



New Idea
Operator's Manual
No. 701
Power Unit

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NI-O-701 PU

Operator's Manual

OPERATOR'S MANUAL

NO. US-138

No. 701



Uni-System POWER UNIT (Chevrolet Engine)



For the Dealer and Operator

Read these instructions • Save it for reference



COLDWATER, OHIO 45828, U.S.A.

Bore and stroke	3-7/8" x 4-1/8"	Oil pump	Gear type
Number of cylinders	6-in line	Pump intake	Fixed screen type
Piston displacement (cu. in.)	292	Oil filter	Full flow-throw-away type, 1 quart
Crankshaft	7 Main bearings, counter-balanced	Base pan capacity	5 quarts

<u>PISTON</u>		<u>CARBURETOR</u>	
Material	Aluminum	Gasoline	Dual side draft
Rings	2 compression; 1 oil		

OPERATING AND ADJUSTING (Cont'd.)

Rear Wheel Stops

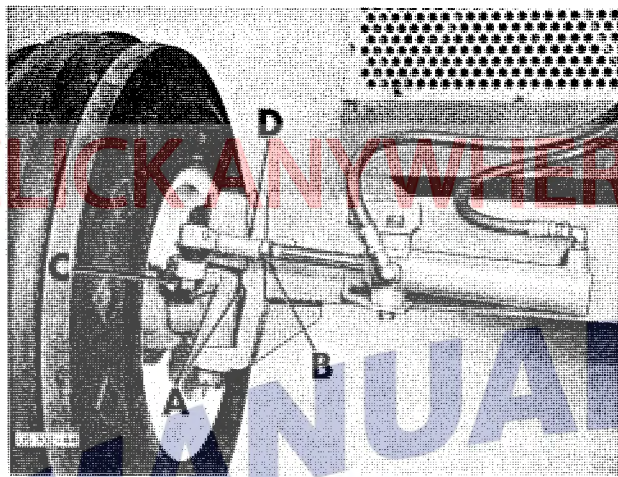


Figure 8

Fig. 8 — When turning to the extreme in either direction, wheel stops "A" (front and rear — either side) must make contact before the cylinder bottoms in both directions or damage may result to the cylinder.

If the stops do not make contact before the cylinder bottoms, proceed as follows:

1. Loosen jam nut "B".
2. Remove cotter pin and nut "C".
3. Adjust vertical socket "D" all the way in on cylinder piston.
4. Reinstall nut and cotter pin "C". Tighten jam nut "B".

Seat Adjustment and Repositioning Ladder

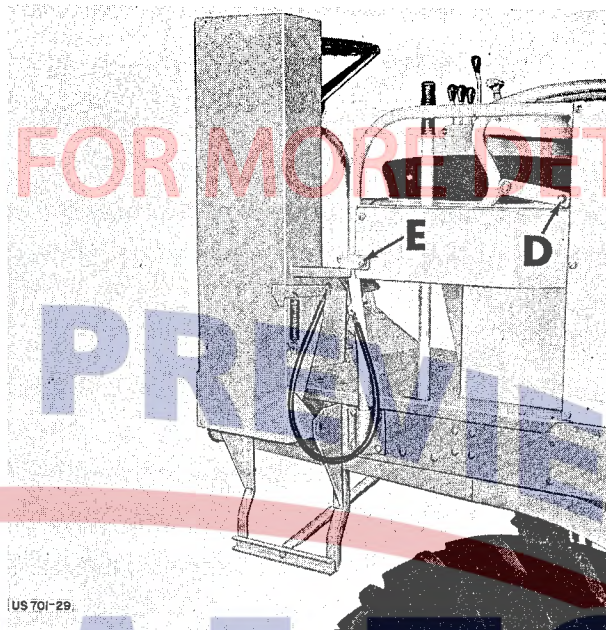


Figure 9

Fig. 9 — The seat can be tipped back so it will be out of the way when the operator is standing. It can also be adjusted up or down. The high position is illustrated. To move to the lower position, remove bolt "D" (both sides) from pivot bracket and lower seat attaching bolt (both sides). Reposition seat to lower set of holes and bolt in place. The ladder can be raised to position shown and locked to rail with clip "E".

