

# SHOP MANUAL

**BINDER**

GRADER

**GALION MANUFACTURING COMPANY, Galion, Ohio 44833, U.S.A.**  
a Jeffrey Galion Inc. Company

**FILE**  
**E**

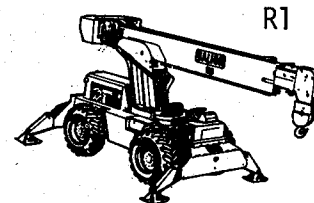
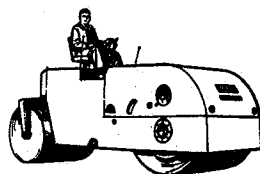
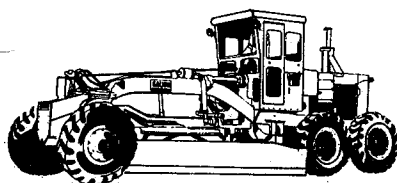
**SECTION**  
**4.10<sup>R1</sup>**

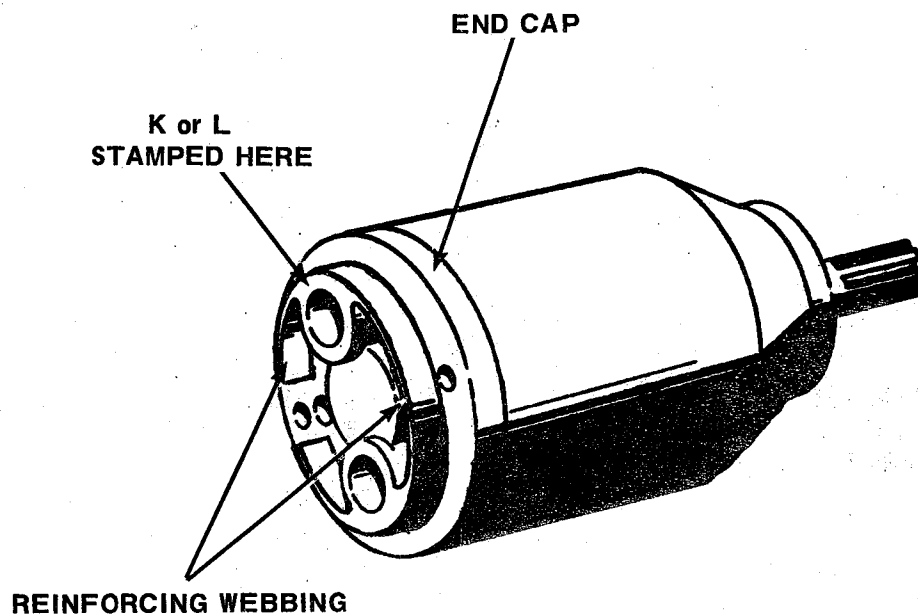
5/23/72

THE INSTRUCTIONS IN THIS SECTION APPLY TO SERVICING THE MODIFIED HYDRAULIC MOTOR WITH SPRING LOADED PISTONS, WHICH IS USED FOR THE SIDE SHIFT AND CIRCLE REVERSE ON THE FOLLOWING GALION GRADERS.

T-600 Series B	-----	1656 & Up
160 Series L	-----	2358 & Up
160 Series B, C	-----	2358 & Up
T-500 Series A, L	-----	3034 & Up
118 Series B, C	-----	8912 & Up, also 8756, 8757, 8876 & 8877
104H Series B	-----	8912 & Up
104 Series B, C	-----	8912 & Up
T-400 Series A	-----	1001 & Up

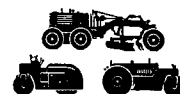
*(For external identification of this motor see reverse side of this page).*





#### IDENTIFICATION

The spring loaded piston motor can be externally identified by the reinforcing webbing cast into the end cap. The letter, K or L, will be stamped into this cap.

