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MANUAL PREVIEW

Allis Chalmers Operator's Manual

A

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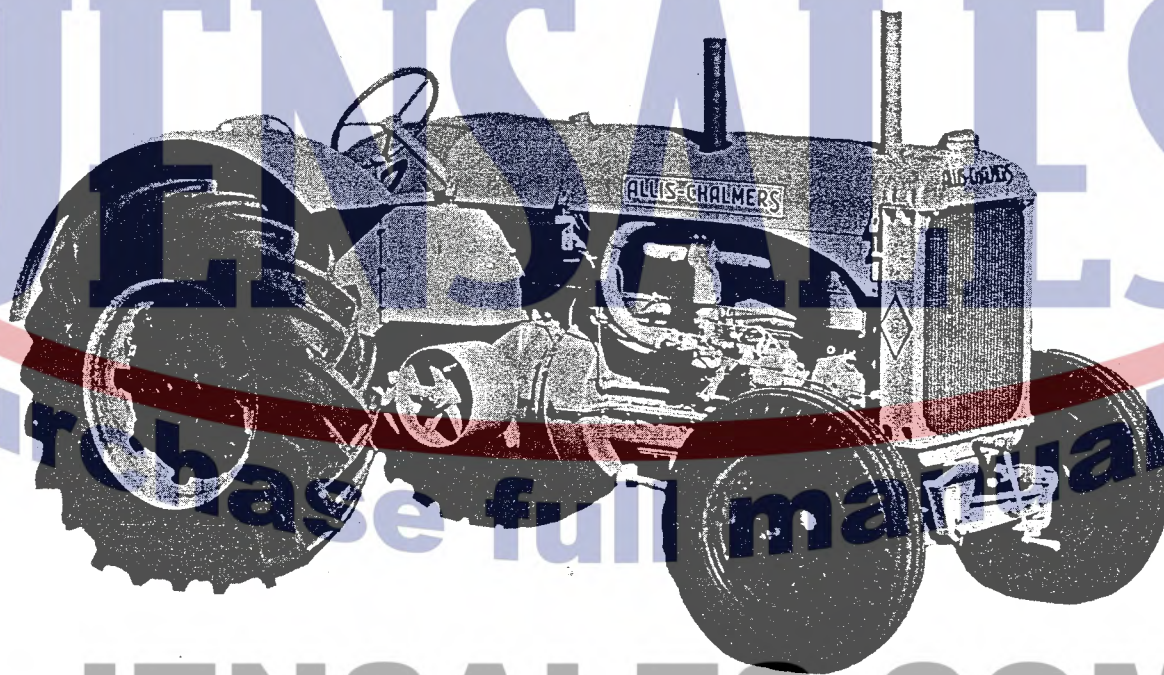
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Operator's Manual

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OPERATING DIRECTIONS

FOR ALLIS-CHALMERS MODEL A TRACTOR



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ALLIS-CHALMERS MFG. CO.

MILWAUKEE, WISCONSIN

U. S. A.

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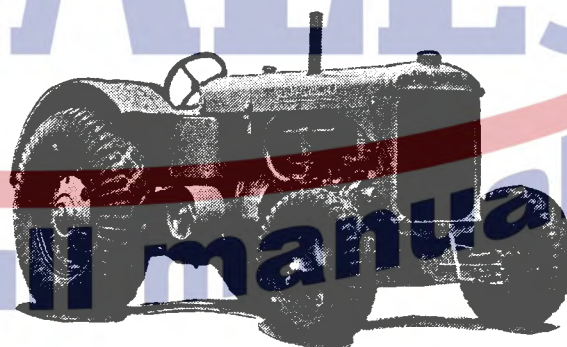
ALLIS-CHALMERS MANUFACTURING CO.

