NOTE
MODEL 3212
LEVELER
INFORMATION
ATTACHED

Everman

Model 329

Automatic Land Leveler and Hydraulic Scraper Assembly and Operation Manual

including

Operation and Adjustment Instructions (page 6 & 7)

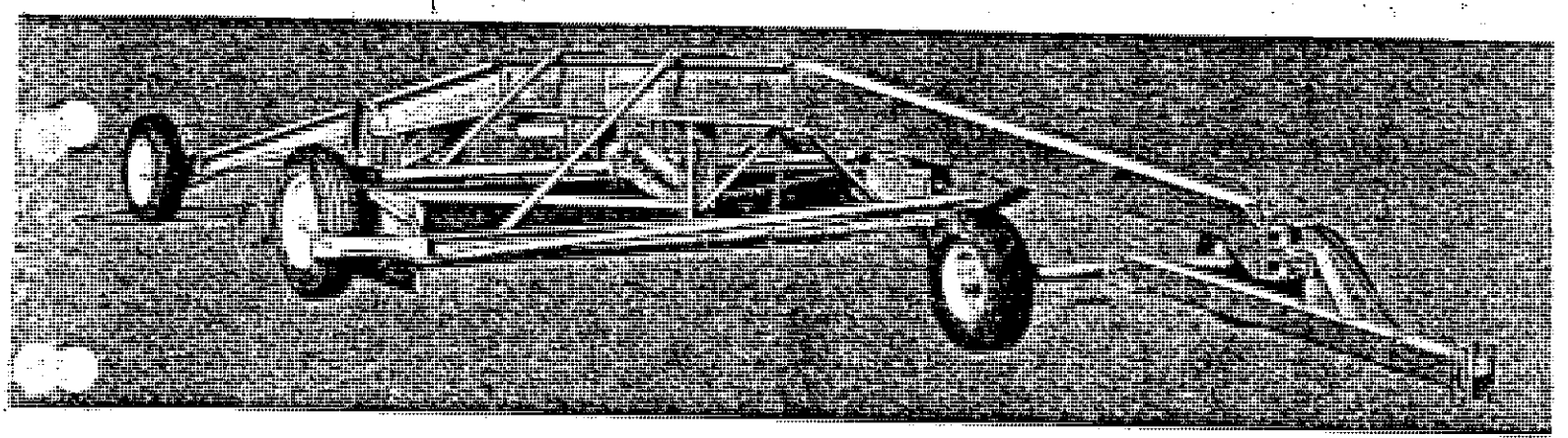
and

Parts List (page 10)

COMBINING IN
ONE Machine

- AUTOMATIC LEVELER
- FIELD PLANE
- HYDRAULIC SCRAPER
- SEED BED FINISHER

- MANEUVERABLE
- TRANSPORTABLE
- HYDRAULIC CONTROL
- LARGE CAPACITY
- LIGHT DRAFT



329 ASSEMBLY INSTRUCTIONS

Figure No. 1

Assemble Moldboard (30600), Sideboards, (30631-L and 30632-R), and lift pipe (30700) together. Use ⅜x1¼ bolts at top, and plow bolts to attach to Bit. Attach center of lift pipe to Moldboard with ⅜x1½ bolts and leave loose.

Figure No. 2

Support main frame (30500) in rear as shown and attach front of side boards to pull brackets with ⅝ long hardened bushing (30764) flat washer and ⅝x2" bolts. Assemble axle (30800) on top of frame with axle clips (30840) using ⅝x2 bolts and bevel washers under leg of channel.

Figure No. 3

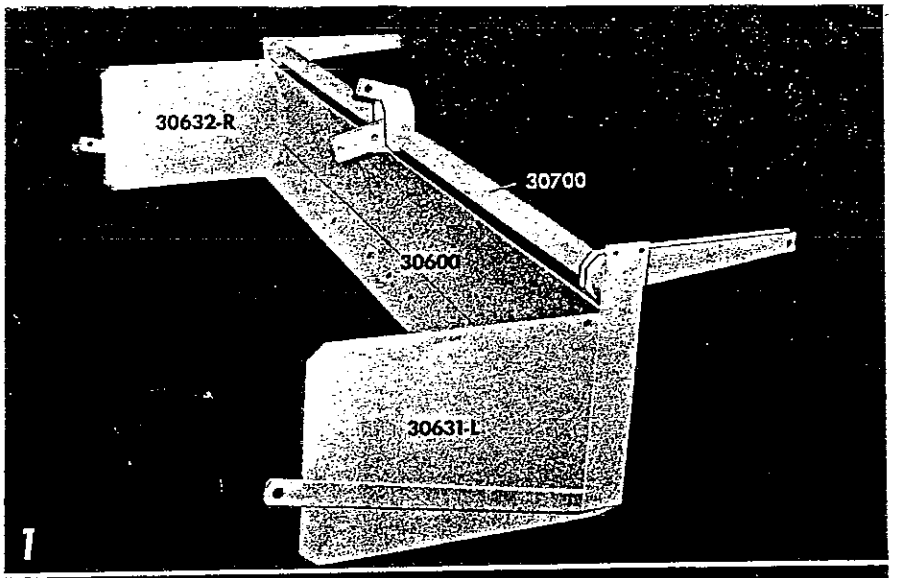
Assemble slotted links (30760) between lift pipe arms and rear of main frame using ¾x1¾ pins and cotters. Assemble fixed link (30765) and adjustable link (30770) between lift pipe arms and axle stubs using hardened bushings (30764) and ⅝x2½" bolts.

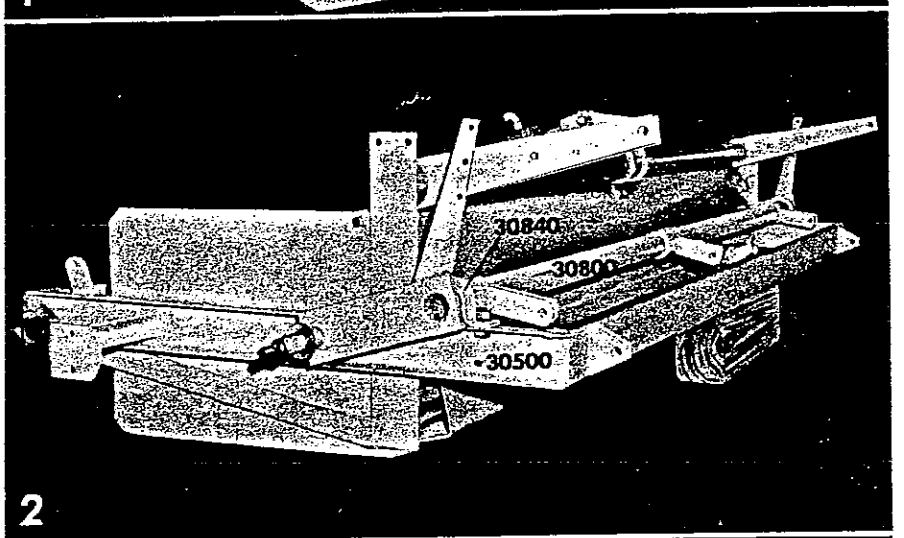
NOTE: DO NOT CHANGE SETTING OF ADJUSTABLE LINK AT THIS TIME. (See sect. on adjustments page 7).

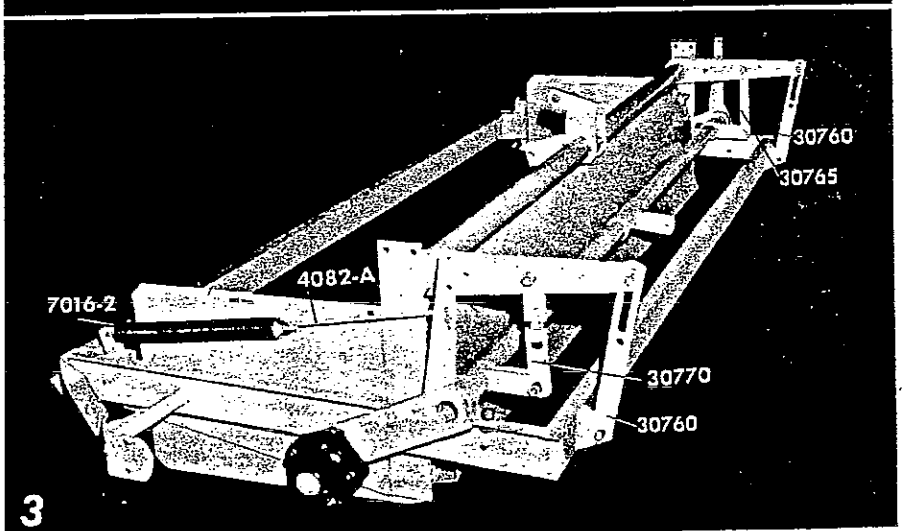
Assemble springs (7016-2), and spring rods (4082-A) between frame and axle as shown and attach with cotter pins. Install 7077 hub assemblies to 30800 axle. See correct order of parts installation on page 13. Tighten nut until hub is locked to insure that bearings are fully seated. Then back off nut only until hub will turn freely without any looseness in the bearings. Fill hubs with regular gun grease before operating.

Figure No. 4

Attach center truss (30200) to main frame with ⅝x1½ bolts. Leave bolts loose until angle braces (30295) and (30296) are attached. See Figures 6 and 8.







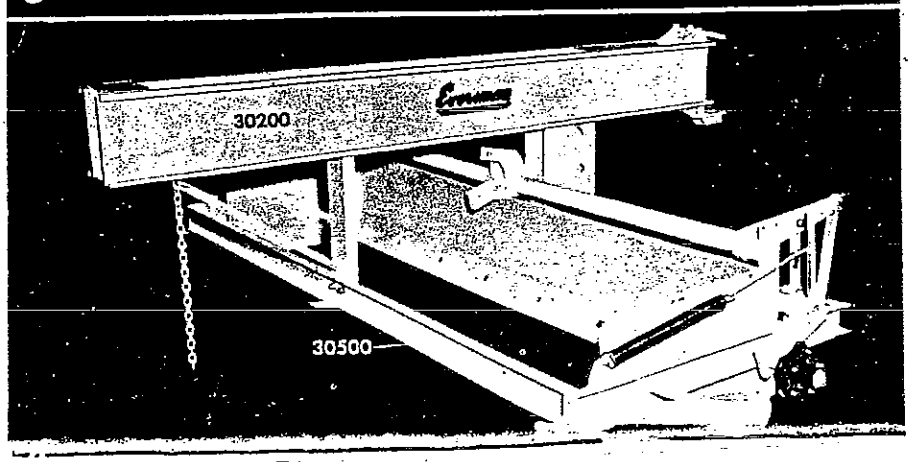


Figure No. 5

Attach front end of Drawbar (30660) between the stubs on center truss leg with ¾x1¾ pin and cotter. Attach rear of Drawbar to lift pipe center bearing with ⅝ x 2 bolts. Then tighten bolts holding lift pipe bearing to moldboard. Attach drawbar brace (7046-18) to center hole of cutting bit with tapered nut in front and regular nut and lock washer behind. Fasten forward end of brace to drawbar with 9/16x1½ pin and cotter.

Mount hydraulic cylinder between drawbar and lift pipe with 1 inch pins (7010-26) and ¼ cotters. Bolt blade braces (7042) between sideboards and drawbar with two ½x1¼ bolts and one ½x2 bolt.

Figures No. 6 and 7

Attach front truss 30100 loosely to center truss with ½x1¼ bolts.

NOTE: *Two braces are tack welded to the top and bottom plates of the front truss to prevent shipping damage. Knock off these braces with a hammer before assembling front truss to center truss.*

Insert center (short 30485) pull pipe *through slot in bracket* under front truss. Attach outer pull pipes (30480) under brackets on both ends, bolt all with ⅝x1½ bolts. (See Figure 6). Tighten all ½ and ⅝ bolts *securely*. Attacb angle braces (30295-L, 30296-R) to center truss and frame *securely* with ⅝x1½ bolts.

