

AgPubs CA Tractor

Allis Chalmers CA Tractor Service and Repair Manual

Brand: AgPubs

INTRODUCTION

This manual provides comprehensive instructions for the service, repair, overhaul, and troubleshooting of the Allis Chalmers CA Tractor. It is designed to assist users in performing detailed maintenance and repair tasks, ensuring the longevity and optimal performance of their equipment.

UNDERSTANDING MANUAL TYPES

Generally, three types of manuals are produced for equipment. Selecting the correct manual depends on your specific needs. The following definitions clarify their purposes:

- **Service Manual:** Focuses on repair, overhaul, and troubleshooting procedures.
- **Operators Manual:** Covers basic maintenance, operation, fluid types, quantities, and adjustments.
- **Parts Catalog:** Provides exploded views, parts names, and factory (OEM) parts numbers.

This specific manual is a **Service Manual**, intended for detailed repair and overhaul operations.

GENERAL USAGE GUIDELINES

Utilizing a factory-authored manual offers significant advantages for equipment maintenance and repair:

- This is a quality reproduction manual, designed for durability, often surpassing the original vintage prints.
- Performing repairs yourself with a factory OEM manual can lead to significant cost savings.
- Factory manuals are generally superior to aftermarket alternatives, providing accurate and detailed information.
- A reliable manual helps avoid frustration and wasted time during repair processes.

SERVICE AND REPAIR PROCEDURES

This section outlines various service and repair procedures for the Allis Chalmers CA Tractor, referencing detailed diagrams and instructions found within the manual.

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Image: A page showing the 'MODEL CA SPECIFICATIONS INDEX', listing subjects such as Air Cleaner, Battery, Belt Pulley, Carburetor, Clutch, Crankshaft, Cylinder Head, Wiring Diagram, Differential, Engine, Fan Belt, Water Pump, Filters, Final Drive, Front Support, Front Wheel, Fuel Tank, Generator, Governor, Hydraulic Pump, Ignition, Lights, Liner Cylinder, Lubrication, Manifold, Oil Filter, Oil Gauge, Oil Pump, and Piston, along with their respective section and page numbers.

The index provides a comprehensive overview of the manual's contents, allowing users to quickly locate specific repair topics and their corresponding page numbers for detailed instructions.

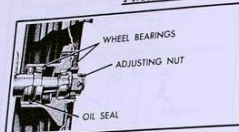
Front Wheels Service

INSTALLATION

When installing pedestal to front support have steering gear in the center of straight ahead position. This may be determined by counting the number of revolutions of steering wheel from extreme left, to extreme right and then from extreme right, to extreme left, to mid position. Install the wheels in a straight ahead position to front support with wheels in a straight ahead position and with caster to the rear. Place a number of paper and steel shims on pedestal

flange, (approximately the same number removed) using paper shims next to cast housing, this will eliminate grease leakage. The shims are .005" thickness. Mate pinion gear and of gears by moving steering arms. If the gear mesh too tight add shims, if gear mesh too loose remove shims. The proper adjustment would be correct when gear backlash is as tight as possible and still have clearance.

FRONT WHEELS (Dual Front and Adjustable Axle)



REMOVAL

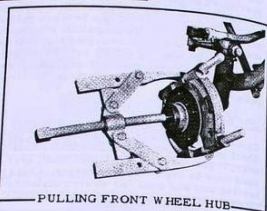
Support tractor with front wheels off the floor. Remove the five cap screws attaching wheel to hub. Remove hub cap, cotter pin and bearing retaining nut. Pull hub from spindle. Use the O.T.C. 952 bearing puller attachment and remove inside bearing and oil seal from spindle. The bearing cups may be driven from hub. Clean both inside and outside of hub thoroughly.

INSPECTION

Inspect bearing cones and cups for wear and roughness. The oil seal and bearing cone should fit tight on spindle. Always replace oil seals. If bearings or hub are being used again wash clean of all grease and grit.

