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MANUAL PREVIEW

Adams

Service Manual

610 Motor Grader

S/n 4,000 & Up

Service Manual

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AD-S-610

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MANUAL PREVIEW

HOW TO USE THIS BOOK

This manual has been prepared for the use of those who maintain and service the machine described on the front cover. It is divided into sections.

Each section has a numbered black tab which lines up with the corresponding section name and number on the righthand edge of this sheet. The black tabs are located quickly by bending the book back.

ENGINE	1
TRANSMISSION	2
TANDEM	3
BRAKES	4
POWER CONTROLS	5
BLADE CONTROLS	6
CIRCLE REVERSE	7
FRONT AXLE	8
FRONT WHEEL LEAN	9
STEERING	10
SCARIFIER	11
CIRCLE	12
FRAME	13
WHEELS	14
ACCESSORIES	15
LUBRICATING INSTRUCTIONS	16

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SEC. 1 - ENGINE

Fan Belt Tension

The slack of the fan belt should be checked frequently to assure maintenance of the correct tension. The tension is correct when the belt can be depressed without effort by the thumb, approximately $3/4$ " to 1" midway between the two pulleys as shown in Illust. 2. If the slack is more than 1", adjust belt.

When a new belt has been run approximately 50 hours, check the tension and adjust if necessary. The belt should at no time contact the bottom of the pulley groove, because this will wear it out rapidly. The tension of the belt is controlled by shoving the generator, Illust. 2, in toward the block or out away from the block, whichever is needed. When adjusting the belt, the nut (A), Illust. 2, must be tightened securely after the belt tension adjustment has been made to prevent loosening of the nut and slackening of the belts.

Removing and Replacing Fan Belt

When belt becomes grease soaked and badly worn so that it no longer gives side surface on the crankshaft pulley, it should be replaced as it no longer offers sufficient surface contact to drive the fan at the proper speed.

To remove belts, loosen nut (A), Illust. 2, and rock the generator toward the motor block and slip the fan belts off the generator pulley.

Remove the fan belts from the crankshaft pulley. Work the belts up between the bottom radiator shroud and crankshaft pulley. Continue slipping the belts up and over the fan. It may be necessary to rotate fan to enable passage of the belts between the ends of the fan blades and shroud.

To replace belts reverse the removal procedure.

Proper tension on belts should be thumb pressure of $3/4$ " to 1" midway between pulleys.

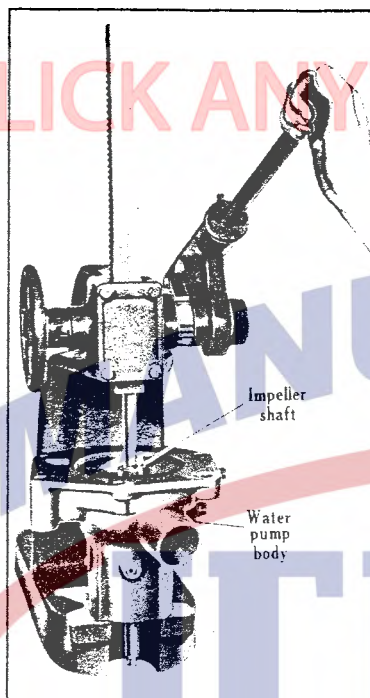
Water Pump

The packless type pump is of centrifugal design but differs from the packing type in that the shaft is supported by two ball bearings. Water sealing is accomplished by a special washer assembly which is held against the face of a bushing by a spring. The mechanical seal and impeller form one assembly which is pressed onto the pump shaft. If a water leak develops, it indicates that the sealing parts are worn. The disassembly of the



ILLUST. 2

SEC. 1 - ENGINE

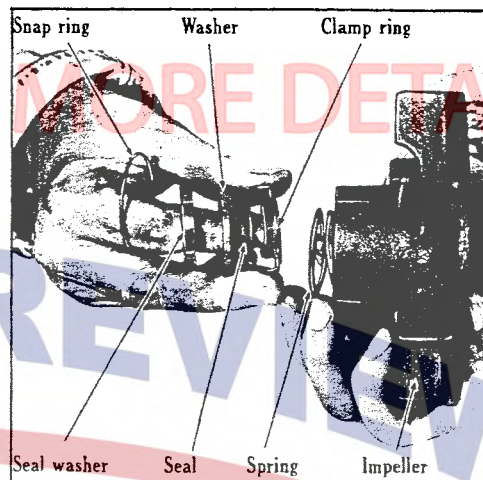


ILLUST. 6

the shaft is pitted, replace it. Always renew the rubber seal and the carbon seal.