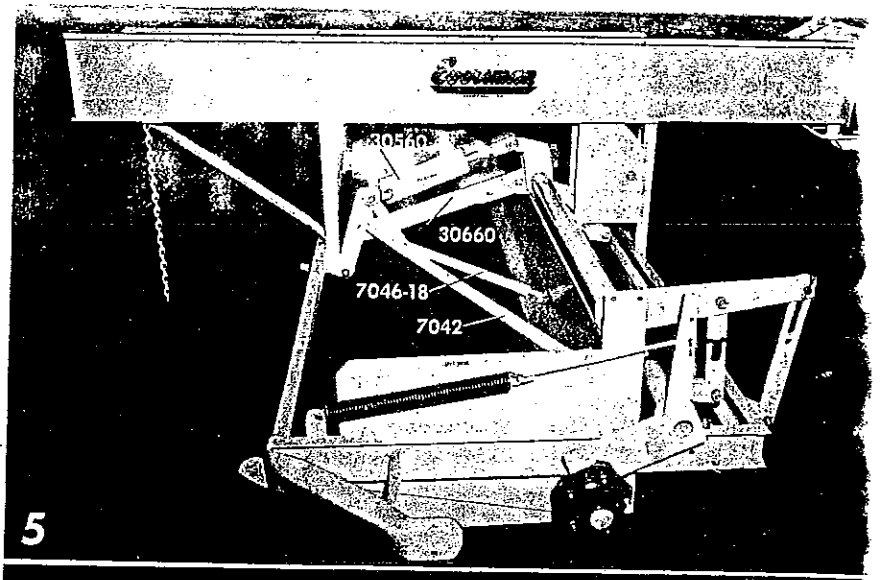
Figure No. 8

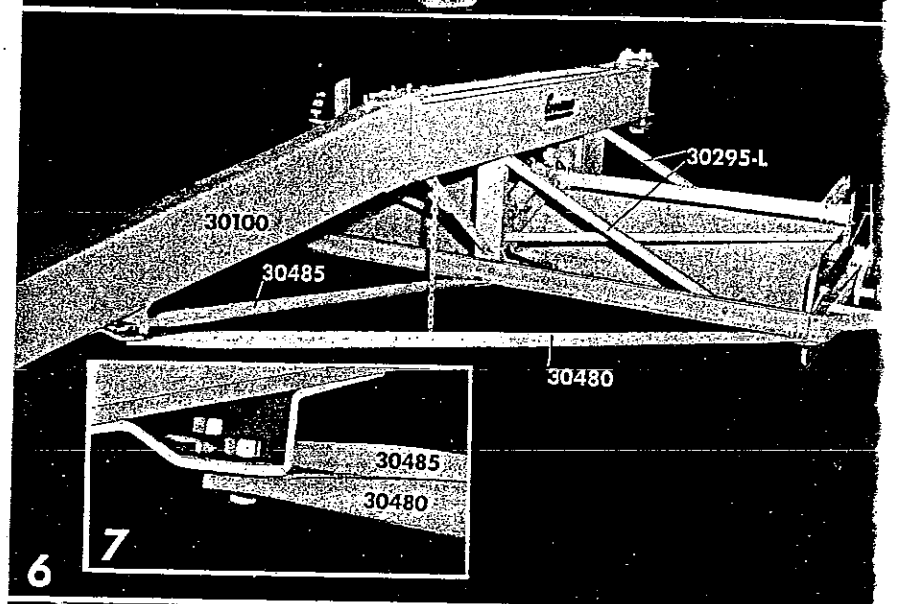
Connect hoses to cylinder. Attach cylinder check (or lock) valve (7610) to hydraulic pipes (30850) and connect cylinder hoses (42″ long and 26″ long) to check valve with swivel connectors (7104) before attaching pipes to front truss.

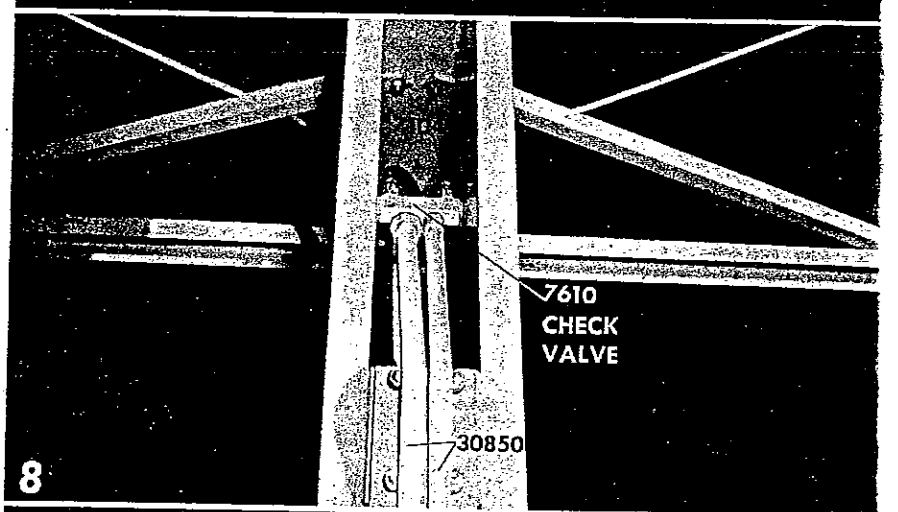
Figure No. 9

Connect oil pipes to front truss with pipe clips (7058).* Attach 88″ long hoses (4058) to forward end of hydraulic pipe.

*Use ½x1½ bolt for rear clip and ½x1¼ for front clip.







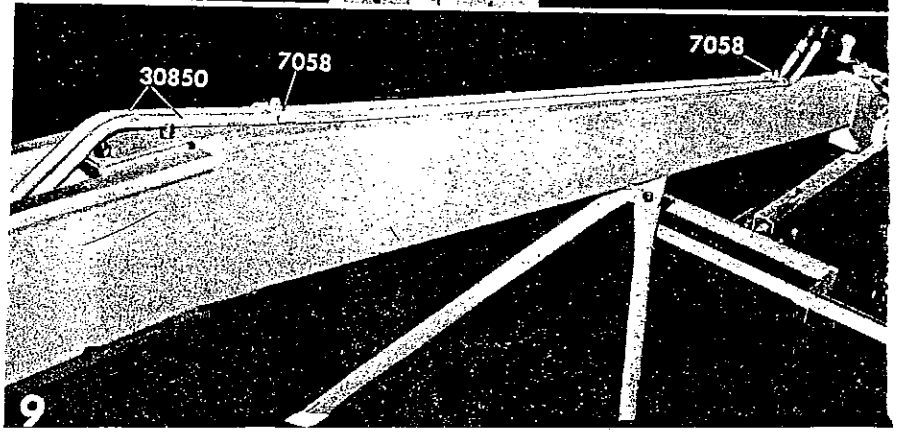
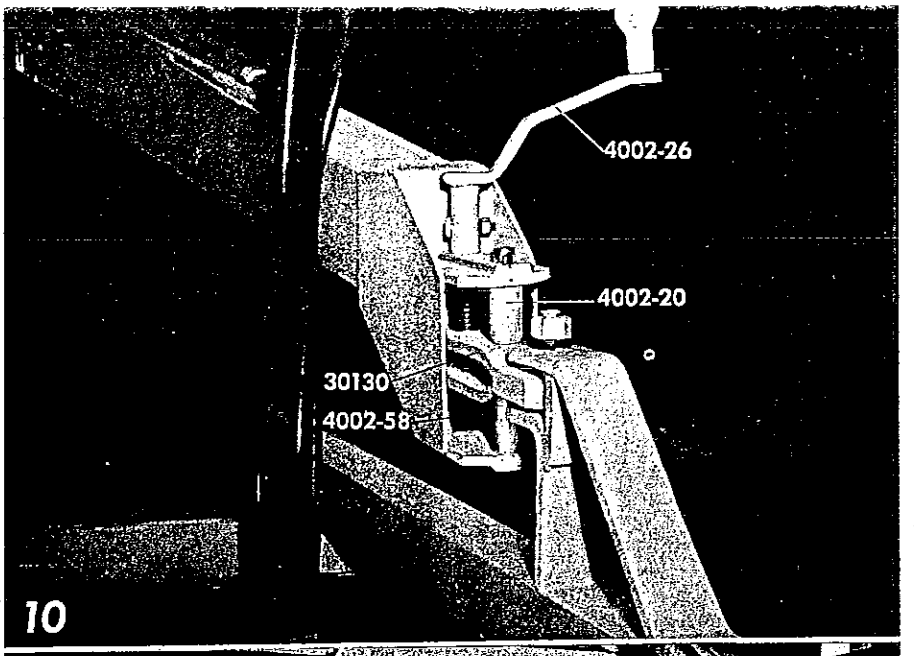


Figure No. 10

Install screw (4002-58) in rear hole up thru ball hitch block (30130) and mount crank with ⅜ x1¾ bolt. Insert slide pin (4002-20) from the bottom and fasten with a 5/16 cotter. Tongue (30400) fastens to ball hitch with a 1" x 4" bolt.



Figures No. 11 and 12

Attach wheel tractor clevis (4110) to front of the tongue with 1 inch pin (7084) and hair pin (7086). Bolt Dolly axle (30425) or front "V" (30460) to the tongue with ⅝x1½ bolts. (A crawler tractor clevis (7068) is available for shipment if leveler is to be pulled with a crawler. (See parts list on page 11).

Install hub assemblies (7077) to dolly axle (30425) following same procedure outlined for main wheel axle (page 2, fig. No. 3). Mount 4216 dolly wheels on hubs and attach scraper blade (4217 and 4218) to dolly axle assembly.

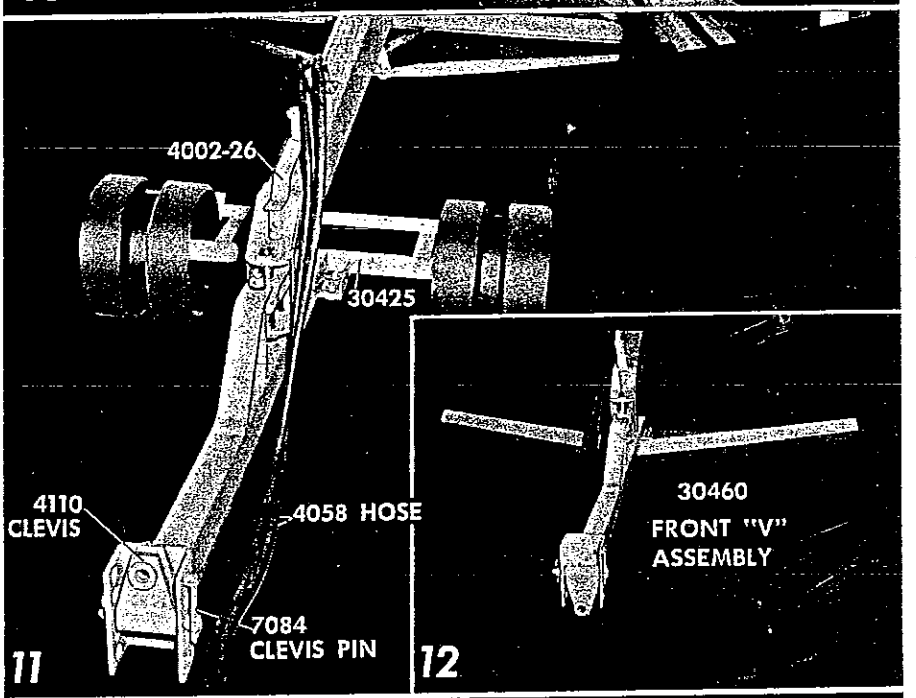


Figure No. 13

Mount indicator gage (4072) on either right hand or left hand side board with ½x1¼ bolts.* Connect gage hand (7072-20) to lift pipe arm with (30875) link using $\frac{9}{16}$x2 pin and cotter in lift pipe arms. Mount main wheel tires. (It may be necessary to disconnect side springs until wheels are mounted.)

*Assemble 4072-20 to 4072-22 with ¼x½ cap screw.

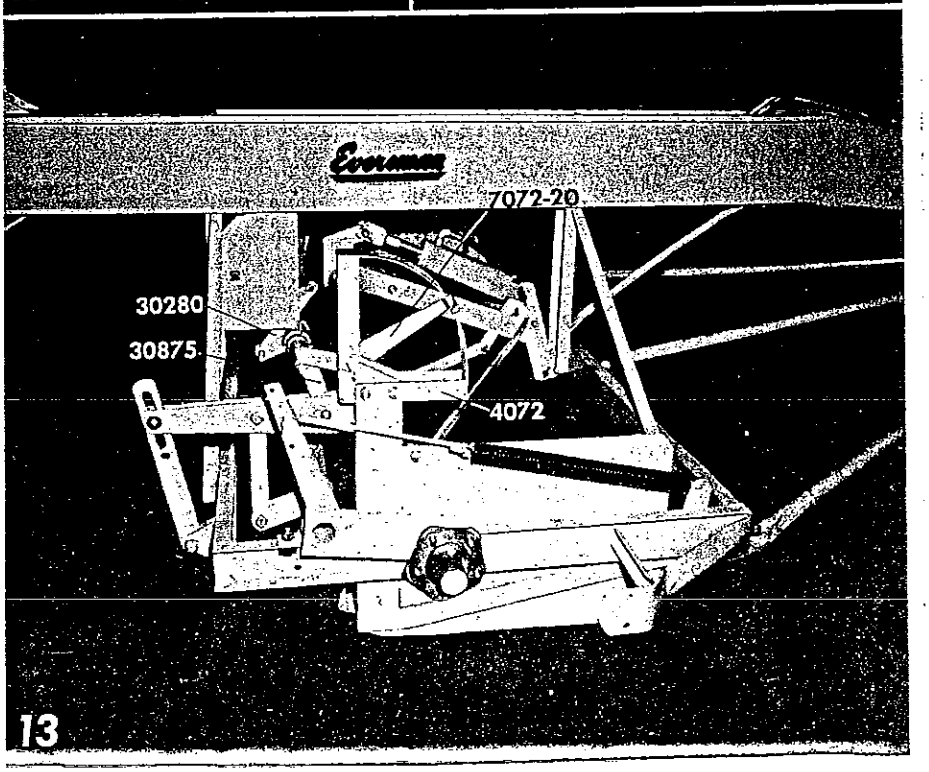


Figure No. 14

Attach link (30280) to roller chain with 7/16 pin and to center axle stubs using 5/8x2½ bolt and 1/8 O.D.x5/8 long hardened bushing. Attach pivot arm (30260) to bottom of hinge support bracket using hardened bushing (30264) 1½ dia.x1 1/16 long, ¾ flat washer and ¾x3" carriage bolt. (Leave loose until spring is in place).