Traction Drive Belt

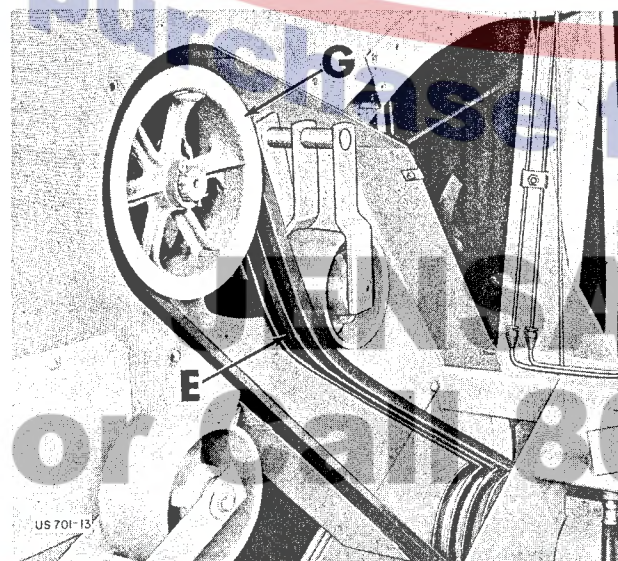


Figure 10

Figs. 10 & 11 — The tension on the traction drive belt "E" (Fig. 10) is controlled by tension spring "H" (Fig. 11 - under operator's platform). Adjust nuts "F" until the spring is compressed to 3-1/4" between the washers as indicated.

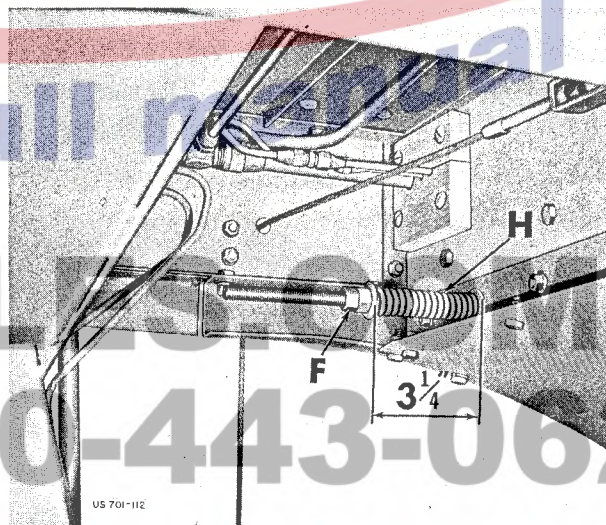


Figure 11

Should it ever become necessary to replace the belt, remove shielding from over belt as shown. Relieve all belt tension. Remove upper drive pulley "G" (Fig. 10). Remove old belt and install a new one.

NOTE: Make sure pulley "G" is aligned with the lower pulley. Washer as required on either side of it to attain this. Readjust the tension spring to 3-1/4" between the washers.

Variable Speed Drive Belt



Figure 12

Belt Adjustment

Figs. 12 & 13 — 1. The tension on the drive belt is controlled by spring "D" (Fig. 12). For proper belt tension, the spring must be adjusted to 3-1/4" between the washers as indicated in Fig. 13. **NOTE:** The 3-1/4" dimension is to be obtained when the vari-drive belt is in the center position on both sheaves.

2. Operate the variable drive from one extreme to the other. Check to see that the belt is flush with the outside diameter of both the driver and the driven sheaves. If the belt runs beyond or below the outside diameter of the lower sheave, adjust the nuts on the end of the cylinder anchor at "M" (Fig. 12) until the belt runs flush with the outside diameter of the sheave. If the belt runs beyond or below the outside diameter of the upper sheave, loosen nuts in turnbuckle "A" and adjust turnbuckle until the belt runs flush with the outside diameter of the sheave.

3. Adjust the spring for the variable drive belt idler to 3-1/4" between the washer and spring anchor as indicated in Fig. 13.

4. Recheck Steps 2 & 3.

5. Should the belt wear or fray on one side or the other, check to see if the sheaves are aligned properly.

The distance between the outer edge of the lower fixed sheave at "N" (Fig. 13) and the inner edge of the upper fixed sheave at "P" should be 2-19/32" ($\pm 1/16$ ") as indicated. **NOTE:** Place a straight edge along the outer edge of the lower fixed sheave to check this.