Reassembly

When reassembling the water pump, assemble by units in the reverse procedure of disassembly. Install the impeller shaft and bearings as a unit, then press the impeller and seal assembly down onto the shaft until the impeller hub is flush with the end of the shaft.



ILLUST. 7

Install in the reverse order of removal. After the water pump has been replaced and secured tightly replace the generator and adjust the fan belts to the proper tension of $\frac{3}{4}$ " to 1" thumb pressure midway between the pulleys as shown in Illust. 2.

AIR CLEANING SYSTEM

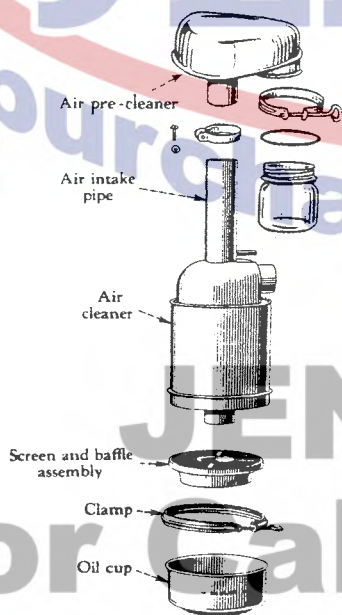
The engine is equipped with an "oil washed" air cleaner, the component parts of which are illustrated. (See Illust. 8.)

SERVICE AIR CLEANER DAILY OR EVERY 10 HOURS OF OPERATION (more frequently under severe dust conditions). Clean and refill oil cup to oil level bead with same grade oil as used in engine crankcase.

Air Intake Cap and Screen

The cleaner is provided with an air intake cap to prevent large particles, such as chaff, leaves, etc., from entering the air cleaner. Keep this inlet screen clean. The holes must be kept open and free from paint. Dust, oil or water may collect on the screen and clog up the holes enough to restrict the flow of air to the engine. Restricted air flow will reduce the horsepower delivered by the engine.

The air intake pipe from the intake cap to the air cleaner should not be allowed to collect dirt on the inside. Clean this pipe when air cleaner is removed. At the same time, clean inlet tube through air cleaner.



ILLUST. 8

SEC. 1 - ENGINE

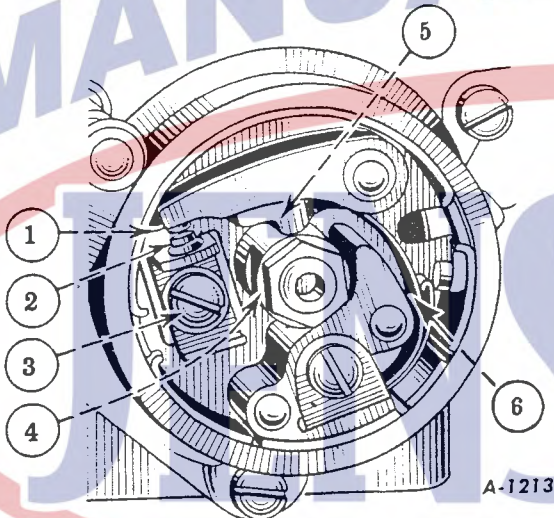
Removing the Magneto

Remove the bolt in the magneto drive cover. Take off the ground switch cable Illust. 9, by removing the fillister head screw and lock washer attaching the cable to the magneto terminal.

Pull the spark plug cables from the sockets in the distributor cap.

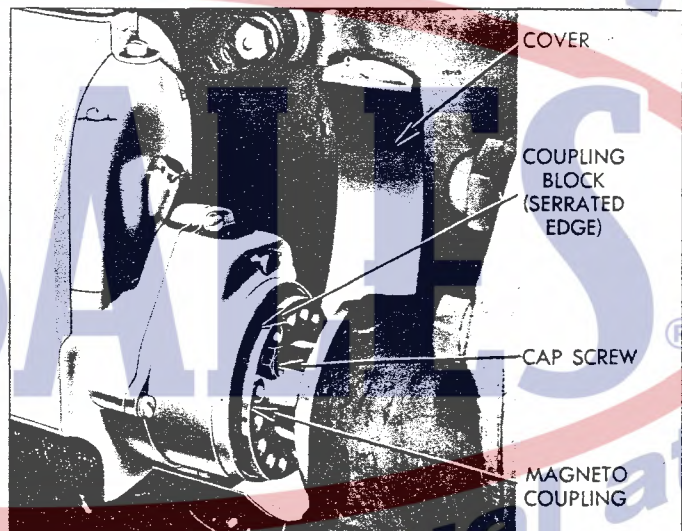
Remove the cap screws that hold the magneto coupling and coupling block together. See Illust. 15.