CAUTION—Be certain this *bolt* is *tightened* with 16" or 18" wrench *after spring is installed.*

NOTE: *Before connecting spring raise machine fully* with the hydraulic cylinder. Connect one end of spring (30271) directly to end link of chain and place rear hook around grooved bushing (30265) and slide over pin on pivot arm and cotter. Lower machine and remove any pieces of scrap metal from between coils of the spring.

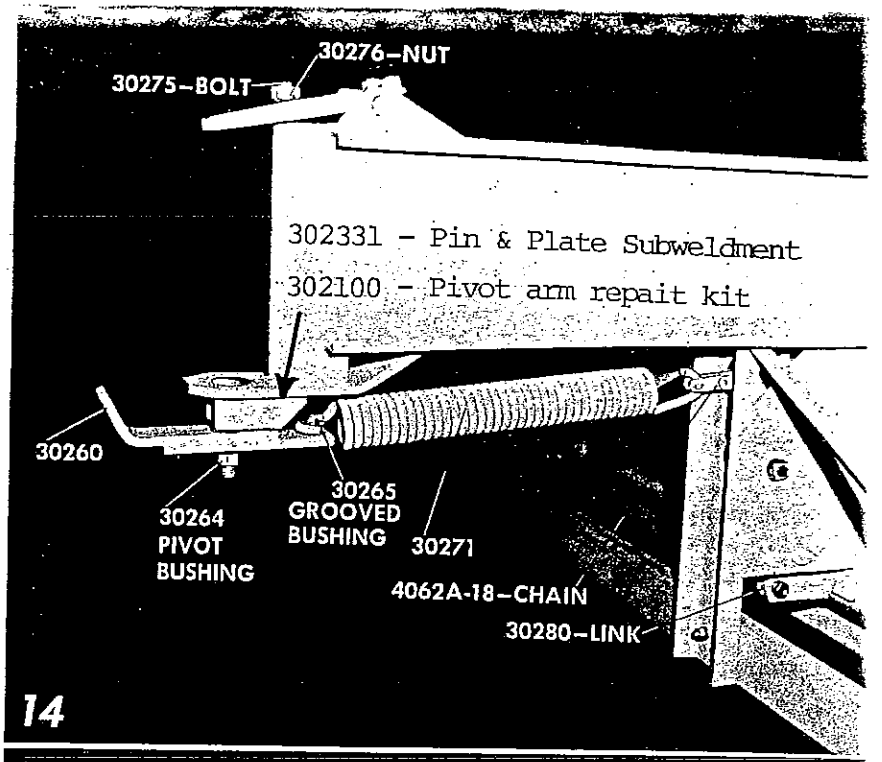


Figure No. 15

Attach hinge (30300) to rear trusses (30331-L and 30332-R) with ¾x1½ bolts except the lower rear two are ¾x2 bolts which also hold the pivot arm actuator (30325) in place. *Leave all these bolts loose* until rear axle is installed. Slide rear axle (30350) over rear of trusses and bolt securely with ½x1¼ carriage bolts. Install hub assemblies (7077) to rear axle (30350) using same procedure outlined for main wheel axle (page 2, fig. No. 3).

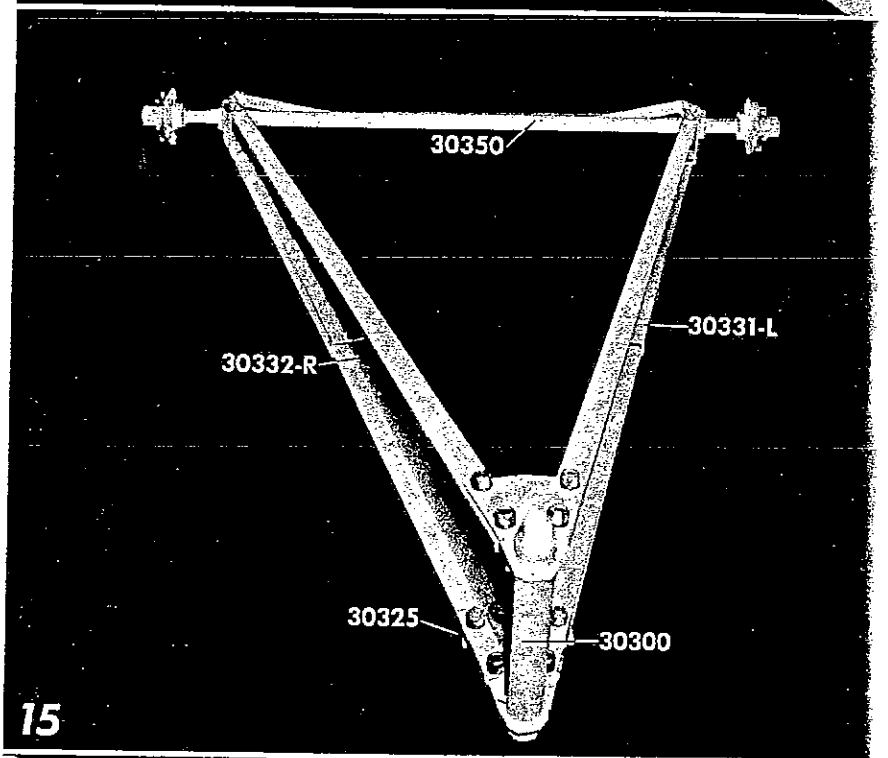


Figure No. 16 (See pages 20 & 21)

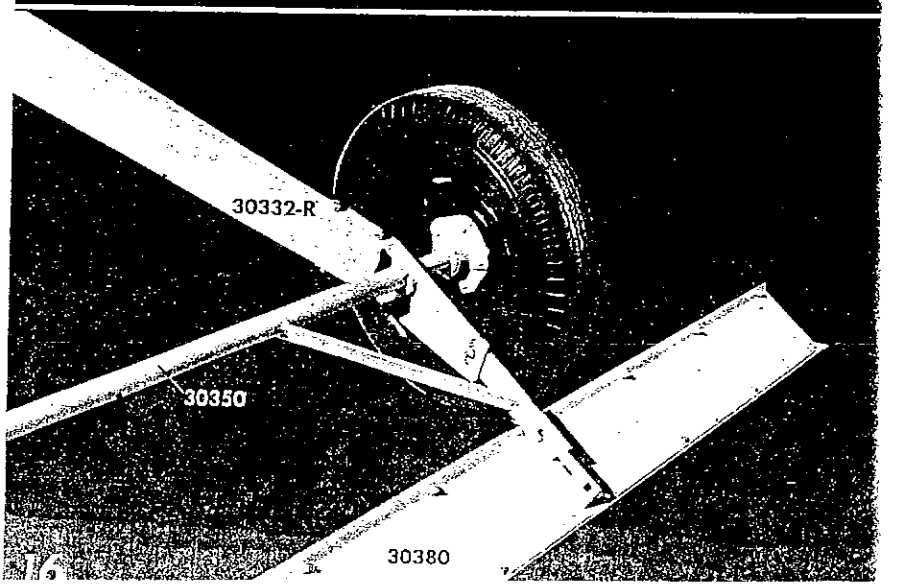
Mount rear wheels and tires on hubs. Attach hinge on the rear section to center section with long hinge clamp bolt. Attach rear smoother (30380) to rear axle arms with ½x1½ machine bolts and ½ inch flat washers.

Be sure to read section on adjustments, page 7, before operating your Eversman Leveler.

Check tightness of all bolts after assembly and retighten all bolts again after first days use.

Run cylinder through its complete travel both ways several times to expel air. Then check oil level in tractor pump reservoir and fill if low.

Be sure to keep long hinge clamp bolt tight. Check tightness at least once each day.



SEE OPERATING INSTRUCTIONS ON THE FOLLOWING PAGE.

Model 329 OPERATING INSTRUCTIONS

Your EVERSMAN LEVELER will operate under a wide variety of soil and moisture conditions. However, best performance is obtained when soil is fairly dry and relatively free of trash. This machine will do the maximum amount of work with a minimum of power. Built into it is a flexibility of operation found in no other type of field leveling tool.

Its exclusive hinged tail section reduces power required for turning, increases maneuverability, makes it possible to work most any size or shape plot of ground, gets into corners and field edges where other bulkier and harder to handle levelers can't go.

A spring tooth attachment can be used which roughs up the surface and leaves it in excellent condition to prevent blowing.

Automatic control of the cutting blade actually feels out high and low places in your fields. The cutting blade is automatically lowered to take a cut from high places, automatically raised to fill in low places. Each time over a field gives a more accurate surface grade. Once the proper adjustments are made a tractor operator inexperienced with an Eversman Leveler can do an excellent job of "Land Smoothing."

The curved shape of the cutting blade gives the load a rolling motion so that a live load is carried reducing power required and helping to keep the cutting blade scoured clean.

Two-way hydraulic power from your tractor is required. This hydraulic control at your finger tips allows you to spread out accumulated trash or lighten the load on your tractor in crossing soft or sandy spots. Quick disconnects or automatic breakaway couplings are available at slight extra cost.

BE SURE THAT HYDRAULIC CONNECTIONS ARE WIPED CLEAN OF DIRT BEFORE HOOKING UP Work your control valve several times allowing full travel both ways on the cylinder to expel air in the system.

Note: It is not necessary for the operator to continually reset the blade with the tractor hydraulic control lever. If the machine is properly adjusted as outlined in "adjustments," the crank axle will do the leveling and the hydraulic control will only need to be used on occasions as described below. (*Be sure to read section on adjustments before trying to operate your Eversman Leveler.*)

FOR AUTOMATIC LEVELING ALWAYS USE THE SWINGING DRAW BAR on your tractor for easier turning. Never try to operate the machine as an automatic leveler without using either the front "V" or the tongue dolly wheels. (Except for roughing operations).

IF THE MACHINE IS LEFT LIFTED on its wheels when unhooked from tractor, it can be moved or readied for transport without reconnecting the hydraulic system.

FIRM, DRY, CLODDY GROUND. Operate on this type of ground with the front "V" assembly, the rear smoother in its lowest position, and at low spring tension (see adjustments below). This puts the greater part of the weight of the leveler on the front and rear end and on the cutting blade so that it can break up the clods and accomplish the maximum toward producing a fine, firm seed-bed. (Generally it is not necessary to disc or harrow plowed ground before leveling. Clods brought to the surface dry out and are harder to work down.)

LOOSE, DRY, SANDY GROUND. Operate with front dolly wheels and higher spring tension (see adjustments) so as to carry more of the leveler weight on the main wheels. If the rear smoother blade tends to push an excessive amount of dirt, allow it to float free by removing the bolts locking it in a fixed position. (See Rear Smoother Adjustment next page.)

DAMP, STICKY SOIL. When soil moisture is high the front "V" and the rear smoother may not scour properly. Use dolly wheels in place of front "V" and swing the rear smoother blade up and over the rear wheels. Use maximum spring tension. (See Spring Adjustment section.) Set the cutting blade to carry a light load of dirt for the first time over a field. Second time over the surface will be drier and a larger load may be carried. If soil is moist, a slower tractor speed will allow more time for dirt to empty from the blade into depressions.

TRASHY GROUND. If trash is dry not much trouble will be encountered. If damp operate with rear smoother up and use dolly wheels instead of "V" same as for sticky soil. Hydraulic control at your fingertips allows occasional lifting of the cutting blade to remove accumulated trash.