Add or remove shims between bearing and bearing cage at "H" (Fig. 13) to attain this. However, when doing this, locking collar "I" must be loosened and cotter pin "J" removed to allow shaft to shift. In case shims are added or removed, washers "K" on either side of traction drive sheave will have to be added or removed also. Make sure not to misalign this sheave when adding or removing washers.

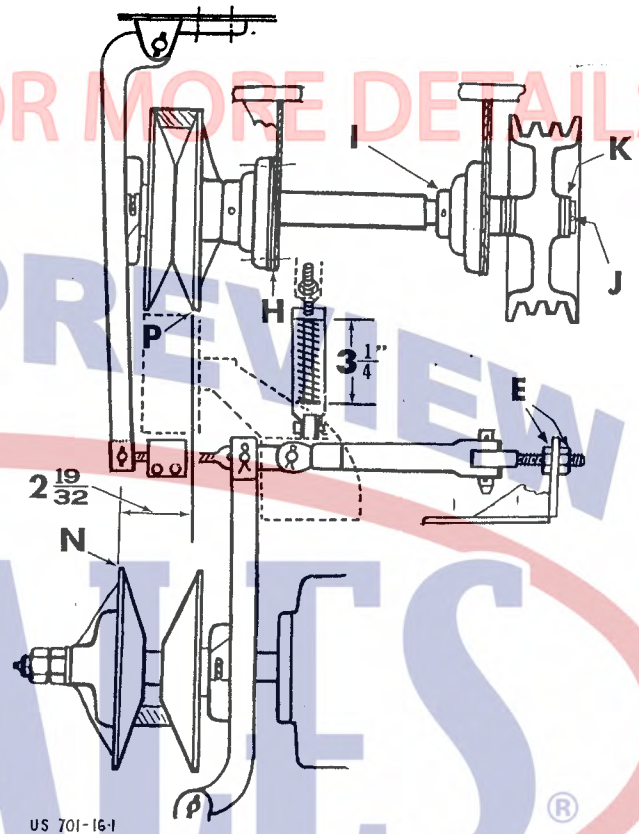


Figure 13

Belt Replacement

Remove engine screen and open variable drive inspection door, then proceed as follows:

1. Relieve all tension from spring "D" (Fig. 12).

2. Remove connecting pins "L" (Fig. 12). Remove the small door indicated at "B" (Fig. 12) from the back side of the wheel housing to remove the upper pin. Remove shifter yoke. Belt can now be removed and a new one installed.

3. Replace all parts.

NOTES: • To adjust new belt, study the belt adjustment procedure.

• When adjusting tension spring "D" (Fig. 12) make sure belt is riding at the same diameter on sheaves, engage starter a few times when making adjustment.

• **BELT ADJUSTMENT MUST BE CHECKED DAILY DURING THE FIRST 50 HOURS OF OPERATION AFTER INSTALLING A NEW BELT AND EVERY 50 HOURS THEREAFTER.**

OPERATING AND ADJUSTING (Cont'd.)

Implement Drive Belt Idler

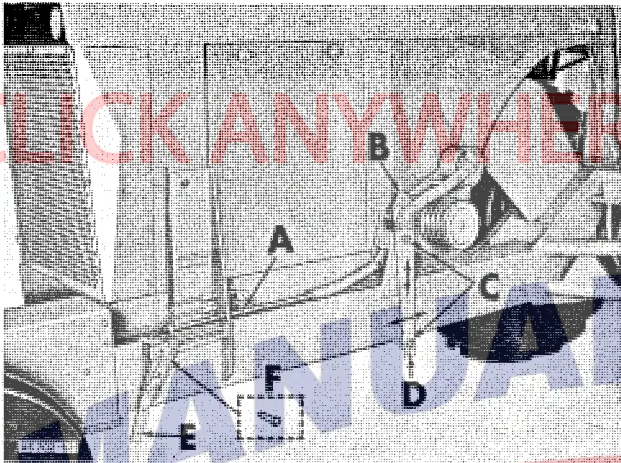


Figure 14

Fig. 14 — After the implement being used has been mounted and the belts installed, the idler can then be adjusted. It should be adjusted to the point where the belts drive and do not slip on the sheaves. Adjust tension bolt "A" until this is attained. Three holes are provided in the quadrant at "B" for proper location of the idler pulley to the belt of the implement being mounted. Use the hole best suited to locate the idler. The idler should also be aligned with the belt. Loosen bolt "C" in idler arm support and shift idler accordingly. Hole "D" can be used to insert a punch to align the idler with the belt. Tighten bolts securely. After lever "E" has been pulled back in the locked position, place drilled rivet "F" through holes as indicated to hold lever in locked position.