Remove the cap screws and washers holding the magneto to the bracket. Remove the magneto assembly from the bracket.

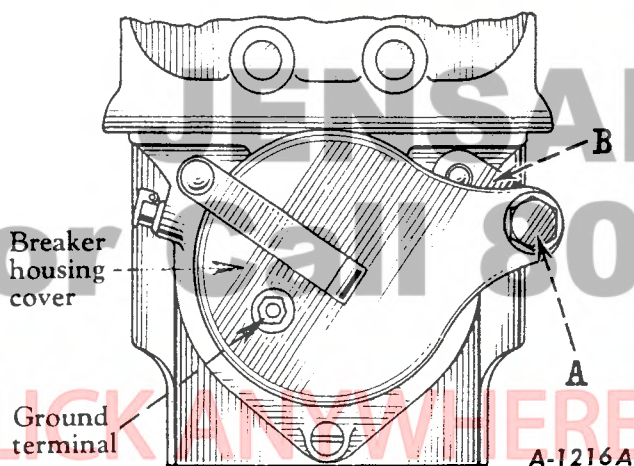


ILLUST. 14 Breaker Mechanism.

(1) Breaker arm point. (2) Adjustable breaker point. (3) Point support screw. (4) Cam. (5) Rubbing block. (6) Breaker arm spring.



ILLUST. 15



ILLUST. 16



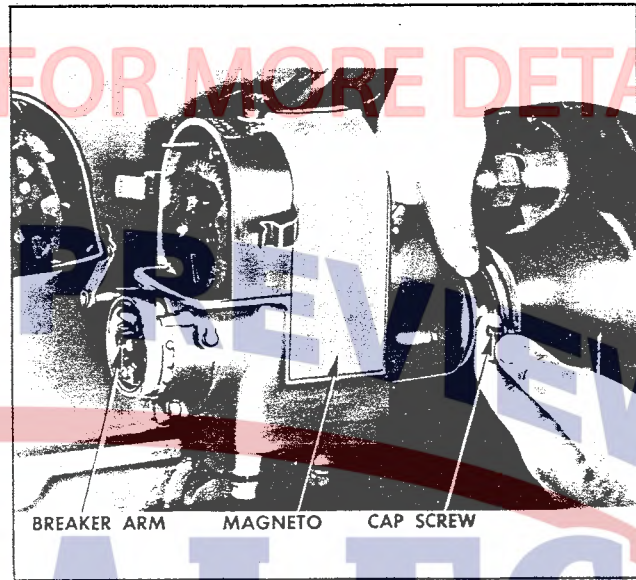
ILLUST. 17

SEC. 1 - ENGINE

Timing the Magneto to the Engine

If the magneto has been removed, follow the instructions below when installing the magneto on the engine. Pull the compression release lever into the starting position for gasoline operation.

Crank the engine until the No. 1 piston (the piston nearest the radiator) is on the upper dead center of the compression stroke. (The compression stroke can be determined by removing the No. 1 spark plug, placing a thumb over the opening, and having the engine cranked until an outward pressure is felt by the thumb). Continue cranking until the pointer on the right side of timing gear case is in line with DC mark on the crankshaft pulley, Illust. 46.



ILLUST. 18

Fully retard the spark by rotating the linked end of the breaker housing cover counter-clockwise as high as it will go, and remove the cover. To do this, remove the nut (A) and link (B) (see Illust. 16), then remove the breaker housing cover carefully to avoid moving the breaker assembly.

Lock the impulse coupling out of engagement by inserting a rod or wire into the oiler hole and lifting the pawl as shown in Illust. 13.

Rotate the magneto clockwise (as viewed from the coupling end) until rubbing block in the breaker assembly is on the high point of the cam. Check or adjust the breaker points for the correct gap setting of .020" as described.

Place the magneto into position on the magneto bracket, engaging the lugs on the impulse coupling with the slots in the coupling block spacer. Insert the magneto base screws loosely into the magneto.

Remove the distributor cap and hold it close to the magneto as shown in Illust. 18. Grasp the magneto half of the adjustment block and rotate it clockwise (as viewed from the coupling end, Illust. 16), until the brush in the distributor disc is under the distributor cap terminal marked "No. 1", and the breaker points are just beginning to open as shown in Illust. 17.

With the magneto in this position, locate the two holes in the adjustment coupling that align. Insert the shims between the two halves of the coupling so the cap screws will pass through the holes in the shims and enter the holes in the tapped half of the adjustment coupling as shown in Illust. 15.

NOTE: The holes in the adjustment coupling are so spaced that only one pair of holes will line up exactly. Do not force the cap screws as the setting will be incorrect.