ASSEMBLY

Locate oil seal on spindle with inside of seal flush with shoulder on shaft. A special driver is available for installing this seal. Always replace



PULLING FRONT WHEEL HUB

oil seals. Install inside bearing cone driving it tight against shoulder on spindle. Pack bearings with #2 wheel bearing grease before installing. Place bearing cups in hub and drive in place. Install hub over spindle, placing some grease on outer diameter of seal and in end of wheel hub, this will aid sliding hub over seal and improve the effectiveness of the seal against moisture and dirt.

With bearing packed, place outer bearing in place over spindle. Install spindle washer and adjusting nut. Tighten nut until tight, this will force the cones and cups in place, then back off on adjusting nut one or two castellations, or until bearings have a free rolling fit without binding or end play. Install cotter pin when proper adjustment is obtained. The hub will not spin freely due to a slight drag from the oil seal.

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FRONT WHEEL (Single)

REMOVAL

Remove cap screws from spindle retainer at each side of wheel fork. Remove retaining nuts at each end of wheel spindles. Use hoist and raise tractor just enough for wheel fork to clear wheel spindle and roll front wheel from tractor.

DISASSEMBLY

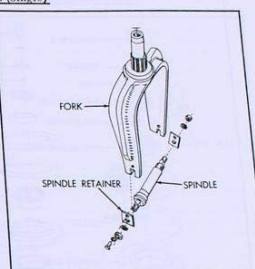
Remove cotter pin and bearing adjusting nut from spindle and push spindle from wheel. Pull or press bearing cone from spindle. Bearing cups may be driven from wheels.

INSPECTION

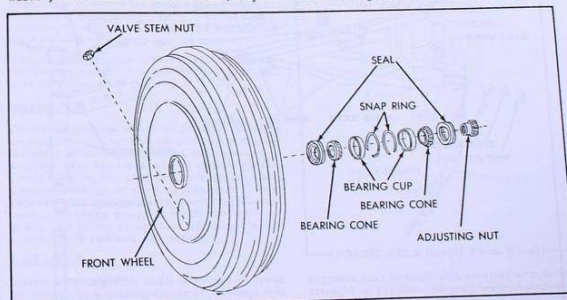
Check bearing cups and cones for wear or roughness. Check spindle for wear at bearing and seal surfaces. Check spindle for fork for wear. Check fork for spreading.

ASSEMBLY

Install the seal assembly to spindle, first the seal retainer, cork washer and felt washer. Pack bearings with No. 2 wheel bearing grease and place inner bearing in place on spindle. Install bearing cups in wheel, enter spindle into wheel and install the opposite bearing cone, felt washer, cork washer and seal retainer. Adjust



bearing to a free rolling fit without binding or end play. Enter wheel into position in wheel fork with spindle in position to engage slots in fork. Lower hoist slowly until fork rests on spindle. Install the spindle retainers and cap screws. Install and tighten nuts at both ends of spindle.



CA-11

Image: Detailed diagrams and text for 'FRONT WHEELS (Dual Front and Adjustable Axle)' and 'FRONT WHEEL (Single)'. It illustrates components like wheel bearings, adjusting nut, oil seal, spindle, and fork, with instructions for removal, disassembly, inspection, and assembly.

This section details the procedures for servicing the front wheels, including both dual front and adjustable axle configurations, as well as single front wheels. It covers removal, disassembly, inspection for wear, and proper assembly of components such as bearings, spindles, and seals.

Water Pump and Fan Maintenance

shaft being sure bearing is seated on shaft.
Place bevel gear over splines on shaft.
The bevel gear used with the single front wheel or adjustable axle has 20 teeth and 10 splines. No timing of gear to shaft is necessary.
To install this assembly to front support, attach support to front of engine over studs and tighten stud nuts to 85 ft. lbs. Connect drag link to steering arm.