NOTE: The lever can also be secured in the extreme forward position using the drilled rivet. This will hold the idler up allowing the belts to be more easily removed.

Brake Adjustment



Figure 15

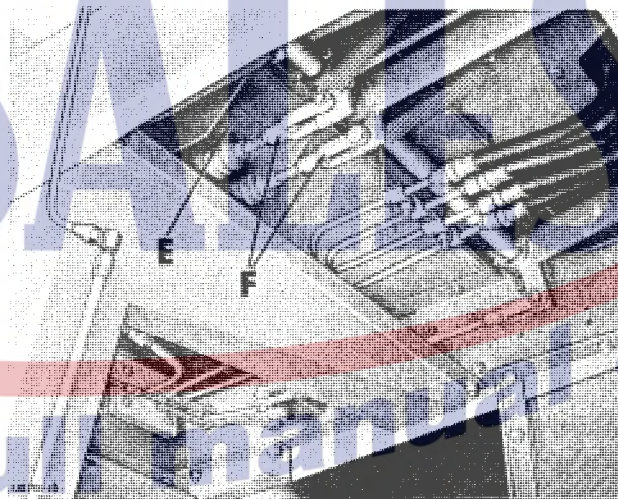


Figure 16

Bleeding Air From System

Figs. 15 & 16 —

To bleed air from the system, apply pressure to brake pedals and loosen nut "D" (Fig. 15—both sides). When air bubbles no longer appear, retighten nuts. NOTE: The system uses standard hydraulic brake fluid. To add fluid, remove plate "E" (Fig. 16) from top side of operator's platform for access to master cylinder.

Brake Adjustment

To check brakes for proper adjustment, remove pins holding clevises "F" (Fig. 16) and return springs to brake pedals. Hold brake pedals (by hand) in their home position. Push pistons back until they make contact with socket in master cylinders. Holes in clevises should then align perfectly with holes in pedal assemblies. If they do not, adjust clevises until they do. If pedals are not even when brakes are applied, adjust clevis on highest pedal until this pedal is equal with the lower one.

NOTE - Make sure to lock jam nuts against clevises.

Servicing Brakes

To service brakes, remove "U" joint "G" (Fig. 15). Loosen set screw "H" in drum hub, then remove the drum. If shoes are removed, make sure the shoes marked with yellow paint are reinstalled toward the front and the ones marked with red paint toward the back as indicated in Fig. 15. If marks are not clear,

the shoes with the larger slotted holes go to the back side as indicated.

NOTE: When reinstalling joints "G" (Fig. 15 — Both Sides) fit them on the wheel end shafts as far as they will go. Then pull them back 1/8" to 1/4" and tighten locking bolt.