BEST OPERATING SPEED. Too fast an operating speed will not give the dirt enough time to fall out of the cutting blade and fill low places. About 2½ to 3½ miles per hour usually gives best results. If soil is damp lower speed is advisable to allow time for dirt to fall from the blade.

PROPER DIRT LOAD. Setting the cutting blade too deep wastes power and prevents your leveler from doing its best job. Too deep a setting kills the automatic action so the blade neither cuts the ridges nor unloads in low spots properly. It should run full *only* on high places. It should run empty part of the time when crossing low areas. (This is especially true on the first time over.) *Adjust the depth in the field by raising or lowering with hitch screw* (Figure 20) *on the front truss so that the blade will average about half full* and note setting on the gauge. Watch the dirt load for a round or two and lower the hitch setting only if it runs empty half of the time or better. The second and third times over a more even load will be carried.

INDICATOR GAUGE. The gauge is merely a cylinder "setting" or position indicator. It aids in returning the cylinder to your "operating position" after raising the machine to change the spring tension or hitch setting.

The gauge pointer moves only when the cylinder is extended or retracted. It does not move during operation with the automatic axle control of the cutting blade or with the hitch adjustment. The gauge also permits the operator to make the same depth cut on each pass while moving dirt with the 329 in short form. (see page 8)

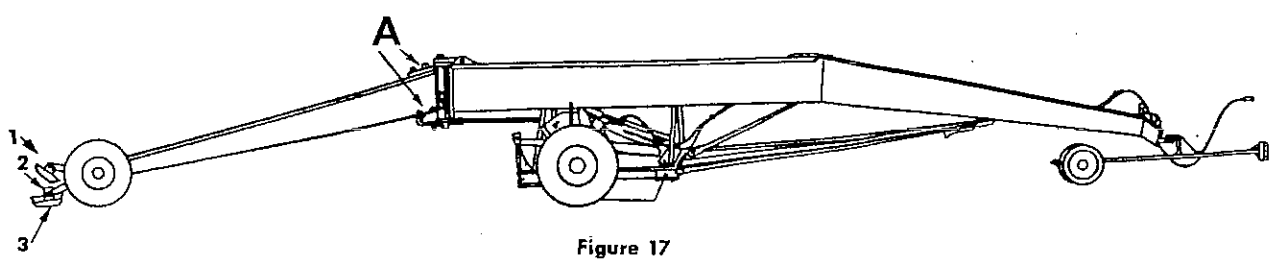


Figure 17

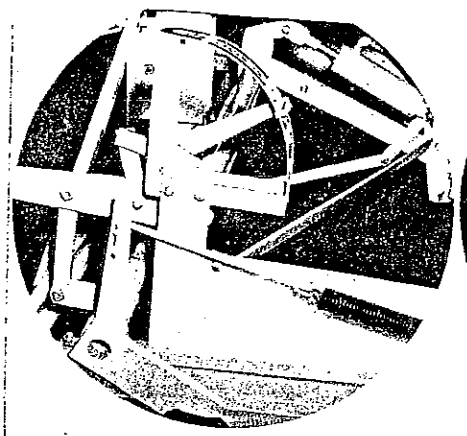


Figure 18

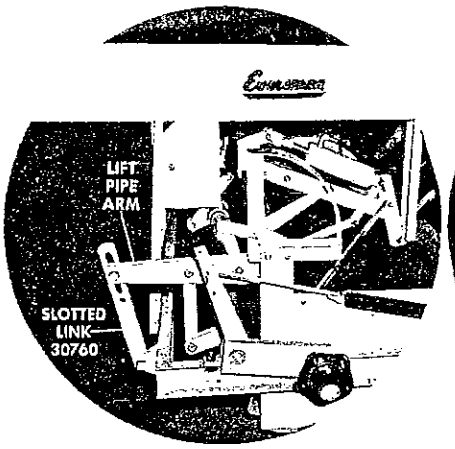


Figure 19

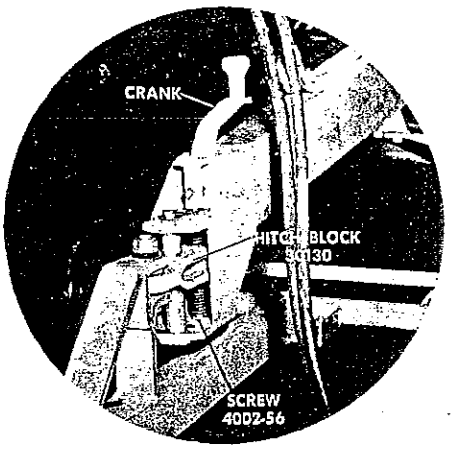


Figure 20

ADJUSTMENTS . . . *Most Important—Read Carefully*

Hitch Adjustment

Correct hitch adjustment is most important for satisfactory leveling operation. *The hydraulic cylinder must be set so the lift pipe arms are near the center of the slotted links* (30760) (see Figure 19).

The front of the machine can be raised or lowered a total of 4 inches by means of the hitch screw crank. (Figure 20) *This adjustment controls* the *amount of dirt* you carry in the cutting blade.

When the *hitch block* (30130) is *cranked down* toward the bottom of the screw the *leveler is raised* and *less dirt* will be carried in the blade.

The 329 leveler should be carried slightly high if you are attempting to operate with marginal tractor power and also when you are smoothing a rough field for the first time. For the second and third time over a field the *leveler* can be *set lower by cranking* the *hitch block up* a few turns. Then a more uniform dirt load will be carried and more precision cutting and filling will result.

The desired or normal dirt load should be ½ blade full (average). If the blade is carried consistently *too full* the automatic action will not function properly and poor results will follow.

After each *change* in the Hitch Block setting, *check* to see *if* the *lift pipe arms* are still near the *center* of the *slotted links* free to work up and down. This is absolutely necessary for automatic cutting and filling as directed by the wheels at the ends of the blade.

Place the machine on a firm, level surface and check the following steps:

1. Hitch to the tractor draw bar with the tongue (30400) level or slightly high at its front end.

2. Set the ball hitch block near the center of the screw (Figure 20) to start. (Always raise the machine with the cylinder, enough to take the weight off the front clevis before cranking the screw.)

3. With your tractor hydraulic control, set the cylinder so the ends of the *lift pipe arms* are *in the center of the slotted links*—free to work up and down equally. (see Figure 19) The gauge pointer should then be in the automatic range. (see note No. 1 below)

4. Pull the machine far enough *in the field* so you can *adjust the screw for proper dirt load* in the blade.

Note 1: During the full cylinder stroke the pointer should not go off either end of the gauge. If it does reposition the setting of the hand by loosening the ¼" cap screw at the base of the pointer arm.

Note 2: The lower front corners of the sideboards should run approximately ¼ inch off the ground. If the cut on the average is over ¼ inch deep this will cause unnecessary draft load and inefficient performance. To correct this, screw the hitch block down about two turns and retract the hydraulic cylinder slightly to maintain the same dirt load in the blade.

Tension Spring Adjustment

Figure 19 shows the side spring in the center position for average tension. Three different holes are provided for varying spring tension adjustment. Use lower spring tension setting for heavy, cloddy ground. Use higher settings for light, loose or damp ground. Average conditions will have the spring in the center hole. Be sure that both springs are set in same hole on each side. Lifting machine fully with cylinder relieves tension in the side springs and will aid in changing their position.

WARNING! If you want your Leveler to *work properly*—the rear truss *hinge bolts* MUST be *kept tight* (Point "A," Fig. 17). Use a long (16" to 18") wrench and tighten as much as possible.

Operating Instructions (continued)

Rear Smoother Blade Adjustment

The rear smoother blade may be used in a number of positions. (See Figure 17). *Position 1* is clear of the ground and is recommended for damp, sticky soil. *Position 2* carries part of the weight on the rear wheels, and position 3 places the smoother blade below the tires, and carries all of the rear end weight of the leveler. *Position 3* is recommended when a smooth, firm seed bed is desired prior to planting.

Note in figure 16, that the saw-tooth slot in the rear axle support arms permits a positive locking attachment with a machine bolt. The rear smoother should *never* be allowed to float loose or be rotated up on the rear truss members, but must always be tightly bolted to the axle support arms.

Blade Leveling

All tires on the 329 should be inflated to 30 lbs. pressure. The blade will not cut even if one main wheel tire is low. If the blade consistently carries more load on the one side put the adjustable link (30770) (see Figure 5) on the side with the excess load and lengthen it to level the blade

Note: The adjustable links are set at the factory (with centers equa to the fixed links 30765) and rarely need to be changed.

If the operation and adjustment instructions are not fully understood at first, reread the instructions after operating the machine for a short time. Then if the leveler does not perform to your complete satisfaction contact your Eversman dealer, or write directly to Eversman, Fifth Street and Curtis, Denver, Colorado 80204.

Hydraulic Scraper

Figure 21 shows the Eversman 329 in action as a large capacity hydraulic scraper. A wheel tractor of 30 draw bar H.P. or larger is required. Hydraulic hoses should be elastically supported to the tractor seat or other convenient point so as to clear the draw bar. Always remove rear section for dirt moving. The tongue and dolly wheels should be removed if it will be necessary to do much backing.

Note: An adapter (No. 4096, see parts list) for standard swinging draw bars is available to connect ball hitch to wheel tractors. Use swinging draw bar for best results.

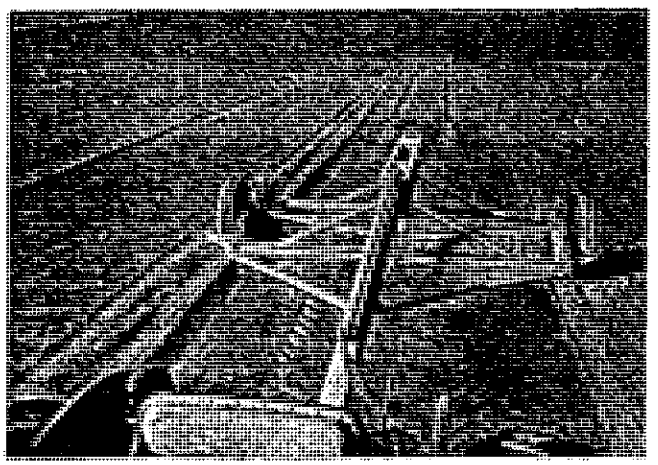
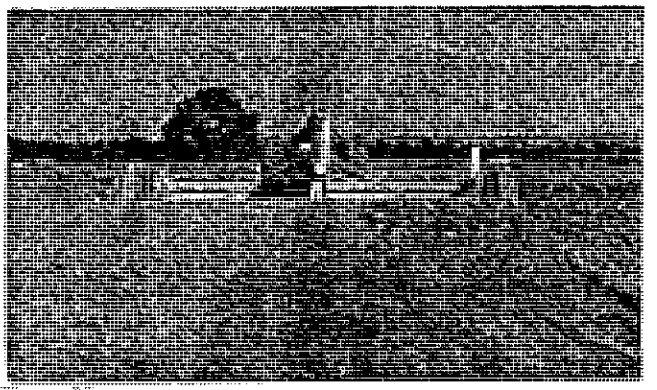


Figure 21

Figure 21 shows the most efficient method of working over the area to be cut. For cuts up to five or six inches deep work in strips leaving about three to five feet between cuts. This permits even cutting all the way across and leaves strips of the original surface in place so that the amount cut off can be more easily seen. Clean out strips to finish the job. See figure 22.

Figure 22

Where cuts must be greater than five or six inches in depth, repeat the process described above as many times as necessary and add the depth between levels to determine the total removed. If the area is staked, the strips having the stakes can be left to the very last.



Levee Building

Figure 23 shows how the model 329 leveler in short form can be used in stock piling or windrowing dirt for building levees or dikes for border irrigation, ponds, etc.

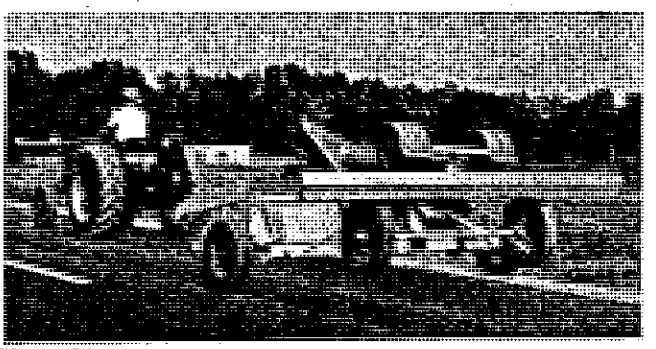


Figure 24

Transporting

To transport machine on highway, remove rear section and load forward on center truss section; remove front tongue assembly. Anchor tail section to the center section with the chain provided. (*Put end of the chain DOWN thru the key hole.*) Wire or chain rear smoother to hinge clamp bolt. WIRE DOLLY OR "V" ASSEMBLY ON TOP OF CENTER SECTION, OR TIE IT TO THE PULL PIPES UNDER THE FRONT TRUSS.