The segment gear must be centered, to do this turn steering wheel from extreme right to extreme left counting the number of turns of steering wheel, and turning back half this amount. Place gaskets and shims on bearing retainer. Use shims alternately in approximately the amount that was removed placing paper gasket next to cast housing. These gaskets and shims provide the proper backlash between pinion and segment gear and are furnished in .005" thickness (both paper or steel).

Place steering arm assembly in front support, holding steering arm in the straight back position.

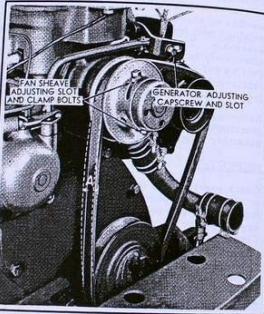
FAN BELT

The fan belt is driven from crankshaft and drives the fan, water pump and generator.

To adjust or tighten belt, loosen generator clamp screw at front of generator, move generator away from engine to tighten belt. Adjust belt with 1" deflection midway between the drive and driven sheaves at "A" and tighten clamp screw at generator.

If belt is operating too low in fan sheave, loosen belt, loosen clamp bolts in fan sheave and turn front flange of sheave clockwise when viewed from the front and tighten clamp screws in sheave and readjust fan belt. This will place sheave flanges closer together and allow the belt to ride higher in sheave. (This is necessary only to prevent belt from bottoming in sheave.)

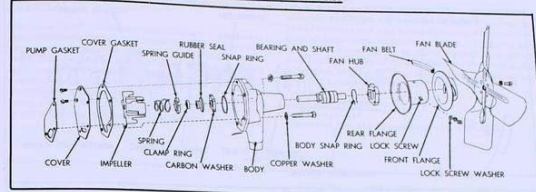
If belt shows wear or small crack and breaks, the belt should be replaced.



CA-14

tion, or the single wheel in the straight forward position and mesh gears. Install capscrow with #2 wheel bearing grease and place on bearing end of shaft (being sure bearing cup is in place). Place a number of shims on top of shaft, approximately the same amount that were removed, and install retaining washer and capscrow. Tighten capscrow in end of shaft and at the same time note gear backlash. This may be done by removing drag link from steering arm and moving arm by too tight add shims, if too loose remove shims. Obtain the proper bearing adjustment. If one at a time until proper bearing adjustment is obtained with the proper backlash at gear teeth. If backlash is excessive remove one shim at a time from between bearing retainer and front support. For each .005" shim removed, remove one .005" shim from top of shaft. Mesh pinion and segment gear to minimum backlash or clearance to eliminate excessive play in the steering gear.

WATER PUMP AND FAN



REMOVAL

Drain radiator and engine block. Remove hood and radiator. Loosen clamp and remove hose from water pump. Loosen fan belt and remove from fan pulley. Remove fan blades. Remove the three capscrows attaching pump to cylinder block.

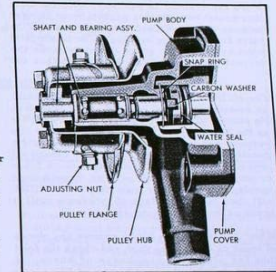
DISASSEMBLY

Remove fan pulley from fan hub and pull hub from shaft. Remove the cover from rear of pump. Two tapped holes are provided in impeller for attaching pulley to remove impeller from shaft. It may be necessary to tap these holes to remove any scale or dirt accumulation. Remove snap ring at front of pump body and press shaft and bearing assembly from pump body.

The shaft and bearing are an assembly and must be replaced as a unit if replacement is necessary.

INSPECTION

Inspect bearing for looseness or roughness, replace if worn. Check shaft surface where the rubber seal fits to shaft, if rough or pitted replace. Check carbon washer and rubber sealing ring. In most cases the carbon washer, rubber sealing ring and spring should be replaced. A pump parts kit is provided and includes all parts necessary to rebuild the pump with exception of the impeller and shaft assembly which are not commonly replaced. Check the pump body at carbon seal surface. This surface must be flat and smooth. If grooved, curved or uneven it should be resurfaced. This can be done with valve seal insert tools if a special adapter is provided. If no tools are available then replace pump body.



