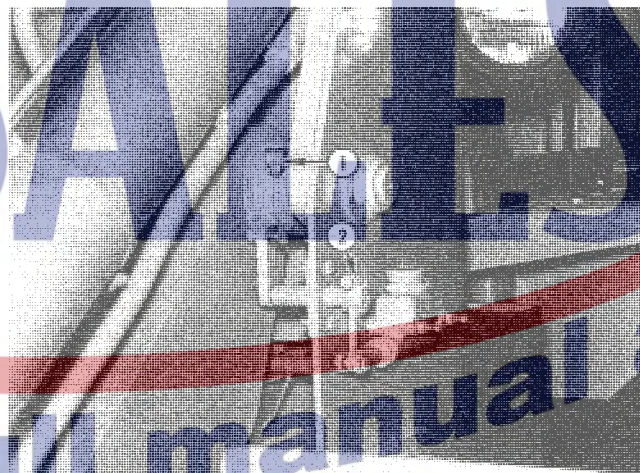
1. Nuts
 2. Indicator rod
8. Tighten lock nut to hold capscrew (2) in the position shown in Figure 40A.

Refer to HYDRAULIC SYSTEM SERVICE MANUAL for additional information.



T-76671

FIG. 42 BELL CRANK ACTUATED TO ITS FULLEST



T-76673

FIG. 43 MASTER CYLINDER

1. Clamp
 2. Lever
4. With boom down and engine off, position clamp (1) as shown at point "A" in Fig. 43C.
5. Start engine and raise boom until roller is at high spot on cam, shown at point "B". This should provide 1 in. (25.4mm) of stroke to the master cylinder. Additional stroke, if required, can be obtained by extending the yoke, item "C", from the push rod. Position bucket on ground and stop engine.
6. Place boom control lever in raise position.
7. Adjust slave cylinder capscrew until head is .25 in. (6.3mm) from lever, see point "D".

ROPS CAB GENERAL DESCRIPTION



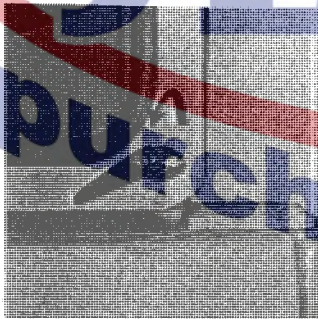
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FIG. 85 ROPS CAB

- | | |
|----------------------|---------------------------|
| 1. Auxiliary lights | 4. Cab |
| 2. Turn signals | 5. Sliding door glass |
| 3. Rear window wiper | 6. Front windshield wiper |

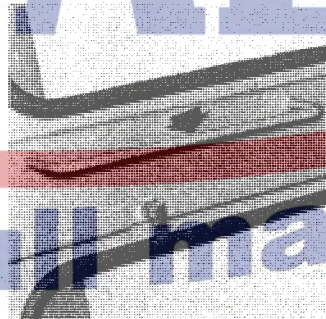
The Allis-Chalmers designed cab is a welded construction type with the ROPS (Roll Over Protection Structure) incorporated within. In addition to the attractive appearance and roominess, the cab provides improved acoustical characteristics through an isolation mounting system using rubber bushings on the mounting pins and by a tapered wall design. Excellent operator visibility is permitted by the optimum location of the front tubular structure and the extensive use of safety glass. Doors and windows can be locked in the open or closed summer position to allow for proper ventilation or secured for winter operation and vandal protection. In addition to these features the cab comes equipped with a front windshield wiper. Other attachments are available for the cab, such as a rear window wiper, defroster fans, auxiliary lights, turn signals, and sliding door glass, from your local dealer.

CAB DOORS



T-77276
FIG. 86

Open cab doors by pulling downward, on chrome plated handles, as far as possible.



T-77278
FIG. 88

Once inside cab, the handrail should be used to pull door closed.



T-77277
FIG. 87

Once door handle is unlocked, pull to open.



T-77279
FIG. 89

Opening the door, from inside the cab, is done by pushing downward on the handle, as far as possible. Then apply a slight hand pressure and push open.