Troubleshooting

1. HYDRAULIC SYSTEM "DRIFTS." This is indicated by movement in the gauge pointer and a lowering of the cutting blade without a corresponding movement in the control valve. It may be caused by:

A. Air in system. Run cylinder through its complete travel both ways several times to expel air.

B. Low oil level in pump reservoir. Low oil may permit your pump to draw air. Check oil level and fill if low. Repeat A.

C. No check valve. A dual check valve (or cylinder lock valve) is furnished with every model 329 leveler (see page 4 for installation).

D. Faulty check valve or internal leakage in cylinder (oil passing from one side of piston to the other). To check, note if blade settles down to the ground after being fully lifted overnight with hose couplers disconnected from tractor. If so, determine which part is faulty by removing check valve from the system and repeating the above check. Be sure all air is out of the system. Send check valve or cylinder to factory for repair. WARRANTY DOES NOT APPLY IF THESE PARTS ARE DAMAGED BY INCORRECT DISASSEMBLY OR MISUSE.

2. LEAKAGE AROUND QUICK DISCONNECTS. Clean disconnects carefully. Be sure that all dirt is flushed out of "O" ring groove. If leakage continues replace "O" ring.

3. MACHINE WILL NOT LIFT FULLY.

A. Check travel on cylinder. It should travel a full 8 inches. Shorter travel indicates low oil pressure. Check oil level in pump and fill if low. Change oil if it is "thinned out" and watery.

B. If cylinder has full travel, check bolts at center of blade holding the lift pipe and draw bar to the moldboard. Loose bolts here will prevent full lifting.

4. MOLDBOARD CARRIES MORE DIRT AT ONE END THAN THE OTHER. Consistently heavier load at one end of moldboard is probably due to uneven pressure in main wheel tires. Check pressure and inflate to 30 pounds each. Operating with same side of leveler always on soft ground causes dirt build up. Put adjustable link (30770) on the side carrying excess load and lengthen it to level blade.

5. REAR TRUSS SECTION RUNS TO ONE SIDE. This will occur ouly when rear smoother is in full down position.

A. Check pressure in main wheel tires. One low tire will permit main frame to ride low on one side and throw the rear smoother out of line.

B. With the leveler lifted on its wheels and the rear section trailing straight behind, sight over the rear axle forward to the main frame. Rear axle should be parallel to the main frame. If not, loosen all bolts in forward part of rear truss assembly (point "A", Figure 17) and retighten with a jack or blocking under the low side.

6. AUTOMATIC ACTION SEEMS "STIFF."

A. Be sure that all joints and pin points in the cutting blade assembly are lubricated and free. Check especially the axle clips and half bearings at center of axle to be sure they are greased. Also grease rocker bearing under the roller chain.

B. Hitch may be improperly set so that lift pipe arms are working too close to the top or bottom of slot in slotted links. See section on proper hitch adjustment.

C. Too low a spring tension. In damp soil with some tendency to stick to blade, spring tension should be increased to lift the blade faster in low spots.

7. FRONT "V" AND REAR SMOOTHER DO NOT SCOUR. This condition may be recognized when the front and rear members drag an excessive load of dirt.

A. Try a higher spring tension adjustment. (See paragraphs on operation under different soil conditions.)

B. Replace front "V" with dolly. Place rear smoother in its elevated position.

8. FIELD SURFACE LEFT "WAVY."

A. Too low a blade setting. If cutting blade is carried too far below the level of the main wheels they cannot raise it far enough to dump its load. If the cutting blade carries a constant full load of dirt, it is set too deep and poor results will follow. Adjust hitch screw to raise front truss. This will raise cutting blade so as to carry smaller and fluctuating load.

B. "Stiff" automatic action. (See correction on this above.)

C. Too low a tension spring setting. Low tension spring setting on damp ground may cause Automatic Action to be stiff. Increase spring tension.

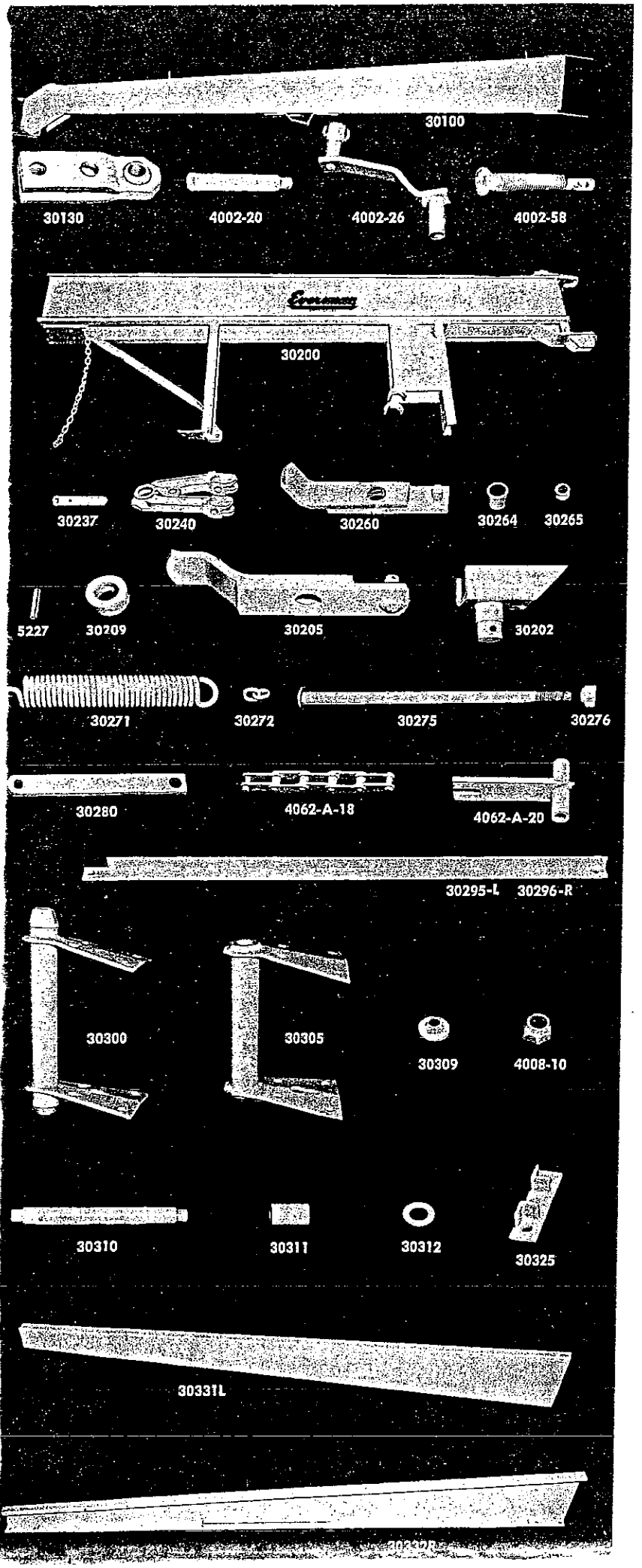
D. Wrong direction of travel. Short corrugations in some cases should not be crossed at right angles. (If the ridge spacing is such that the entire machine moves up and down as a unit.) Change direction to cross them first time at about 45 degree angle.

E. The hinge clamp bolt No. 30275 may not be tight—permitting "play" between the ceuter and rear sections. Tighten bolt to obtain satisfactory automatic action.

9. HARD TO TURN AT FIELD ENDS.

A. Allow tractor draw bar to swing. Use of a stiff draw bar requires excessive braking in turns and increases power required by a large percentage.

B. To prevent the blade from loading in turns, the center stubs on the axle must be connected through the roller chain over the rocker and the heavy spring to the pivot arm under the hinge



PARTS LIST–329

Part No.	Part Name	No. Per Machine
30100	FRONT TRUSS	1
30130	Ball Hitch	1
4002-20	Slide Pin	1
4002-26	Crank	1
4002-58	Screw	1
30200	CENTER TRUSS	1(e)
30237	Hinge Clamp Casting Shaft	1
302005	Hinge Clamp Weldment	1
30260	Stabilizer Pivot Arm	1(d)
30205	Stabilizer Pivot Arm	1(d)
30264	Pivot Arm Bushing	1(d)
30209	Retaining Collar	1(d)
30202	Pivot Arm Bracket	1(d)
064443	Roll Pin	1(d)
30265	Grooved or Spool Bushing	1(d)
30271	Stabilizer Spring (9/16 wire)	1(a)
30272	2 Links—3/8" Chain	1(b)
30275	Hinge Clamp Bolt (3/4x18" Carriage)	1
30276	Tapered Nut for Clamp Bolt	1
30280	Link (Roller Chain to Axle)	1(e)
4062A18	Roller Chain (5 Links, 2 EXT. Pitch)	1(e)
4062A20	Rocker (for Roller Chain)	1(e)
30295-L	Brace	2(e)
30296-R	Brace	2(e)
30300	HINGE Assembly Complete	1(c)
30305	Hinge Housing	1
303090	Lower Hinge Cone	1
4008-10	Hex. Upper Hinge Cone	1
30310	Hinge Shaft	1
30311	Brass Hinge Bearing	2
30312	Thrust Washer	2
30325	Pivot Arm Actuator	1
30331-L	REAR TRUSS—Left	1(c)
30332-R	REAR TRUSS—Right	1(c)

(a) Will fit all machines when used with 30272.

(b) Required on all machines after Serial No. 10818.

(c) Older model 329 levelers used only 4 bolts to attach the rear trusses to 30300 hinge assembly. Effective Serial No. 15763, this was changed to a 6-bolt connection. Drill the extra holes required if old parts are replaced.

(d) Both 30205 and 30260 pivot arms are obsolete and replaced by 302051. The 30265 grooved bushing is reploced by 302651. If a new pivot arm is required, order Kit No. 302100 for Model 329 levelers serial numbers through 12542. This includes a bracket to be welded to the center section.

For Model 329 levelers, serial numbers 12543 through 16489; and for Model 3212 levelers, serial numbers through 10535, order Kit No. 314110. This includes the new 302651 bushing, as well as the new pivot arm.

(e) For change in 329 center section, braces and rocker arm assembly, see page 3-S on Model 3212 assembly and parts. This change was effective on Model 329 serial number 16191.

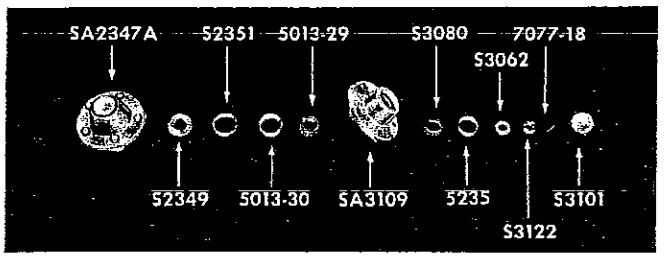
SUPPLEMENT TO EVERSMAN MODEL 329
Land leveler assembly and operation manual

PAGE 4, FIGURE NO. 10
Install ⅛x⅞" SAE flat washer (S3062) on top of 4002-58 screw before attaching 4002-26 Crank. (Effective Serial No. 14405)

PAGE 5, FIGURE 14
Effective Serial No. 12543, 30260 Pivot Arm was replaced by 30205 Pivot Arm. See parts and note (d) on page 10.

PAGE 5, FIGURE 15
Bolts attaching hinge (30300) to rear trusses are now ¾x1¾.

PAGE 2, FIGURE 3; PAGE 4, FIGURE 11; and PAGE 5, FIGURE 15
On Serial No. 13372 the Hnb Assembly (7077) on the Dolly Axle was replaced by Hub No. SA2347A which use a Triple-Lip Seal. The new hub was also installed as standard equipment on the main and rear axles at Serial No. 13459. The 4216, 9034 and 9140 wheels fit both hubs.



Part No.	Description	No. Req.	Serial No.
SA2347A	Hub Assembly	2	See above
SA3109	Hub Casting	1	
S2349	Triple Lip Seal	1	
S2351	Wear Sleeve	1	
5013-30	Inner Cup (LM-48510)	1	
5013-29	Inner Bearing (LM-48548)	1	
S3080	Outer Bearing (LM-67048)	1	
5235	Outer Cup (LM-67010)	1	
S3062	⅞" Flat Washer	1	
S3122	Spindle nut	1	
S3101	Hub Cap	1	
S3038	Grease Fitting	1	
7077-18	3/32x1½" Cotter Pin	2	
S3127	Lug Bolt	5	
30425	Dolly Axle (7077 Hub)	1	Up to 13371
30419	Dolly Axle (SA-2347A Hub)	1	13372 and up
30800	Main Axle (7077 Hub)	1	Up to 13458
30801	Main Axle (SA-2347A Hub)	1	13459 and up
30350	Rear Axle (7077 Hub)	1	Up to 13458
30351	Rear Axle (SA-2347A Hub)	1	13459 and up

NOTE: When *replacing triple lip seal* (S2349) on dolly axle spindle proceed as follows:

(a) Grease must be thoroughly packed between seal lips before assemhly.