ASSEMBLY

Install shaft and bearing assembly into pump body and install retaining snap ring. Press fan hub on to shaft until flush with end of shaft. Clean all corrosion from impeller and place on table front side upward. Place spring in impeller. Place clamp ring on rubber seal and place seal in retaining guide. Place carbon washer next to rubber seal. Place this assembly in impeller centering it on spring. Push down on carbon washer, compressing spring and install the retaining snap ring. Press impeller assembly on shaft until approximately flush with end of shaft or until impeller is approximately 1/32" past flush with pump body. Shellac gasket on both sides and install cover plate. Turn shaft by hand to check pump assembly, this will indicate if impeller is centered properly in pump body.

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Image: Diagrams and text for 'WATER PUMP AND FAN' and 'FAN BELT'. It shows an exploded view of the water pump assembly (cover, impeller, shaft, bearings, fan blade) and details fan belt adjustment. Instructions for removal, disassembly, inspection, and assembly of these components are provided.

Instructions for the removal, disassembly, inspection, and assembly of the water pump and fan are provided. This includes details on checking for wear, replacing seals, and ensuring proper fan belt tension for optimal cooling system performance.

Crankshaft and Main Bearings Service

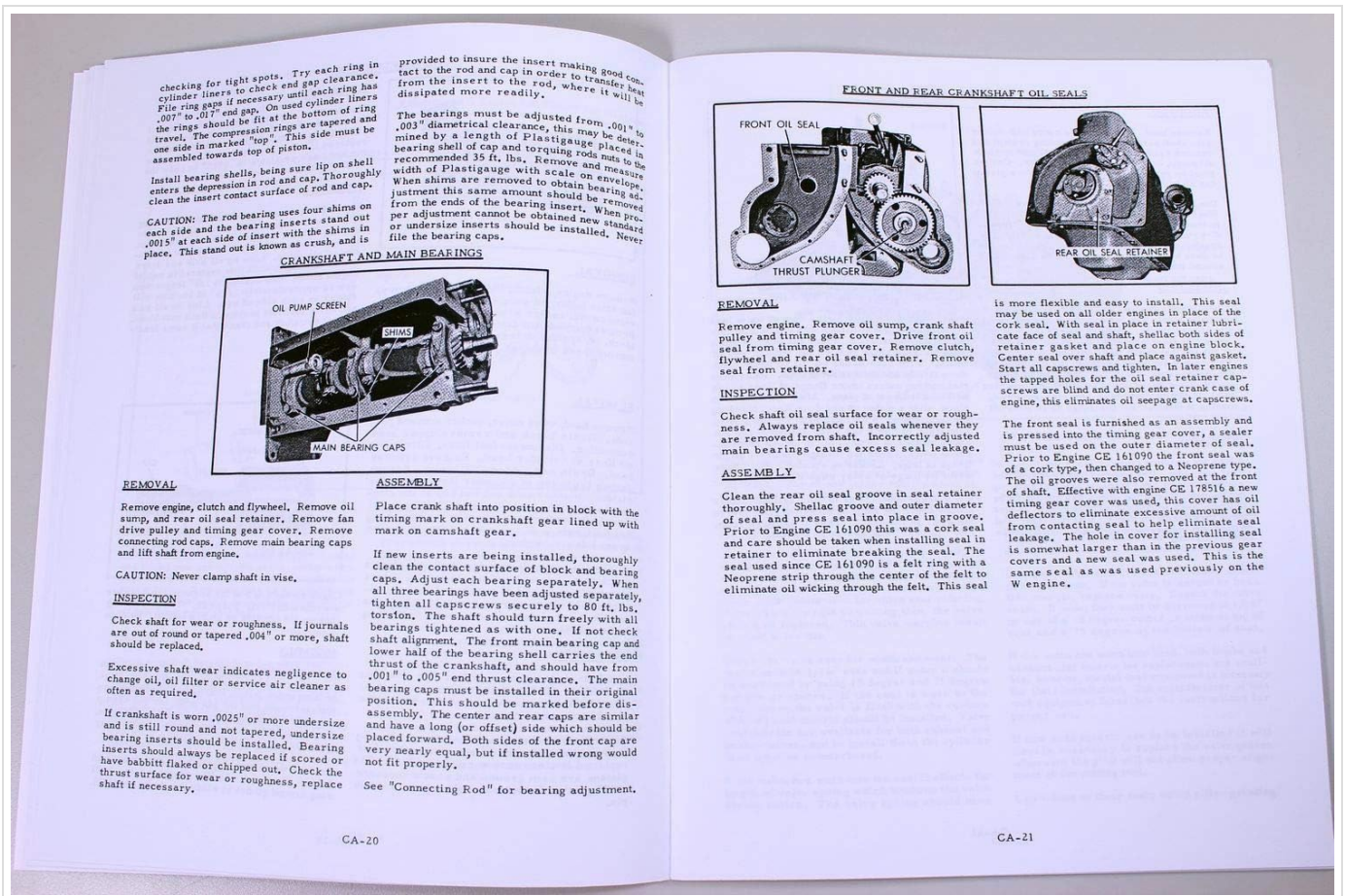


Image: Diagrams and text for 'CRANKSHAFT AND MAIN BEARINGS' and 'FRONT AND REAR CRANKSHAFT OIL SEALS'. It includes a diagram of the crankshaft with main bearing caps and illustrations of front and rear oil seals. Procedures for removal, inspection, and assembly of these critical engine components are detailed.

This section covers the intricate procedures for servicing the crankshaft and main bearings, along with the front and rear crankshaft oil seals. It includes guidelines for removal, thorough inspection for wear or damage, and precise assembly to maintain engine integrity.