INDEX

A

Accelerator pedal	37
Additional publications available	4
Adjustments, periodic	33
Air cleaner	22, 59
Cap	33
Air compressor	31, 68
Air pressure gauge	40
Alcohol injector	25, 69
Alternator	58
Ammeter	40
Attachments	6
Automatic boom kick-out	34, 35a
Automatic bucket leveler	33
Axle	26, 64
Anchor pins	31
Breathers	27
Capacities	32
Differentials	26, 31, 64
Hubs	26, 31, 64

B

Backfilling	47
Batteries	16, 25, 57
Boom control lever	37
Boom kick-out	34
Brake	67
Adjustment	69
Air tank	9, 23
Emergency	41, 67
Fluid	12
Master cylinder	26
Parking	38
Pedals	38
Breather tube, engine	33
Buckets	6, 9, 76
Control lever	38
Light material	6
Loading	45
Bucket leveler	33
By-pass oil filter	56

C

Cab	6, 80
Cap, air cleaner	33
Capacities	8, 32
Capscrews, nuts and pins - tightness	27
Circuit breakers	39, 57
Circuit overload relief valves	73
Clutch cut-off valve	38
Cylinder	75
Dump	62
Head	75
Lift	62
Valves	75

D

Dash lights	40
Differential	12
Drive belt adjustment	33, 50
Drive shaft cartridge assy.	28

E

Electrical system	57
Engine	7, 8
Breather tube	33
Cooling system	33, 49
Crankcase lubricating oil	14, 15
Crankcase oil & oil level	12, 14, 21
Idling	43, 54
Lubricating oil change	55
Lubrication system	55
Oil coolers	56
Oil filters	55
Oil pressure gauge	40
Specifications	7
Starting	41
Stopping	43
Temperature gauge	40
Excavating	46

F

Filters	28, 51, 53, 63
Fittings	33
Foreword	1
Frame pivot pins	31
Fuel	30, 52
Filter	25, 40
Gauge (dipstick)	52
Injection pump	37
Shut-off	11
Specifications	11
Storage	11
System	52
Tank	16, 25, 29, 52

G

General description	5
General dimensions	7
Grading	47

H

High altitude operation	61
Horn button	38
Hoses	33
Hydraulic suction line screen	29
and magnet	7, 70
Hydraulic system	12
Oil	31, 74
Oil - drain, flush and refill	21, 73
Oil level	29, 71
Servicing of filters, strainer	72
and magnet	
Tank	

I

Inflation, tire	7
Instruments	39
Instrument panel (cab)	82

J

Junction box	39, 57
--------------	--------

INDEX

K

Key switch ----- 36, 40

L

Light switch ----- 40

Loader

Control linkage ----- 24

Dimensions ----- 9

Linkage ----- 24, 28

Starting ----- 43

Stopping ----- 43

Low air pressure warning light ----- 39

Lubricant specifications ----- 12

Lubrication and service guide ----- 19

Lubrication and service instructions ----- 20

M

Main pressure relief valve ----- 73

Multi-purpose bucket

(Special equipment) ----- 76

Operating instructions ----- 77

Periodic service ----- 79

Specifications ----- 77

O

Oil coolers ----- 50

Oil strainer ----- 29, 71

Operating

Controls ----- 36

Instructions ----- 41

Tips ----- 45

P

Parking brake ----- 39

Periodic services & adjustments ----- 33

Pipes ----- 33

Placing loader in motion ----- 43

Planetary axles ----- 64

Hub lubricant ----- 12

Hubs - drain oil and refill ----- 31

Power brakes ----- 67

Power steering ----- 70

Preparation for storage ----- 17

Preparation for use ----- 16

Pressure gun lubricant ----- 12

Push starting & towing ----- 43

R

Radiator ----- 22

Rear axle pivot pins ----- 24

Regulator ----- 58

Restriction indicator ----- 22

Rod packing ----- 75

S

Seat adjusting levers ----- 38

Serial number locations ----- 10

Services, periodic ----- 33

Snow blower ----- 6

Speeds ----- 8

Starting motor ----- 58

Starting of engine ----- 41

Steering

Cylinder ----- 70

Gear ----- 30

Linkage ----- 23

Wheel ----- 38

Stopping the engine ----- 43

Stripping ----- 46

T

Table of contents ----- 3

*Tines ----- 6

Tires ----- 7, 26, 65

Towing ----- 43

Transmission ----- 62

Breather ----- 27

Control lever ----- 37

Drain oil and refill ----- 32

Fluid ----- 12

Oil change ----- 62

Oil cooler ----- 56, 63

Oil filter - replace element ----- 32, 63

Oil level (dipstick) ----- 22, 62

Oil pressure gauge ----- 40

Oil strainer ----- 32, 63

Temperature gauge ----- 39

Truck loading ----- 47

Tube, engine breather ----- 33

Turbocharger ----- 61

Leakage and noise ----- 26

Turning radius ----- 7

*Throttle linkage ----- 35, 35b

U

Universal joints ----- 28

V

Vacuum - pressure relief valve ----- 73

Vandalism lock ----- 82

W

Water conditioner ----- 30, 50

Water pump ----- 50

Wiring ----- 33

Weather - cold operation ----- 44

Wheel loader ----- 5

Wheel lug nuts - torque ----- 27