(b) Install on spindle with small metal ridge on *inside* and against spindle shoulder. The larger diameter metal ring will then be *outside*, and against the 5013-29 bearing. To install seal squarely on spindle it is good procedure to drive seal on with inner bearing 5013-29.

(c) Then install hub casting SA3109 and outer cone and cup and washer.

(d) Tighten S3122 slotted nut with 50 pounds torque to insure that bearings are fully seated. Then back off nut until hub will turn freely without any looseness in the bearings and lock with 7077-18, 5/32 x 1½" cotter pin. Lubricate hub thoroughly before operating.

PAGE 9, TROUBLESHOOTING
10. BLADE DIGS WHEN TURNING

A. If blade digs approximately same whether turning to the right or left:

1. Check to see if the rear spring is being stretched during a turn, see 9B page 9.

2. Move side springs to middle or top hole position and be sure axle bearings, rocker, pivot arm etc. are lubricated.
3. With the hydraulics riase the rear wheels off the ground, loosen the 8 bolts holding rear trusses to the hinge allowing rear end to drop to its lowest position, (be sure rear axle is level or parallel to the cutting edge) and retighten the 8 bolts securely. See 5-B page 9.

B. If blade only digs when turning one direction:

1. Check if rear tires are actually the same diameter and see if the rear axle is level as per 5-B.

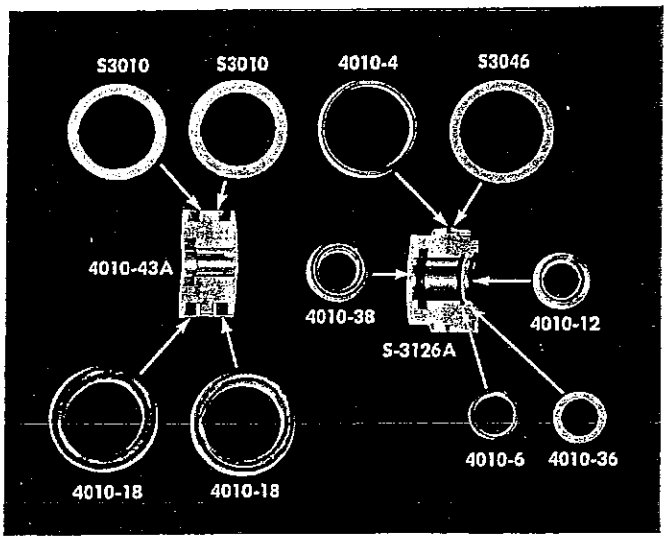
2. Due to the tolerance in the bolt holes the machine may be assembled with the hinge shaft 30300 not vertically plumb when the main frame 30500 is level. To correct this: raise the rear wheels off the ground with the hydraulics and swing the rear section to the side on which the blade has been digging. Then loosen the bolts which hold the upright channel legs of the 30200 center truss and the, angle braces and allow the rear wheels to drop (approx.1"), and retighten the bolts. Relevel the rear axle as per 5-B.

Note: It is easy to over correct. One inch may be too much or it may not be enough, so a field performance check will be necessary to tell. If it has been over corrected repeat the above procedure with the rear section swung around on the opposite side.

11. TIRE SIZES
We frequently find machines with different size tires installed on the same axle, with uneven pressures in the tires, or with over, or undersize, tires being used. Be certain you have the same size tires on both sides of the main axle (7.50x14 is preferred size.) To keep rear truss section trailing straight, install same diameter tires on both sides (7.00x14 preferred) and check pressure in tires.

PAGE 10:
Effective Serial No. 12818 the Hinge Housing, 30305, was replaced by Hinge Housing 30316A; and the brass bearing, 30311, was replaced with a new bushing No. 30317. The parts are not interchangeable.

PAGE 12; HYDRAULIC CYLINDER AND PARTS
Following are current parts for 329 Leveler Cylinder Assembly, and the Seal and "O" Ring Repair Kit.



Part No.	Description	No. Req.	Serial No.
30560C	Hydraulic Cylinder Assembly	1	ALL
30565	Barrel	1	ALL
30573	Piston Rod	1	12381 and up
S3126A	Rod Guide	1	12381 and up
4010-43A	Piston	1	12381 and up
4010-40	Piston Nut	1	12381 and up
4010-8	Snap Ring	1	ALL
S2226	Street Elbow	2	ALL
7010-26	Clevis Pin	2	ALL
¼"x2"	Cotter Pin	2	ALL
4010-52RK	Kit-Consisting of:	1	ALL
S3010	Back-up Washer (Piston-outer)	2	ALL
S3046	Back-up Washer (Guide-outer)	1	ALL
4010-4	O-Ring (Guide-outer)	1	ALL
4010-6	O-Ring (Guide-inner)	1	ALL
4010-12	Seal (Piston Rod Wiper)	1	ALL
4010-18	U-Cup (Piston-outer)	2	ALL
4010-36	Back-up Washer (Guide-inner)	1	ALL
4010-38	U-Cup (Guide-inner)	1	ALL

NOTE: These are only parts available for 329 cylinders. All older parts and seal kits 4010-50 and 4010-51 are absolete and replaced by parts lists above.

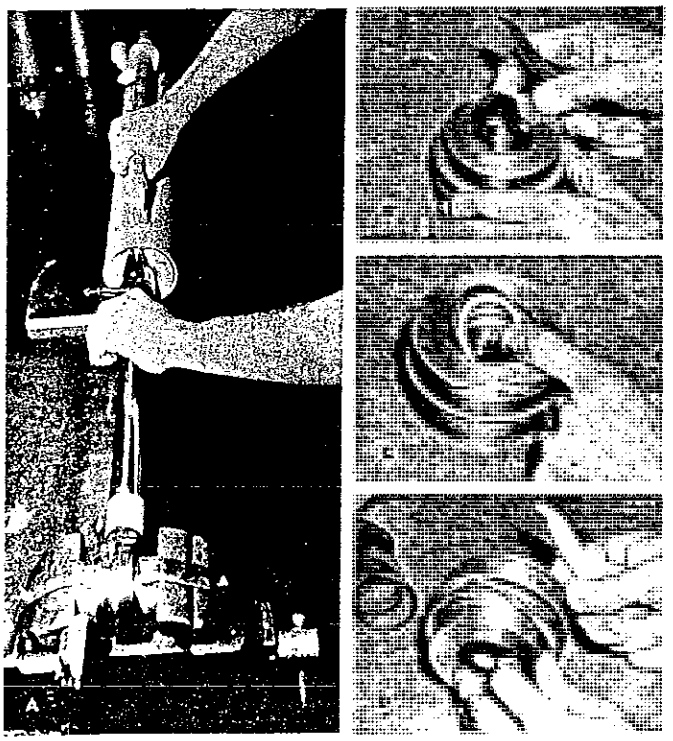
IMPORTANT—CYLINDER REPAIR INSTRUCTIONS

PHOTO A

Disassembly of tbe cylinder is a simple operation if done correctly, however, considerable damage to parts is possible if caution is not exercised.

(a) Support cylinder in vise by clamping the ball fitting at end of piston rod.

(b) Remove the allen set screw which holds the 4010-8 snap ring in place. (Not on earlier model cylinders.)



(c) Use a pair of number 5 snap-ring pliers to remove the snap ring from groove in cylinder barrel and pull barrel away from rod guide and piston. This normally requires a jerky motion since the piston "O" ring expands into the barrel groove and adds considerable friction.

NEVER (1) Use a hammer to beat on rod guide or barrel. This has been unsuccessfully tried many times; or (2) clamp the piston rod in vise while disassembling cylinder. If the chrome plating on the piston rod is nicked or scratched the rod is ruined and must be scrapped.

To reassemble cylinder, follow same procedure of clamping ball fitting end of piston rod in vise. Slip rod guide to forward end of rod (against ball fitting end). Push barrel over piston, and completely collapse barrel. Then collapse snap ring with snap ring pliers and force barrel over guide rod until ring is in position to expand into barrel groove, and lock rod guide in place.

Whenever the cylinder is disassembled, it is recommended tbat *all* seals, washers, and "O" rings be replaced. It is very easy to cut or nick one of the parts so exercise extreme caution. For complete seal kit, order part No. 4010-52RK.

PHOTO B

To install inner U-cup seal (4010-38) in rod guide groove, start seal into groove and then use blunt tool such as pictured to force it into place around circumference. Note detail cut-away of rod guide and piston showing correct position and direction of seals and other parts.

PHOTO C

To install inner "O" ring (4010-6) and back-up washer (4010-36) in rod guide, start as shown in photo. These parts can normally be pushed into the groove with finger and the blunt tool is not required.

PHOTO D

To install outer "O" ring (4010-4) and back-up washer (S3046) on rod guide, first push washer in place, and then force "O" ring into groove. The same blunt tool is helpful for this installation, and oiling washer and "O" ring will also assist. Follow this same procedure to install "O" rings (4010-18) and back-up washers (S3010) on 4010-43A piston.

To install the piston rod wiper seal (4010-12) in rod guide note that metal backing rests against shoulder of rod guide. This seal may be forced into place by laying a small flat piece of bar stock over seal and tapping with hammer.

Model 3212 Land Leveler – Assembly and Parts Information

The new Model 3212 Eversman Land Leveler is similar to the Model 329, with the only basic difference being the width members. By following the pictures and instructions carried on page 2 through 5 of the Model 329 Assembly and Operation Manual, and then carefully noting the exceptions pictured below, no difficulty should be experienced in assembly of the Model 3212. Also see pages 6 and 7 of the 329 Manual for operating and adjustment instructions.

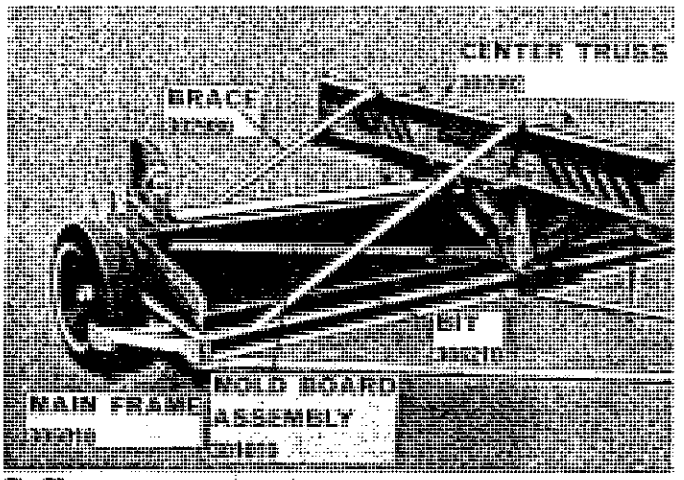


Fig. 30

Refer to Figures 5 and 6 of the 329 Manual:
The 30200 Center Truss is replaced by the new **302002 Truss,** and the 30295 Braces are replaced by the **302980 Braces** on the Model 3212. Otherwise assembly of both the 329 and 3212 are the same to this point.

Note: Effective Serial No. 16191, the 329 Leveler was also changed to use the new type Center Truss (302002) and Pipe Braces.

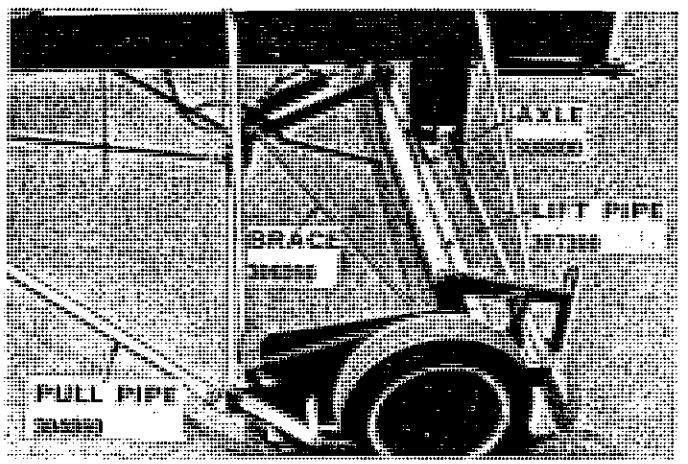


Fig. 31

Figure 31 shows the numbers for 3212 Leveler Parts which look like 329 assemblies but which have new numbers due to the difference in width.

