

# SHOP MANUAL

**BINDER**

GRADER

**GALION MANUFACTURING COMPANY, Galion, Ohio 44833, U.S.A.**

a Jeffrey Galion Inc. Company

**FILE****H****SECTION****1** R1

(Revised 8/72)

## CIRCLE ADJUSTMENTS

<u>GRADER MODEL</u>	<u>SERIAL NO.</u>
104B, 104HB, 118B, 160B	9619 & Up
118C, 160C	9619 & Up
160L	2555 & Up
T-400A	ALL
T-500A, T-500L	3230 & Up
T-600B	1793 & Up

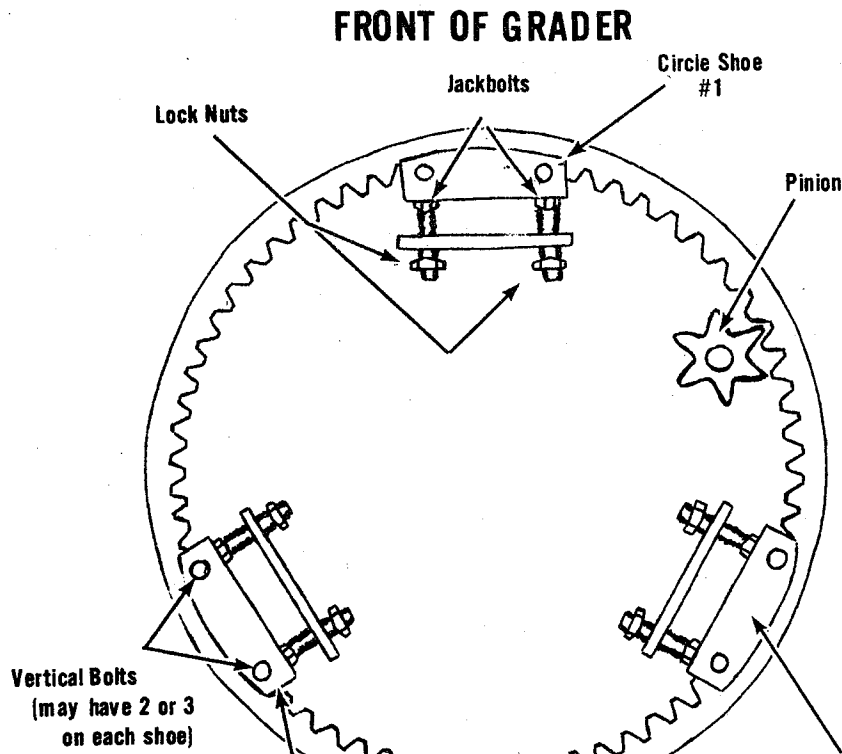
## CIRCLE

Due to its purpose, and as a result of the heavy workloads imposed upon the circle, it will, from time-to-time, require occasional service or adjustment. These adjustments or service requirements are usually the result of normal wear.

Adjustment procedures are identical on all GALION graders, the only variation being the size of the components, and a difference in the design of the circle shoes on some machines.

To prolong the working life of the circle it must be lubricated daily with the proper lubricant (refer to Shop Manual File J, Section 1 for lubricant specifications). A failure to properly lubricate the circle will affect the warranty of the machine.

To adjust the circle the following steps should be taken:





## CIRCLE PREPARATION

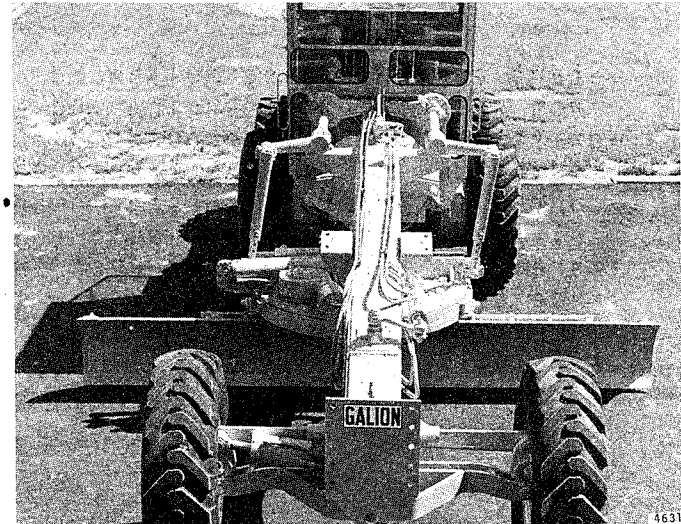
1

Thoroughly clean the circle and pinion to remove existing grease and foreign material.