Hydraulic System Diagram

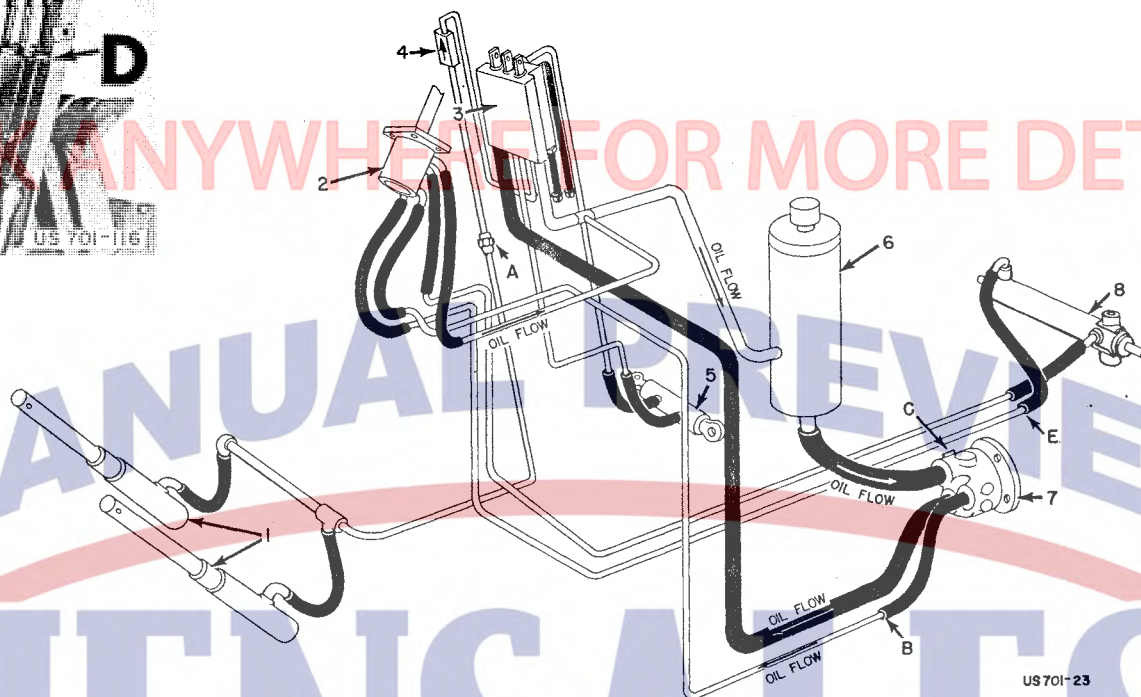


Figure 20

Checking Oil Pressure

Fig. 20 - Before checking the oil pressure, make sure to check that the oil pump drive belts are tight. See Page 20, Fig. 35, to adjust the belts. Check the oil level in the reservoir to make sure it is full. To check oil pressure, we suggest attaching a pressure gauge to line at "A". With the engine running at full throttle, and rams (1) fully extended, hold hydraulic lever open. It should register between 1500 & 1600 P. S. I. If it does not, check for leaks, bent or obstructed lines, or the pump may be at fault. The pressure can be changed by adding or removing shims next to the relief valve spring under cap plug at "D". This applies to the entire system except for the power steering. The pressure for the power steering should be 1250 P.S.I. To check this, we suggest attaching a pressure gauge to line "B" or line "E". The engine must be running at full throttle when this is checked and the steering turned to the extreme right only. NOTE: Hold steering wheel against stop, but, do not turn wheel any further. The pressure can be changed by adding or removing shims next to the relief valve spring under cap plug at "C". Checking the pressure at line "B" would tell if the pump was putting out the proper pressure. Checking at line "E" would tell if the steering motor might be at fault.

Do not use wiping cloths to clean parts. Always wash in solvent and blow dry with air or place parts on paper towel to drain and dry.

CAUTION: Never use "Stop Leak" additives in system.

3. THREE SPOOL VALVE FOR LIFT CYLINDERS, VARIABLE DRIVE CYLINDER AND "OPTIONAL" REEL LIFT CYLINDERS FOR COMBINE - Remove from machine to disassemble. Plug all ports and clean outside of valve. Disassemble in clean area. Wash parts in solvent and blow dry with air. Remove any nicks or scratches from parts before reassembly. Apply a light film of oil to all metal parts prior to assembly. Use new "O" rings, back-up washers and block-vees.

4. ADJUSTABLE LOWERING CONTROL VALVE - Thread the valve in or out to control the speed of drop of the mounted implement. It has nothing to do with raising the unit.

5. VARIABLE DRIVE CYLINDER - Remove from machine to disassemble. Remove nut from end of cylinder, push in on bearing, remove snap ring from inside of casing. Pull out on ram to disassemble. Clean all parts in solvent, blow dry with air. Remove any nicks or scratches from parts before reassembly. Install new packing and "O" rings. Always use new packing and "O" rings when reassembling.

6. HYDRAULIC RESERVOIR - See Key No. 17, Page 7, to service this unit.

7. HYDRAULIC PUMP - Remove from machine to service. Clean outside of pump and mark front plate, body and backplate with a sharp tool to insure proper

Hydraulic System Components & Service

1. LIFT CYLINDERS - See Fig. 21, Page 15, to service these cylinders.

2. POWER STEERING ORBITROL CONTROL MOTOR - To service motor, it must be removed from the machine. Before removing, make sure the area around the motor is cleaned thoroughly. Clean outside of motor thoroughly, then disassemble in clean area.