Rocker Arms, Push Rods, and Governor

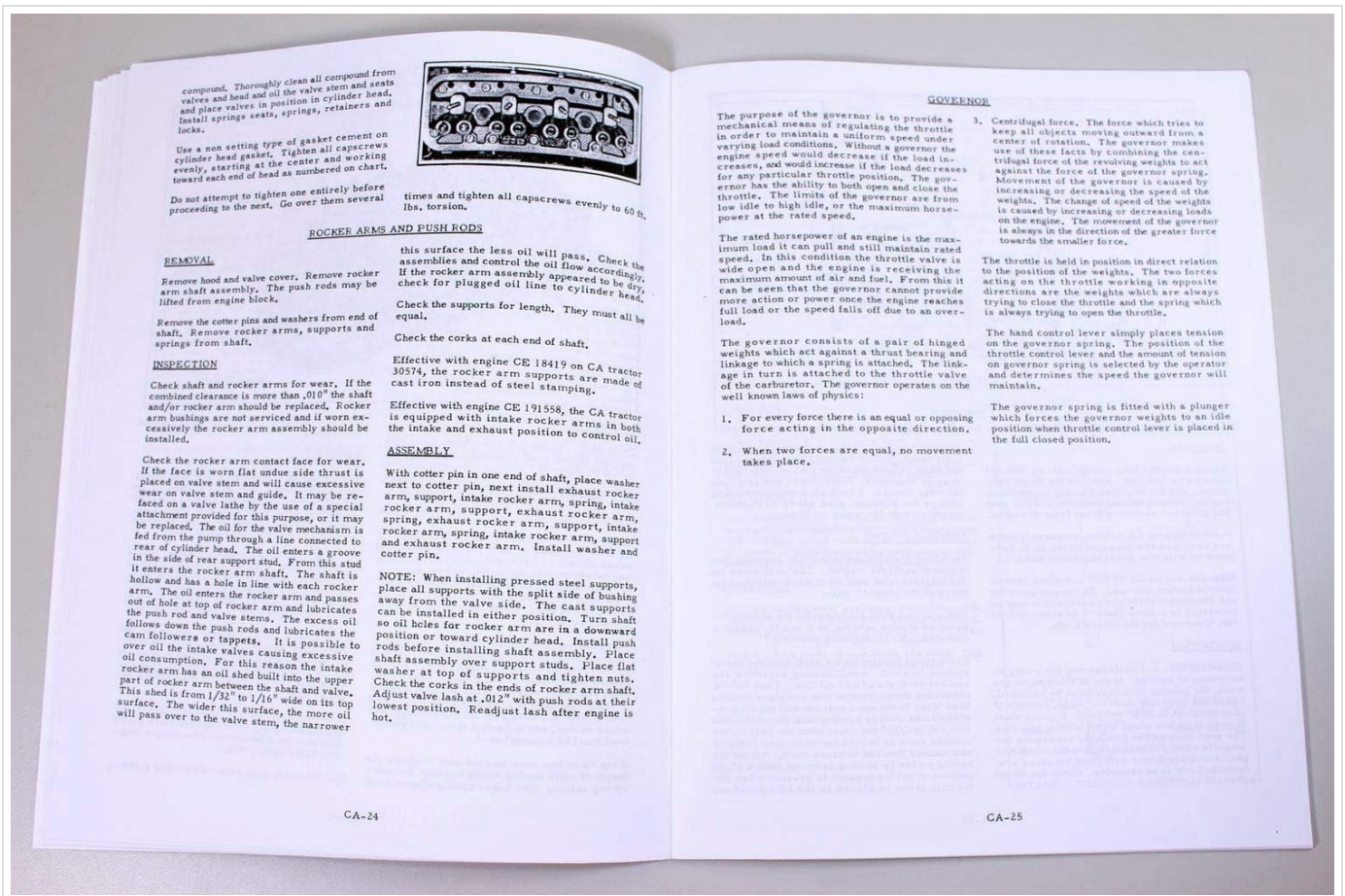


Image: Diagrams and text for 'ROCKER ARMS AND PUSH RODS' and 'GOVERNOR'. It shows an assembly diagram for rocker arms and details procedures for their removal, inspection, and assembly. The governor section explains its purpose, operation, and adjustment principles.

Detailed instructions are provided for the removal, inspection, and assembly of the rocker arms and push rods. Additionally, the manual explains the purpose and operational principles of the governor, a crucial component for engine speed regulation.