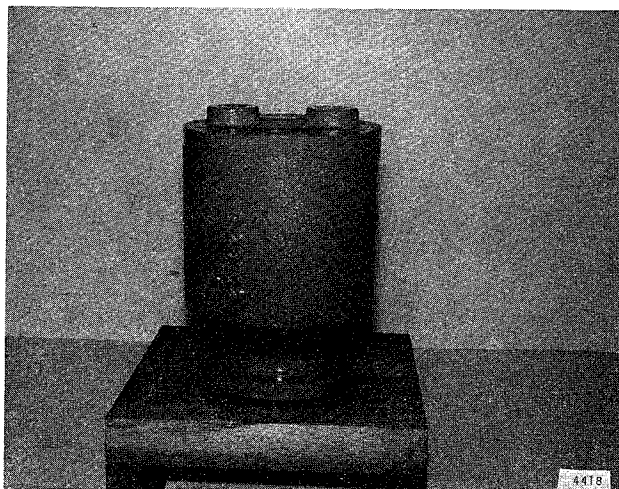


DISASSEMBLY

1

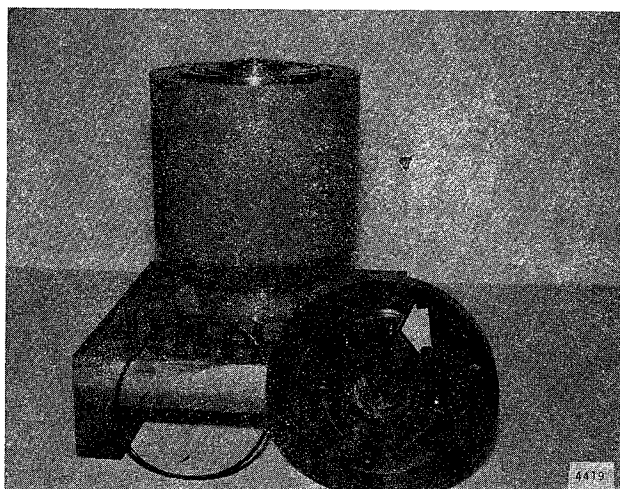
HYDRAULIC MOTOR

Before removing unit from machine clean thoroughly and plug all openings in motor end cap.  
Tolerances in this motor are extremely critical and cleanliness is a must during teardown and rebuild procedure.  
It is advisable to mark the end plate and case in some manner before dis-assembly and to re-assemble them in the same relationship.  
The case, if rotated 180°, will affect the rotation of the motor.



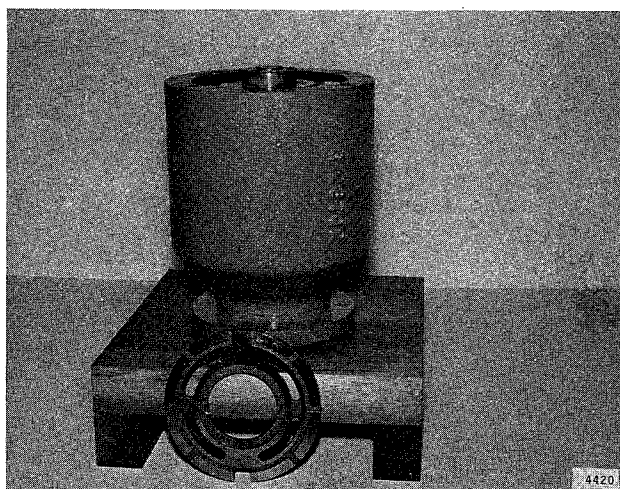
2

Remove 6 capscrews and piston control end plate. Remove "O" ring seal and discard. Locating dowel (arrow) in piston control end cap can be removed if necessary.