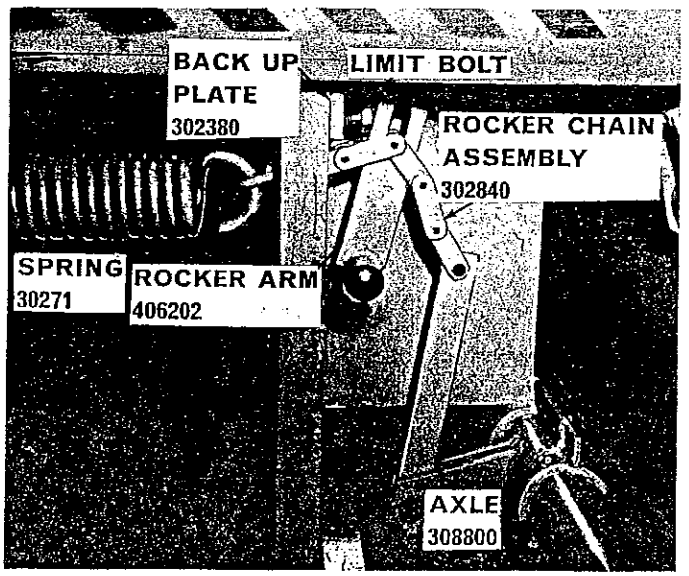


Fig. 32

The Rocker **Limit Bolt** (Fig. 32) is set at the factory to stick out about 1 ¾" from the Back-up Plate, 302380. The purpose of this bolt is to limit the travel of the Rocker Arm, and the Rear Spring stretch, so the cutting blade will not dump when turning. Slight adjustment of this bolt will maintain the blade at the correct level on turns so it will neither dump nor cut, dependent on soil conditions and surface hardness at field ends.

Note: This design was also incorporated into 329 Levelers at Serial No. 16191.

Parts Information: Model 3212 Leveler

Following are the parts used only on the Model 3212 Leveler. All other parts are the same on both Model 329 and 3212 Levelers.

Part No.	Part Name	No. Per Machine
301010	Moldboard Assembly	1
301050	Moldboard Only	1
306210	Cutting Bit	1
302002	Center Truss	1
302840	Rocker Chain Assembly	1
302980	Brace Pipe	4
303900	Rear Smoother Assembly	1
303910	Rear Smoother Wear Plate	1

Part No.	Part Name	No. Per Machine
303930	Rear Smoother Top Section	1
304860	Pull Pipe	2
305010	Main Frame	1
306090	Blade Brace	2
307300	Lift Pipe	1
308810	Main Axle — Less Hubs	1
308800	Main Axle — With Hubs	1
443101	Springtooth Pipe	1

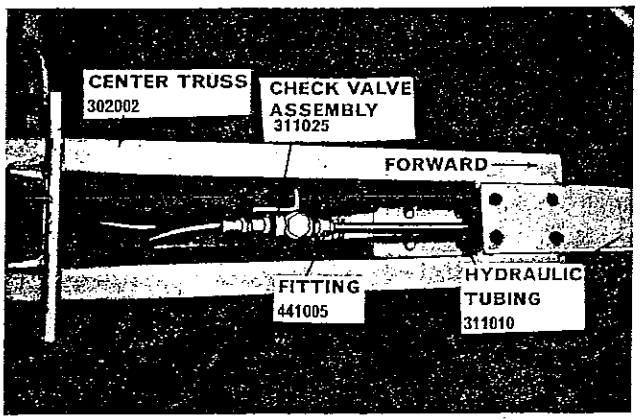


Fig. 33

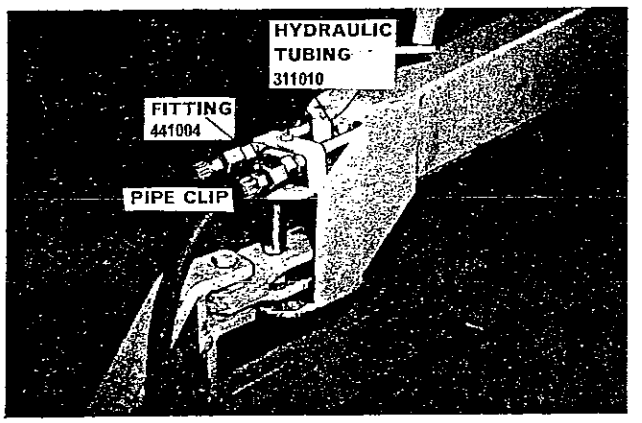


Fig. 34

Note: (1) On Model 329 Levelers, Serial No. 16523; and 3212 Levelers, Serial No. 10589, the 311010 hydraulic tubing replaced the 30850 oil pipe.

(2) Hydraulic tube fittings have been furnished as follows:

441004 — Lenz, Female Fitting — 329, 16523 thru 16599; 3212, 10589 thru 10691

441005 — Lenz, Male Fitting — 329, 16523 thru 16599; 3212, 10589 thru 10691

441006 — Lenz, O-Ring — 329, 16523 thru 16599; 3212, 10589 thru 10691

441007 — Lenz, Back-Up Washer — 329, 16523 thru 16599; 3212, 10589 thru 10691

441008 — Lenz, Split Ring — 329, 16523 thru 16599; 3212, 10589 thru 10691

441028 — Weatherhead, Female Fitting — 329, 16600 thru 16718; 3212, 10692 thru 10779

441029 — Weatherhead, Male Fitting — 329, 16600 thru 16718; 3212, 10692 thru 10779

441030 — Weatherhead Tube Nut — 329, 16600 thru 16718; 3212, 10692 thru 10779

441031 — Weatherhead Ferrule — 329, 16600 thru 16718; 3212, 10692 thru 10779

441024 — AFCO, Female Fitting — 329, 16719 and up; 3212, 10780 and up

441025 — AFCO Male Fitting — 329, 16719 and up; 3212, 10780 and up

441026 — AFCO, Tube Nut — 329, 16719 and up; 3212, 10780 and up

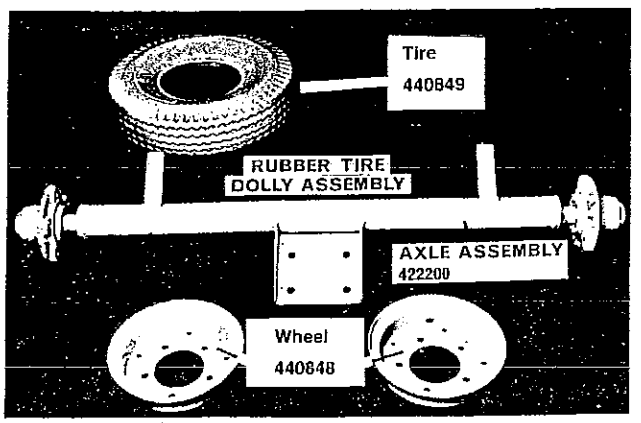
441027 — AFCO, Ferrule — 329, 16719 and up; 3212, 10780 and up

P.S.—The above changes also apply to 410 and 4012 machines.

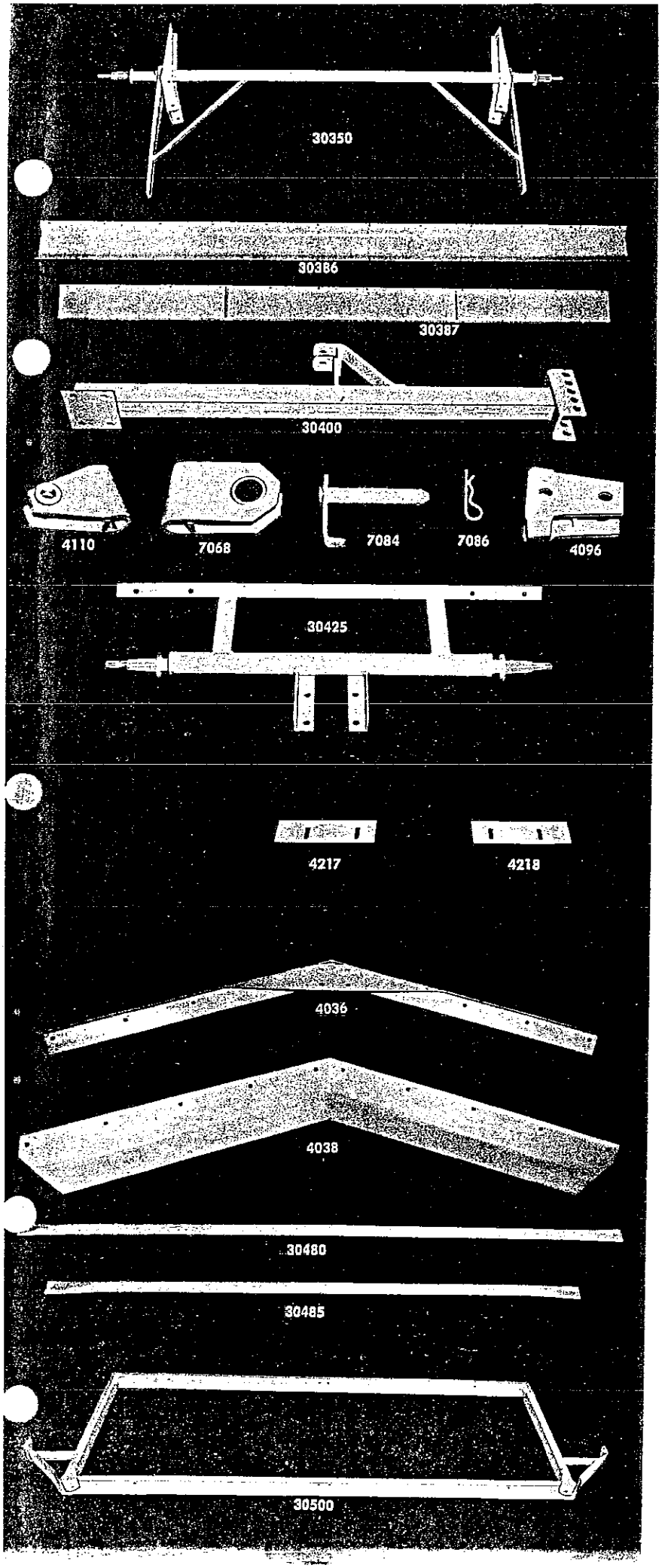
Lenz fittings on 410, 12774 thru 12849; 4012, thru 10348

Weatherhead fittings on 410, 12850 thru 12901; 4012, 10349 thru 10484

AFCO fittings on 410, 12902 and up; 4012, 10485 and up



Wheel and Tire Assembly - 440847

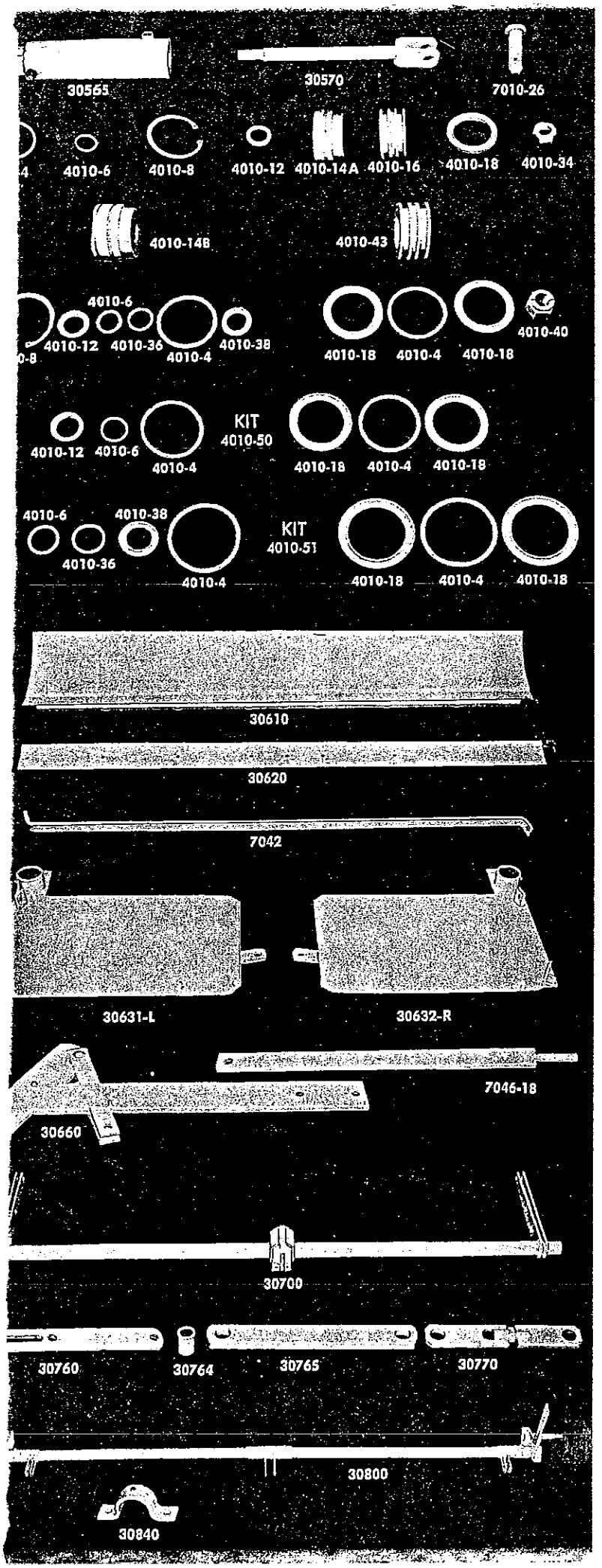


30350	REAR AXLE (7077 HUB)	1
30351	REAR AXLE (SA-2347A HUB)	1
30380	REAR SMOOTHER—Complete	1
30386	Rear Smoother Wear Plate	1
30387	Top Section of Rear Smoother	1
30400	TONGUE	1 (b)
4110	Front CLEVIS (Wheel Tractor)	1
7068	Front CLEVIS (Crawler Tractor)	Opt.
7084	Clevis Pin	1
7086	Clevis Hair Pin	1
4096	Clevis (Adapts Ball Hitch to Wheel Tractor)	Opt.
30425	DOLLY AXLE—(7077 HUB)	1
30419	DOLLY AXLE—(SA-2347A HUB)	1 (b)
4217	Wheel Scraper (L)	1
4218	Wheel Scraper (R)	1
30460	FRONT "V"—Assembly Complete	1 (Opt.)
4036	Front "V" Frame	1 (Opt.)
4038	Front "V" Wear Plate	1 (Opt.)
30480	OUTER PULL PIPE (Long)	2
30485	CENTER PULL PIPE (Short)	1
30500	MAIN (Blade) FRAME	1