Electrical System Components

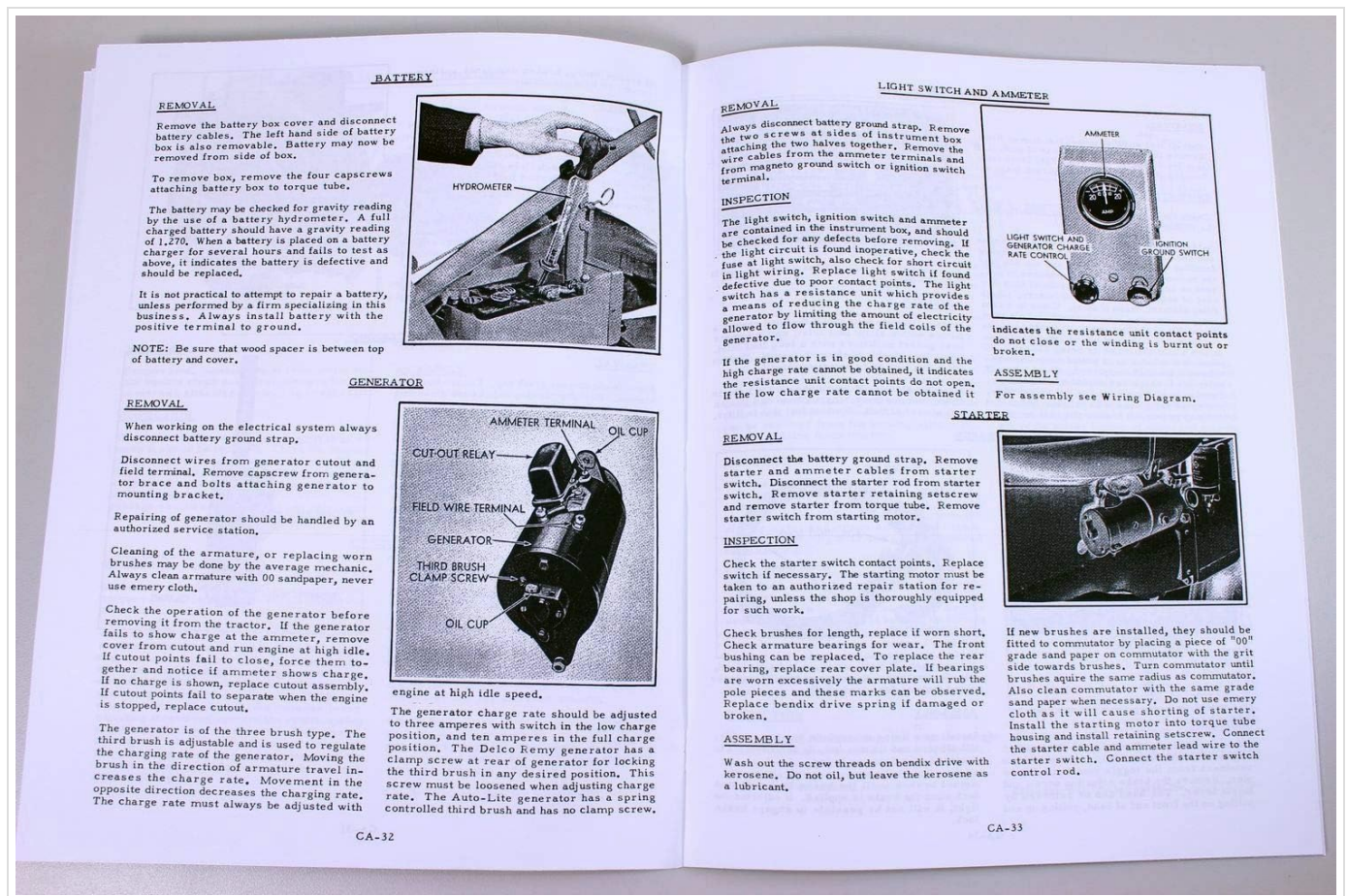


Image: Diagrams and text for 'BATTERY', 'LIGHT SWITCH AND AMMETER', 'GENERATOR', and 'STARTER'. It includes illustrations of the generator cut-out relay, ammeter, and starter components. Procedures for removal, inspection, and assembly of these electrical system parts are detailed.

This section covers the service procedures for key electrical components, including the battery, light switch, ammeter, generator, and starter. It provides guidance on removal, inspection for proper function, and correct assembly to ensure reliable electrical operation.

PRODUCT SPECIFICATIONS

Manufacturer: AgPubs

ASIN: B07KWG5Z1N

Best Sellers Rank:

- #1,217,779 in Patio, Lawn & Garden
- #42,860 in Agricultural Machinery Spare & Replacement Parts

SUPPORT AND WARRANTY INFORMATION

This manual serves as a comprehensive repair guide for the Allis Chalmers CA Tractor. As a reproduction service manual, it typically does not include a specific warranty for the manual itself.

For warranty information pertaining to the original Allis Chalmers CA Tractor equipment, please refer to the original equipment manufacturer's documentation.

For any questions or support regarding the content or quality of this AgPubs service manual, please contact the publisher directly.

ASK A QUESTION ABOUT THIS MANUAL

Ask about setup, troubleshooting, compatibility, parts, safety, or missing instructions. Manuals+ will review the question and use this page's manual context to help answer it.

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After a successful submission, we securely hash the supplied account or form email before sending it to Microsoft Advertising for conversion attribution. [Privacy details](#).

Question

Example: How do I reset this device or fix this error?

Details

Model number, symptoms, what you tried, or the section of the manual you are using.

Submit question