3

Remove friction plate

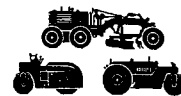


FILE: E  
SECTION: 4.10

# SHOP

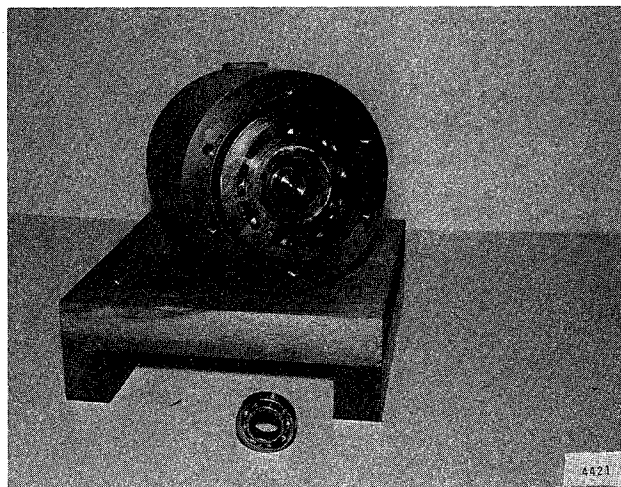


# MANUAL



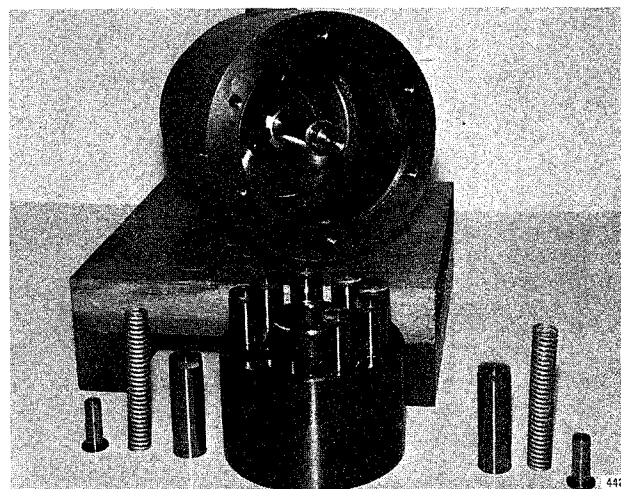
4

Pull bearing from drive shaft.



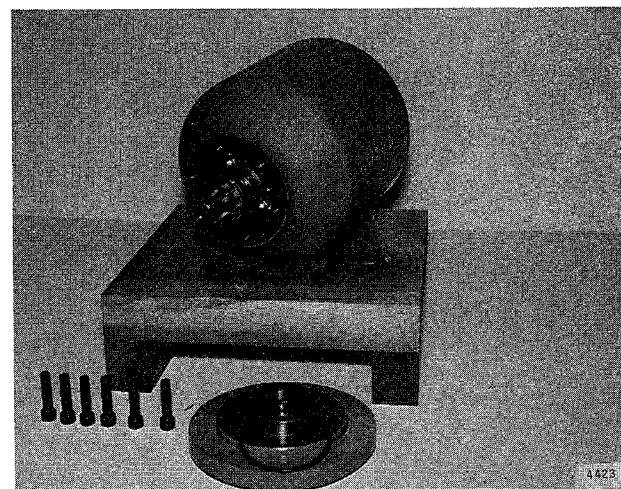
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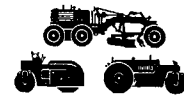
Remove rotor assembly from case.  
Remove pistons, springs and seats from rotor.



6

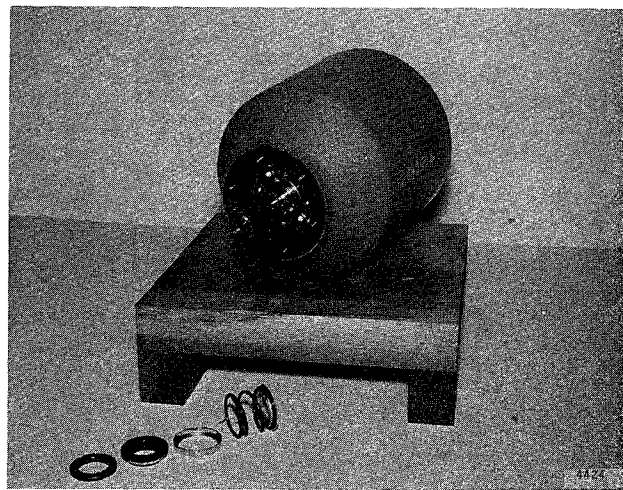
Remove 6 mounting flange capscrews.  
Remove mounting flange. Remove O ring  
from flange and discard.