Milwaukee, Wisconsin

Allis-Chalmers Model "A"
Allis-Chalmers Model "K-O"
Allis-Chalmers Model "L-O"
Allis-Chalmers Model "S-O"

1937-1944
1937-1939
1937-1939
1937-1939

Wheels: Four wheel type, two traction in rear, 48x12½ steel.
Rubber Tires: Yes.
Tread Width: 61½.
No. of Plows Recommended: Four, 14-in.
Length: 140 in.; **Width,** 63 in.; **Height:** 66 in.; **Weight,** 7,175 lbs.
Turning Radius (Outside): 15 ft.
Engine: Own, 4¾x6½, overhead valves, 4 cylinders, removable sleeves.
Lubrication: Pressure.
Carburetor: Zenith, 1½-in.
Ignition System: Fairbanks-Morse magneto.
Starting and Lighting Equipment: Electric, special equipment.
Cooling System: Fan, pump and radiator.
Bearings: Ball and roller.
Transmission: Automotive, 2½ to 9½ m.p.h. forward; 3 m.p.h. reverse.
Final Drive: Differential.
Belt Pulley: 13x8½; 1,000 r.p.m. and 3,160 feet per minute at normal engine speed.



ALLIS-CHALMERS MODEL "A"
Allis-Chalmers Mfg. Co., Milwaukee, Wis.

1937

or Call 800-443-0625

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STARTING THE TRACTOR

With the engine running, press forward on the clutch pedal. Allow a few seconds for the gears to stop, then move the gear shift lever to the desired speed position, which is as follows: to central position and forward, reverse; central and back, low; to extreme right and back, second; to extreme right and forward, third; to extreme left and back, fourth. Release the clutch pedal slowly to avoid a sudden jerk in starting, but have throttle far enough open to avoid stalling the motor.

Tractors with serial number 26526 and above shift gears as follows: First, shift lever to the center and forward; Second, shift lever to the center and back; Third, shift lever to the right and forward; Fourth, shift lever to the extreme left and back; Reverse, shift lever to the right and back.

LUBRICATION

ENGINE: Maintain oil level in oil sump to the full mark on oil gauge rod. Use only pure minerals oils of the following S.A.E. viscosity: Summer - No. 40; Winter - No. 30. For extremely cold temperatures, a mineral oil that will flow freely at prevailing temperatures should be used.

If gasoline or other fuels of similar qualities are being used drain oil sump and refill with fresh oil of the proper quality and viscosity after each 60 hours operation.

If low grade fuel such as distillate or tractor fuel is being used, drain the oil down to the drain cock, located on side of oil sump, after each 10 hours of operation and refill to the full mark on gauge rod with fresh oil. After each 30 hours of operation, drain oil sump completely and refill with fresh oil.

Use only oil of high quality of the proper viscosity. The best assurance of securing such oil is to purchase the better grade manufactured by a dependable oil company who has established a reputation for quality products and whose success depends upon maintaining such quality.

Look at the oil pressure gauge at regular intervals to make sure oil is being circulated by the oil pump. The gauge should register approximately 15 pounds when engine is running at normal governed speed and is heated to running temperature.

The governor, timing gears, clutch pilot bearing and rocker arm assembly are lubricated from the oil sump supply and need no outside attention.

FAN AND WATER PUMP - Lubricate each 10 working hours. Lubricate front bearing through grease connection on fan pulley hub with grease gun until grease comes out at the rear around shaft. Lubricate rear connection on the pump body with five or six strokes of the grease gun.

CLUTCH: Lubricate throwout bearing each 30 hours of operation with two or three strokes of the grease gun. The grease fitting is accessible through an opening in left side of clutch housing. Do not over-lubricate this point as the excess grease may work on to the clutch plate and cause clutch to slip or become sluggish in action.

The clutch fork shaft bearings are also equipped with grease gun fittings and should receive two or three strokes of the grease gun daily. Lubricate clutch pedal bearing daily through fitting on bottom of pedal.

GEAR SHIFT LEVER SHAFT: Lubricate daily through fitting on top of shaft housing.

TRANSMISSION AND DIFFERENTIAL: These two units are lubricated from the oil supply, carried in the transmission case and filled through the opening covered by the breather cap located on the transmission case cover. Keep filled to the level of the top pipe plug located on the left-hand side of transmission case. The capacity is approximately 12 gallons and only oils of the proper body to meet prevailing temperatures should ever be used. For summer use S.A.E. 140; for winter use S.A.E. 90.

When operating in extremely cold weather, light motor oil should be added to the transmission oil supply to thin the heavy oil and insure proper circulation and lubrication.

NOTE: Keep transmission case breather cap clean by washing in gasoline and saturating with lubricating oil before replacing.

FRONT WHEELS: Lubricate daily with grease gun until grease is forced out at inner end of hub.

STEERING SPINDLES: Lubricate all fittings with two or three strokes of the grease gun daily.