2

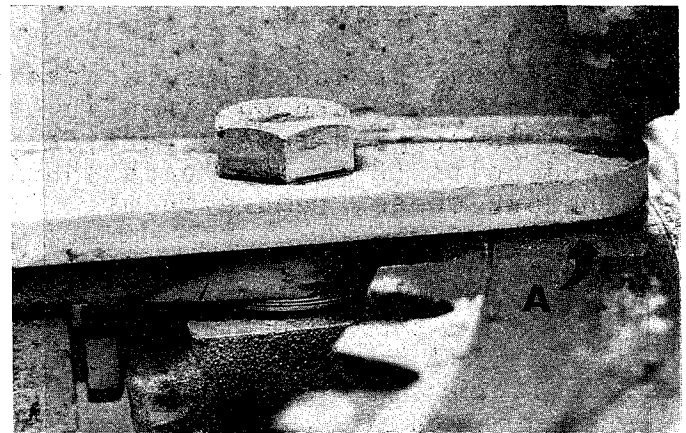
Place moldboard in a crosswise position slightly above the ground.



## VERTICAL ADJUSTMENT

3

To check vertical gap (A) on front shoe, lower moldboard to ground. Apply a slight down pressure with the moldboard lift cylinders so circle-drawbar gap can be checked for number of shims that will have to be removed.



4

If only one (1) shim can be placed in the circle-drawbar gap\*, no shims will have to be taken out. If, however, two (2) shims fit into this gap, one (1) will have to be taken out; if three (3) shims fit, two (2) will have to be taken out, etc.

\* Try shims along full length of plate (arrow).



5

Start engine, raise moldboard 1" from ground. Stop engine and drift moldboard to ground by pushing both lift cylinder manifold controls forward. Loosen locknuts (A), and back off jack bolt (B) three (3) turns so that when the shoe drops down it will clear the inner machined surface of the circle.



6

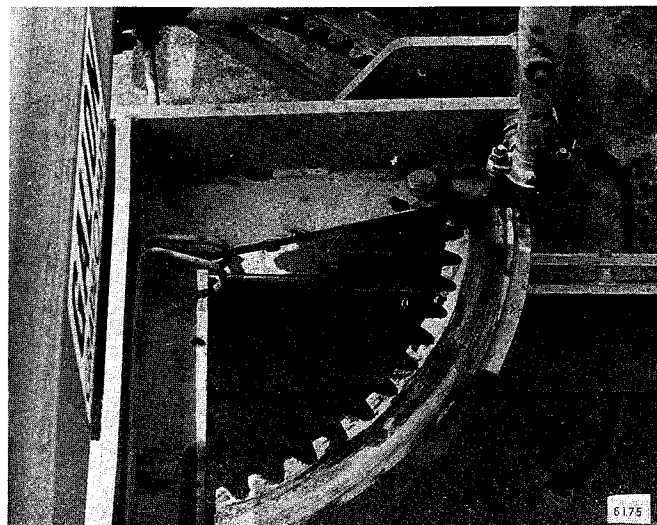
To remove or add shims (according to the procedure outlined in Step #4) loosen and remove vertical nuts and bolts (2 or 3 on each shoe), remove shoes, remove shims.

*NOTE: To avoid injury use caution when 1) removing last nut and bolt because circle shoe is heavy; and 2) do not loosen or remove all three shoes at one time*



7

Turn in jack bolts three (3) turns to original position. Tighten vertical bolts but do not torque at this time. Raise moldboard, and rotate moldboard from tire-to-tire.\* If circle binds, repeat Steps 4, 5 and 6.