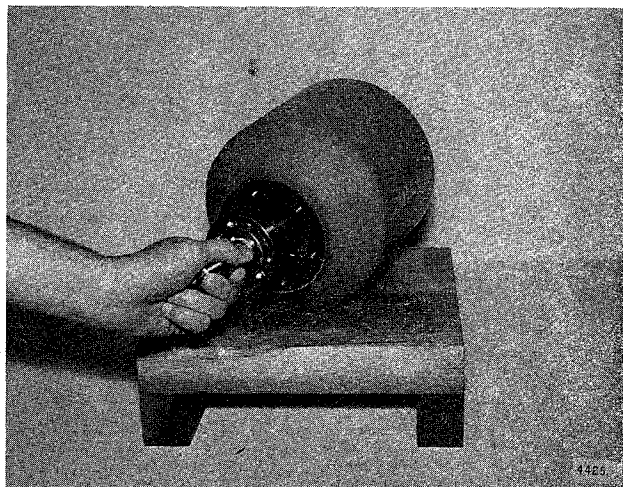
7

Remove drive shaft oil seal assembly.



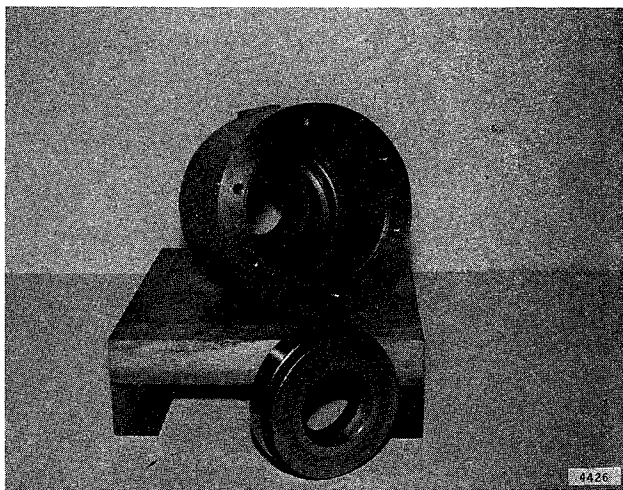
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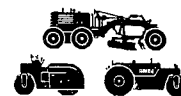
Remove drive shaft and bearing. If bearing is to be replaced, press from shaft and discard.



9

Remove bevel plate and bearing assembly from housing. Bearing is a slip fit in case. Press bearing from plate if replacement is required.



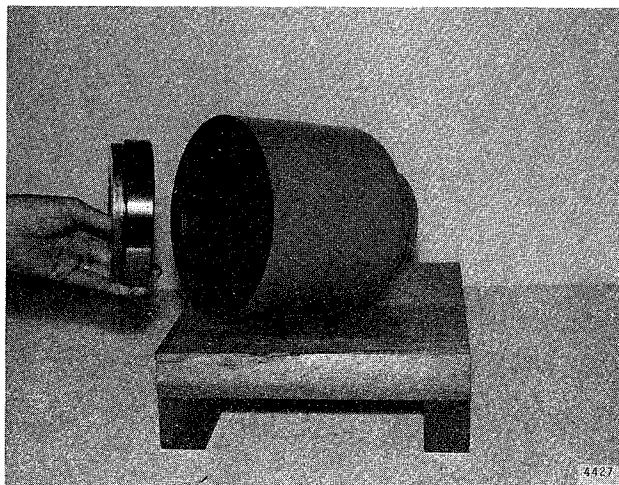


ASSEMBLY

Inspect all components for wear or damage and replace items required. Clean all parts and coat with a light film of hydraulic oil prior to assembly. KEEP COMPONENTS CLEAN!

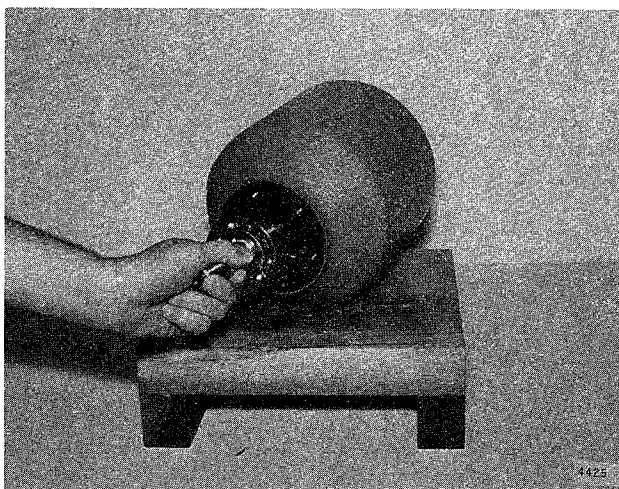
10

Press new bearing on bevel plate if previously removed.  
Install bevel plate assembly in case. Bearing is a slip fit in case bore and should require a very slight pressure to install.