STEERING BALL JOINTS: Keep packed in grease.

STEERING GEAR HOUSING: Lubricate daily with grease gun through fitting located on top of housing.

BELT PULLEY: Lubricate through fitting located on pulley shaft outer bearing cover, daily, with two or three strokes of grease gun when using pulley.

FUEL

Engines of model A tractors are built in two combinations of compressions, carburetors, and manifolds. Each combination is designed to efficiently burn a particular class of fuel. For best results, the class fuel for which the engine was designed must be used.

For engines equipped to operate strictly on gasoline. These engines are designated by the letter "G" following the engine number. Example 20654G. (Use gasoline.)

For regular load use 60 Octane gasoline or higher.
For continued heavy load use 70 Octane or higher.

For engines equipped with low grade fuel attachments. These engines are designated by the letter "K" following the engine number. Example 20654K.

Any fuel having the following specifications;
Gravity - 38 to 44; End point - 525° or less; Octane rating - 30 or more.

Engine numbers are located on the left hand side of engine block.

When burning low grade fuels certain precautions are necessary to prevent excessive dilution of the lubricating oil.

Always select a fuel to meet the specifications outlined in a preceding paragraph. Cover radiator to let engine warm up thoroughly on gasoline. Never turn on the low grade fuel until the temperature of the cooling system is near the boiling point, and when operating in cold weather, keep sufficient cover on the radiator front to maintain this temperature.

Always turn off the low grade fuel and switch to gasoline before engine is stopped so that carburetor will contain gasoline when engine is again started.

FUEL FILTER

A fuel filter is located just below the fuel tank and should be cleaned at regular intervals. Remove the glass bowl and screen, and wash out any sediment or water that may have accumulated.

AIR CLEANER

Instructions as to care of the air cleaner are given on the air cleaner body. Follow these instructions carefully. Be sure the oil cup is filled to the level of the bead stamped on the side of the cup. Used crank case oil is satisfactory if thin and clean. The use of heavy oil in the cup will result in a restriction of air to the carburetor, resulting in an over-rich mixture and excessive dilution of the lubricating oil. Inspect after each 10 hours of operation, and if the oil is heavy with dirt, or if the cup contains a layer of sediment, drain and refill with fresh oil.

Inspect the hose connections on air inlet frequently and keep them tight and in good condition.

BREATHERS

The crankcase breather caps, located on top of the cylinder head covers, should be inspected daily. They must not be allowed to become clogged with dirt as pressure will be created in crankcase, causing oil leaks at main bearings, magneto shaft and other points. Wash breather caps in gasoline, dip in lubricating oil and replace after throwing off excess oil.

CLUTCH

The clutch is of the spring loaded single plate dry disc type. The release engagement is by movement of the clutch shifter and the throwout bearing contacting the 3 release levers.

Each release lever has an adjusting screw which is for the purpose of regulating the lever contact with the throwout bearing. As the clutch facings wear, the release levers move nearer to the throwout bearing and the only clutch adjustment necessary is to provide clearance at this point.

To adjust: Turn adjusting screws to allow a clearance of 1/4 inch between the ends of each of the three release levers and the throwout bearing.

FAN BELTS

To adjust fan belts, loosen the four capscrews holding the air cleaner bracket to the front of the motor, and by using a small bar turn pump housing clock-wise until the fan belts have 1-1/2 inches slack mid-way between the pulleys. Tighten the capscrews evenly to prevent leakage.

Do not tighten fan belts more or oftener than necessary to prevent slippage.

FRONT WHEEL BEARING ADJUSTMENT

The front wheels are mounted on taper roller bearings. At frequent intervals remove the weight from the wheels and examine for side play. If side play exists it will be necessary to adjust bearings.

To adjust bearings, remove the hub cap and tap bolt and spindle washer. Between spindle washer and end of spindle is a series of shims. Remove enough shims to take up play but not enough to bind bearings. Tap bolt must be tightened securely to prevent its backing out.

The inside of the wheel hub is provided with a felt washer to protect the bearings from dirt and to retain the grease in the hub. This felt washer should be replaced each season when working under average conditions.

BELT PULLEY

The belt pulley assembly is attached to the right hand side of the transmission case. A 13 inch pulley is provided running 925 r.p.m. at normal engine speed. The motor should always be run at normal speed where constant power is needed and heavy belt load is encountered.