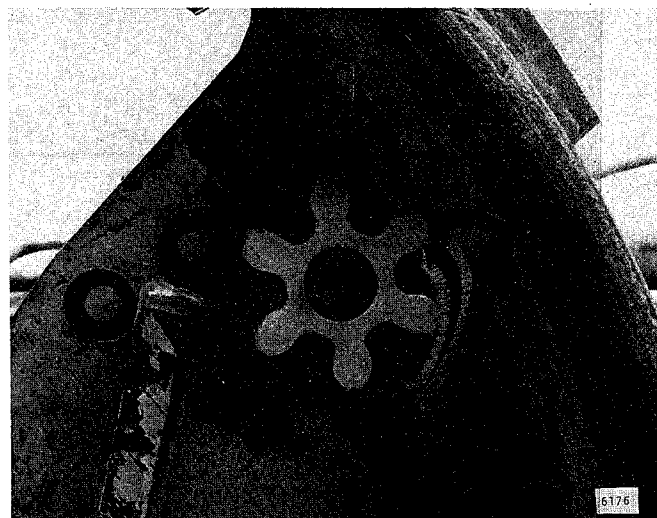


## PINION ADJUSTMENT

8

Check pinion for adjustment:

- A) Make sure one side of pinion is in contact with circle tooth
- B) 1/8" to 1/4" from end of pinion to depth of circle tooth (arrow B)
- C) 1/8" from side of circle tooth to pinion

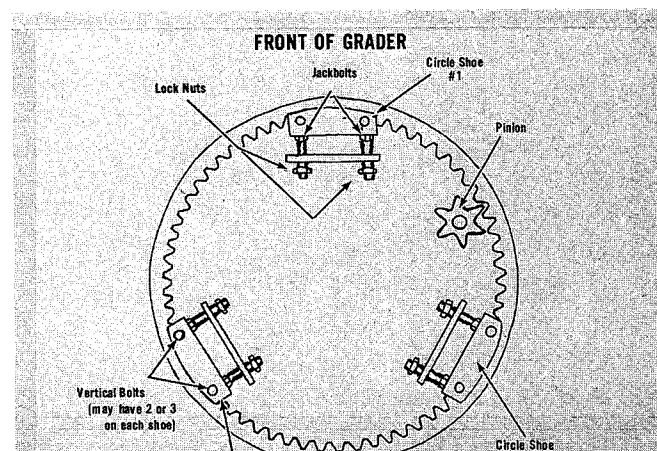


9

Drift moldboard to ground. The pinion can be adjusted by loosening jack bolts one (1) turn on circle shoes #1 and #2 and tighten jack bolts on circle shoe #3\* which will pull the circle into the pinion. Proper depth of 1/8" to 1/4" on the point. Proper side clearance at this time should be 1/8".

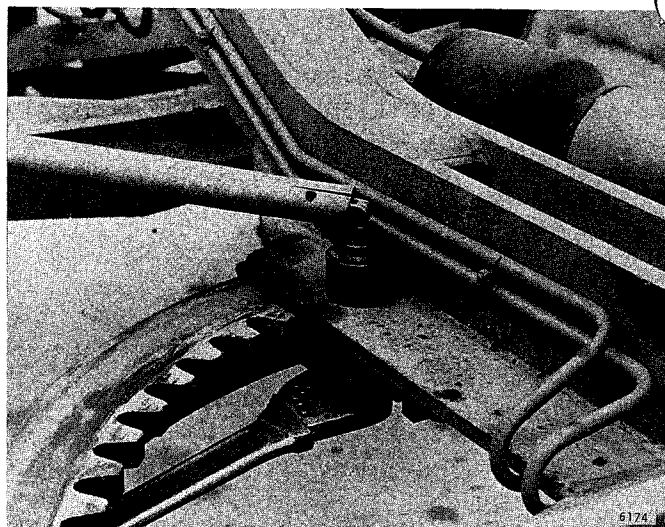
Back out jack bolts 1/4 turn on each shoe in order to loosen the circle shoe.

Lift moldboard and circle tire-to-tire. If circle binds, back out each jack bolt an equal number of turns until circle turns



10

Tighten locknuts on six (6) jackbolts and torque six (6) or nine (9) vertical bolts to 1,940 ft.-lbs.



## LUBRICATION

11

Lubricate inner surface of circle, pinion, and between circle teeth with paintbrush, paddle, or by hand.