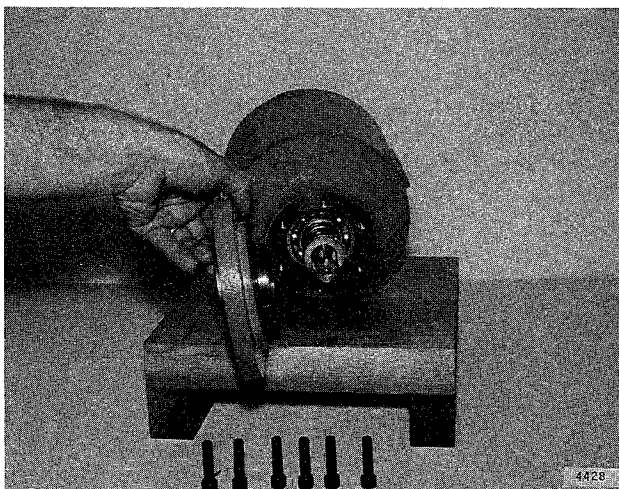
11

Press new bearing on drive shaft if removed previously.  
Install bearing and shaft into case.

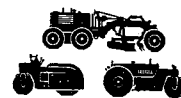


12

Install seal assembly on shaft with the spring toward the case.  
Use care not to damage seal during installation on splined shaft.  
Install new "O" ring on mounting flange.  
Install flange to case. Draw capscrews down evenly and torque to 30 foot pounds.

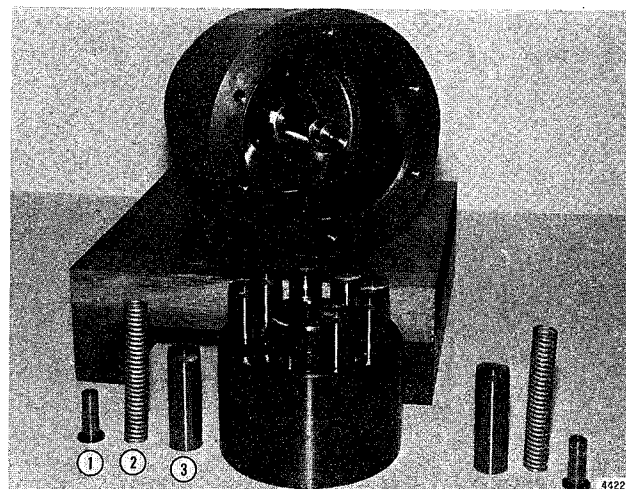






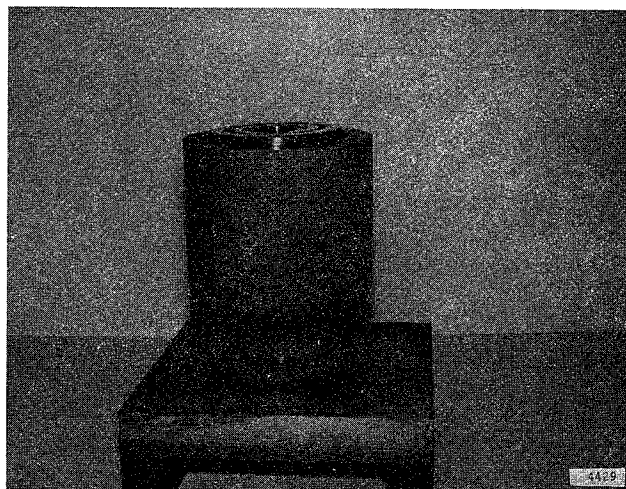
13

To assemble rotor, insert spring seats (1), flanged end down, into holes in rotor. Place springs (2) over small end of seats and install pistons (3) over springs.