To figure the speed of driven units and determine the size of the necessary pulley, multiply the diameter of the driving or engine pulley by its revolutions per minute, and divide by the r.p.m. of the driven unit.

Example: 13 inch diameter x 925 = 12025 ÷ 1000 r.p.m. of the driven unit = 12.05. In this case use a 12 inch pulley as it is the nearest regular size.

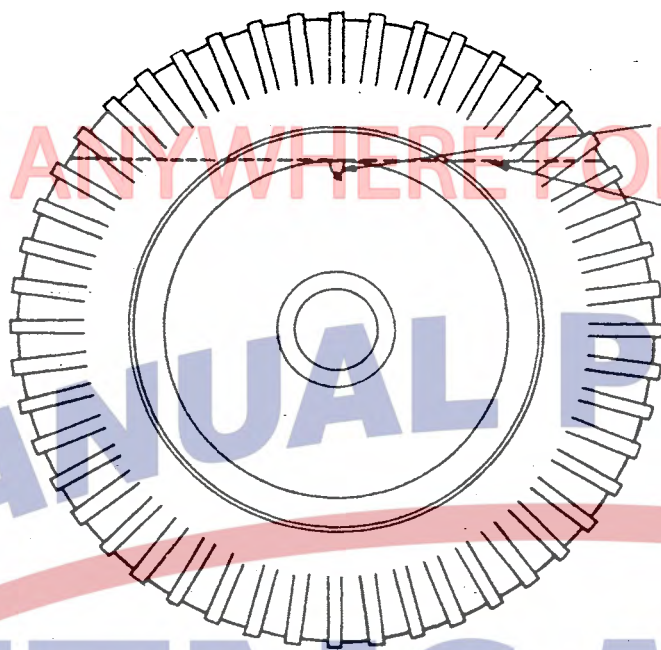
We cannot over-emphasize the importance of having the proper size pulley on the driven unit. Much power is lost and an unnecessary load put on the motor unless the proper pulleys are used. The pulley furnished with the tractor is the correct size.

GENERAL

All tractors are thoroughly tested before leaving the factory. Nevertheless they require some attention on the part of the owners. The amount of attention required is negligible but IMPORTANT.

In the foregoing instructions an effort has been made to cover the points necessary to help you in the care and operation of your tractor in an understandable manner.

For further advice or information see your local Allis-Chalmers dealer.



HYDROMATIC TRACTOR TIRES

It is generally known, that to obtain maximum traction with a tractor equipped with low pressure pneumatic tires, weight must be added. The practice has been to attach cast iron weights to spokes of the wheels, but after numerous experiments by our engineering department, the use of liquid injected into the tire has shown several advantages.

The action of the tires, partly filled with liquid, tends to eliminate "bouncing" to a great extent. The liquid adds weight to the tractor at the correct point -- nearest to the ground -- and thereby increases the stability of the tractor. Weight added in this manner is a "free wheeling" weight and eliminates much of the shock that otherwise would be absorbed by the tractor gears.

As water alone will freeze in cold weather, Allis-Chalmers' tractor tires are filled with the proper quantity of 15% calcium chloride solution. Calcium chloride will in no way harm the casings, tubes or valves. A mixture of 15% calcium chloride and 85% water has a specific gravity of 1.140 and may be tested by the use of an ordinary battery hydrometer. This mixture will form a slush at 10° above zero, but will not freeze solid at 20° below zero. No harm will be done to the tires at even colder temperatures.

The tires are filled about 3/4 full of the solution and then inflated to the standard recommended air pressure. This amount of solution will give the same weight as two cast iron wheel weights on each wheel. If more weight is needed for difficult traction conditions, wheel weights may be added.

Tire companies have instructed their service stations concerning liquid ballast for tractor tires and they have the necessary facilities for mixing and injecting this fluid into the tires.

If the valve core is to be removed for any cause, it will be necessary to jack up tractor and turn the wheel until the valve stem is on top, otherwise the solution will be lost.

Calcium chloride and water solution as supplied in tractor tires is in no sense dangerous, but because it may attack clothing or cause itching in some persons, especially if it comes in contact with open cuts or sores, we urge every one to avoid, as nearly as possible, coming in direct contact with it.

A remedy after having contacted this solution, is to simply wash the skin with plenty of clean water.