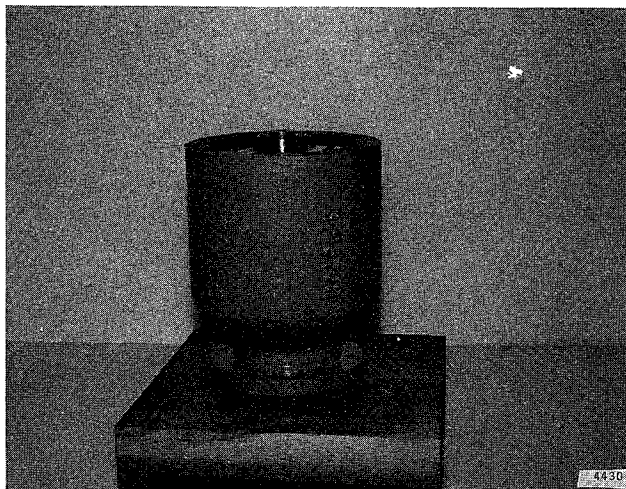
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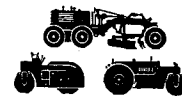
Install rotor assembly on shaft. Recheck springs after rotor installation to insure that proper seating of springs and spring seats was maintained inside rotor housing.



15

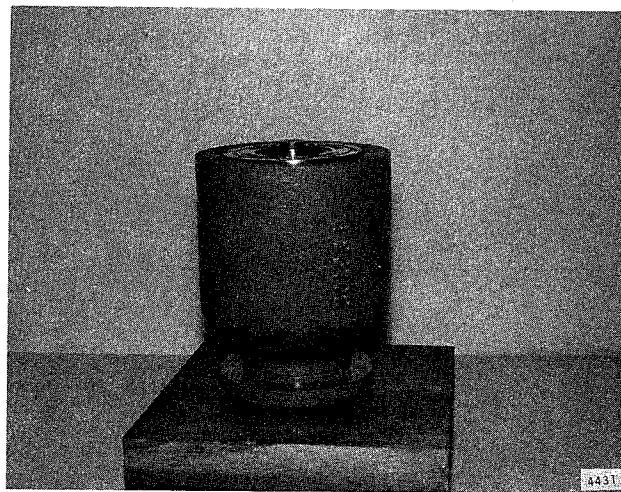
Install bearing on shaft. Bearing seats on shoulder of shaft and springs inside rotor will be compressed during bearing installation. Use care not to damage rotor when installing bearing.





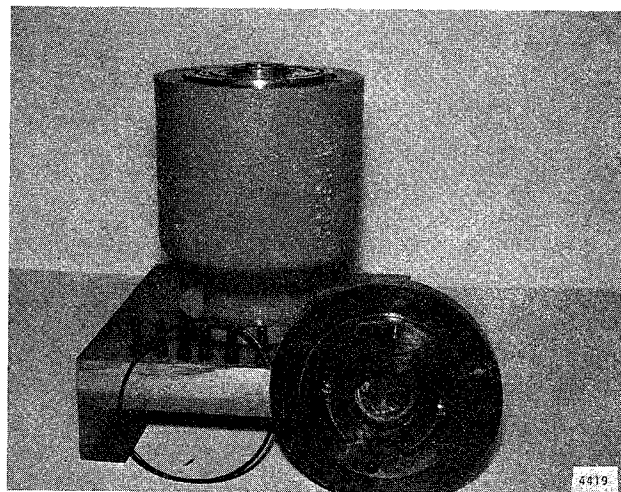
16

Install friction plate.



17

Install new "O"ring on piston control end cap. Install locating dowel in end cap. Align dowel in end cap with hole in friction plate. Align holes in end cap and case. Install capscrews, draw down evenly, torque to 30 foot pounds.



18

To effect a check of the rebuilt hydraulic motor, install on grader and under a heavy work load the drain line leakage should not exceed 1/2 gallon per minute @1000 P.S.I with 120°F oil. This leakage is intended in the design of the motor to provide adequate lubrication of the components.