SPINDLE ONLY (a)

30361	REAR AXLE (7077 HUB)
30368	REAR AXLE (SA-2347A HUB)
30806	DOLLY AXLE (7077 HUB)
S-2346A	DOLLY AXLE (SA-2347A HUB)
30806	MAIN AXLE (7077 HUB)
S-2346A	MAIN AXLE (SA-2347A HUB)

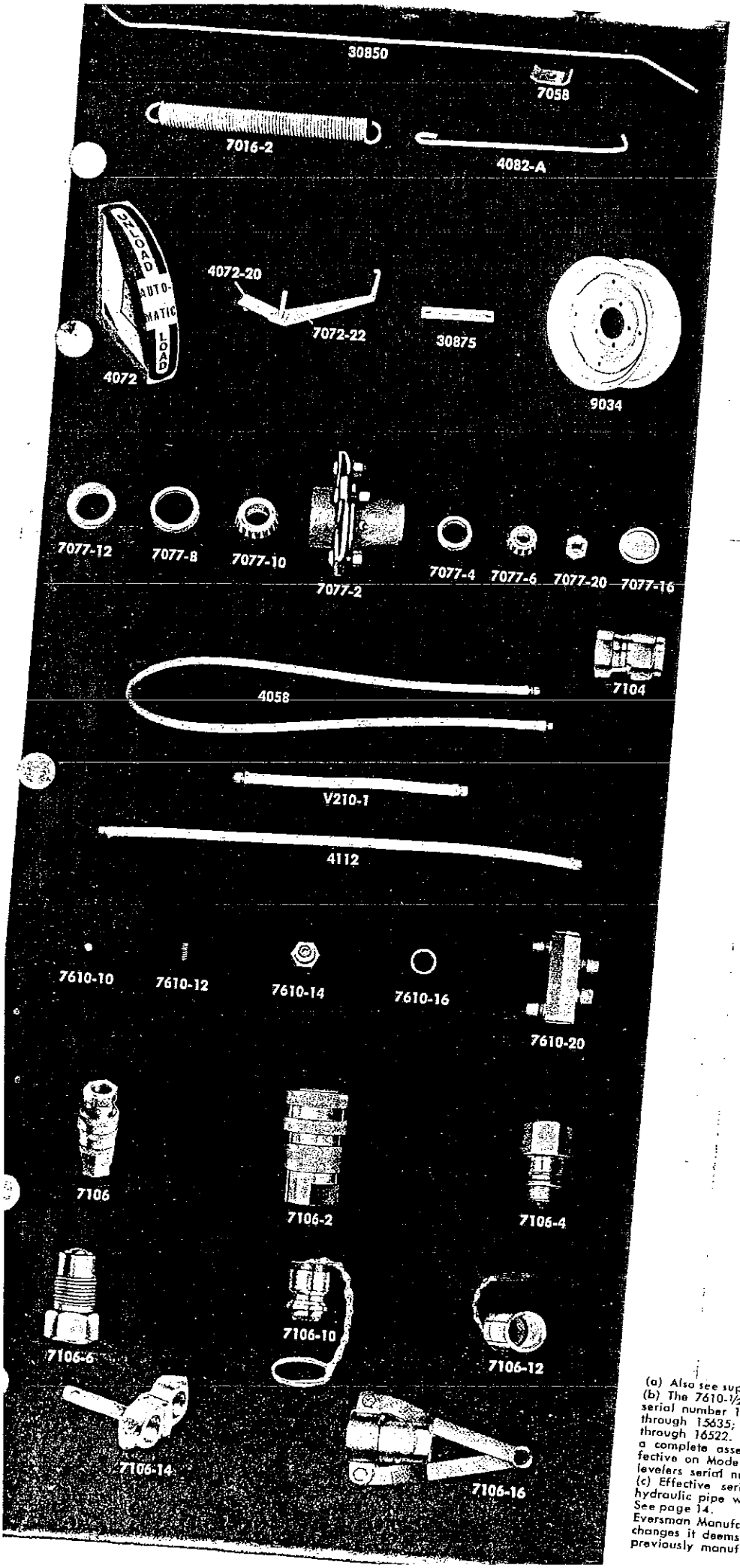
(a) Also see supplement sheet No. 11.
(b) Effective Serial No. 16118, the 30400 tongue was replaced by 404100 tongue; and the 30419 dolly axle was replaced by 422203 axle.



(PARTS LIST—Continued)

Part No.	Part Name	No. Per Machine
30500	MAIN (Blade) FRAME	1
30560	HYDRAULIC CYLINDER—Complete	1 (a)
30565	Cylinder Barrel (Assembly)	1
30570	Cylinder Rod (Assembly)	1
30573	Cylinder Rod	1 (a)
7010-26	Cylinder Pin	2
4010-4	Large O-Ring Seal	2
4010-6	Small (Rod) O-Ring Seal	1
4010-8	Snap Ring	1
4010-12	Rod (Dirt) Wiper	1
4010-14B	Cylinder Head	1
4010-16	Piston	1
4010-18	U-Cup Seal	2
4010-34	Piston Rod Nut	1 (a)
4010-36	Back Up Washer	1 (a)
4010-38	"U" Cup	1 (a)
4010-40	Flex-Lock Nut	1 (a)
4010-43	Piston	1 (a)
4010-50	RK Kit—Seals & "O" Rings	1 (a)
4010-51	RK Kit—Seals & "O" Rings	1 (a)
30600	MOLDBOARD (Complete) Bolted Assembly)	1
30610	Reinforced Moldboard (only)	1
30620	Reversible Cutting Bit (only)	1
7042	Blade Brace	2
30631-L	LEFT SIDEBOARD	1
30632-R	RIGHT SIDEBOARD	1
30660	DRAWBAR (Cyl. Mount Bar)	1
7046-18	Drawbar Brace	1
30700	LIFT PIPE (or Blade Adjustment Pipe)	1
30760	SLOTTED LINK	2
30764	Hardened Link Bushing (⅞ O.D. x 41/64 I.D. x ⅝ Long)	7
30765	FIXED LINK (Lift Pipe to Axle)	1
30770	ADJUSTABLE LINK	1
30800	MAIN AXLE (7077 HUB).	1
30801	MAIN AXLE (SA-2347A HUB)	1
30840	AXLE CLIP	2

(a) See Page No. 12 for 30560 Cylinder Assembly parts information.



(PARTS LIST—Continued)

Part No.	Part Name	No. Pe Machir
30850	HYDRAULIC PIPE	2 (
7058	Pipe Clip.	2
7016-2	Side SPRING	2
4082-A	Side Spring Rod	2
4072	Indicator Gauge Body	2
4072-20	Pointer Arm.	1
7072-22	Gauge Hand (Or Pointer)	1
30875	Link (Gauge Hand to Lift Pipe).	1
9140	14" DROP CENTER WHEEL (STD).	1
9034	(15") Drop Center WHEEL (OPT)	4
7077	Wheel HUB (complete).	4
7077-2	Hub Casting	4(a)
7077-4	Outer Bearing Cup	4(a)
7077-6	Outer Bearing	4(a)
7077-8	Inner Bearing Cup.	4(a)
7077-10	Inner Bearing.	4(a)
7077-12	Inner Bearing Seal	4(a)
7077-14	Washer (¾ S.A.E.)	4(a)
7077-16	Hub Cap	4(a)
7077-18	Cotter	4(a)
7077-20	Axle Nut (¾ N.F. Castle).	4(a)

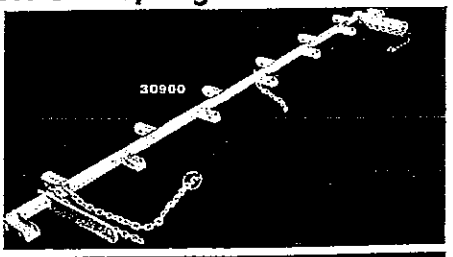
Hydraulic Accessories

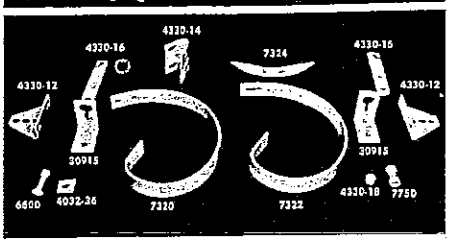
4058	Front End HOSE (88" Long)	2
4112	Long Cylinder HOSE (42").	1
V210-1	Short Cylinder HOSE (26").	1
7104	Swivel Connector (½") (Female x Female)	2
308250	½" Automatic Cylinder CHECK (or Lock) VALVE	1(b)

(a) Also see supplement sheet No. 11.
(b) The 7610-½" check valve was used on Model 329 levelers through serial number 14565; the 4100-¾" check valve on serial number 14566 through 15635; and the 308250 Pfau valve from serial number 15636 through 16522. Parts are available for these older valves, however, if a complete assembly is required, order Gresen valve No. 311025, effective on Model 329 serial number 16523 and up, and on Model 3212 levelers serial number 10587 and up.
(c) Effective serial number 16523 on Model 329 levelers, the 30850 hydraulic pipe was obsoleted and changed to 311010 hydraulic tubing.
See page 14.

OPTIONAL EQUIPMENT

Model 329 Spring Tooth Attachment

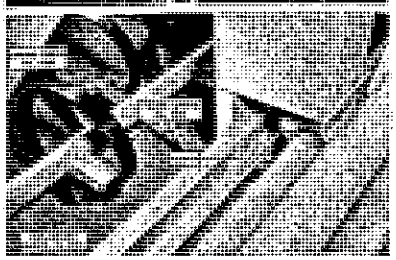


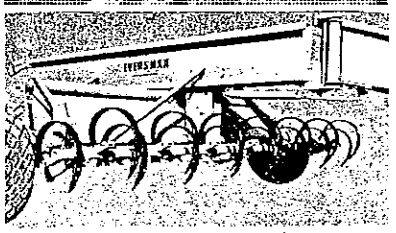


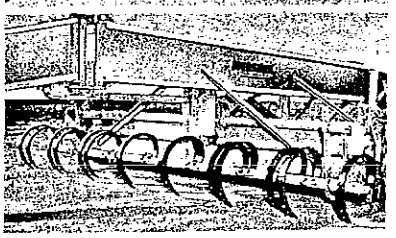
433009 – S-Hook

Part No.	Part Name	No. Per Machine
30900	Main Frame Pipe	1
30915	Bracket	2
4330-12	Angle Bracket	2
4330-14	Center Pull Bracket	1
4330-16	Lift Hook	2
4330-18	Bushing	2
4032-36	Beveled Washer	4
7320	Spring Tooth	13
7322	Helper Spring	13
7324	Shovel	13
7750	⅜x1¼ Plow Bolt with Nut and Washer	27
6600	½x2¾ Carriage Bolt with Nut and Washer	14

ASSEMBLING INSTRUCTIONS Model 329 Leveler . . . Spring Tooth Attachment

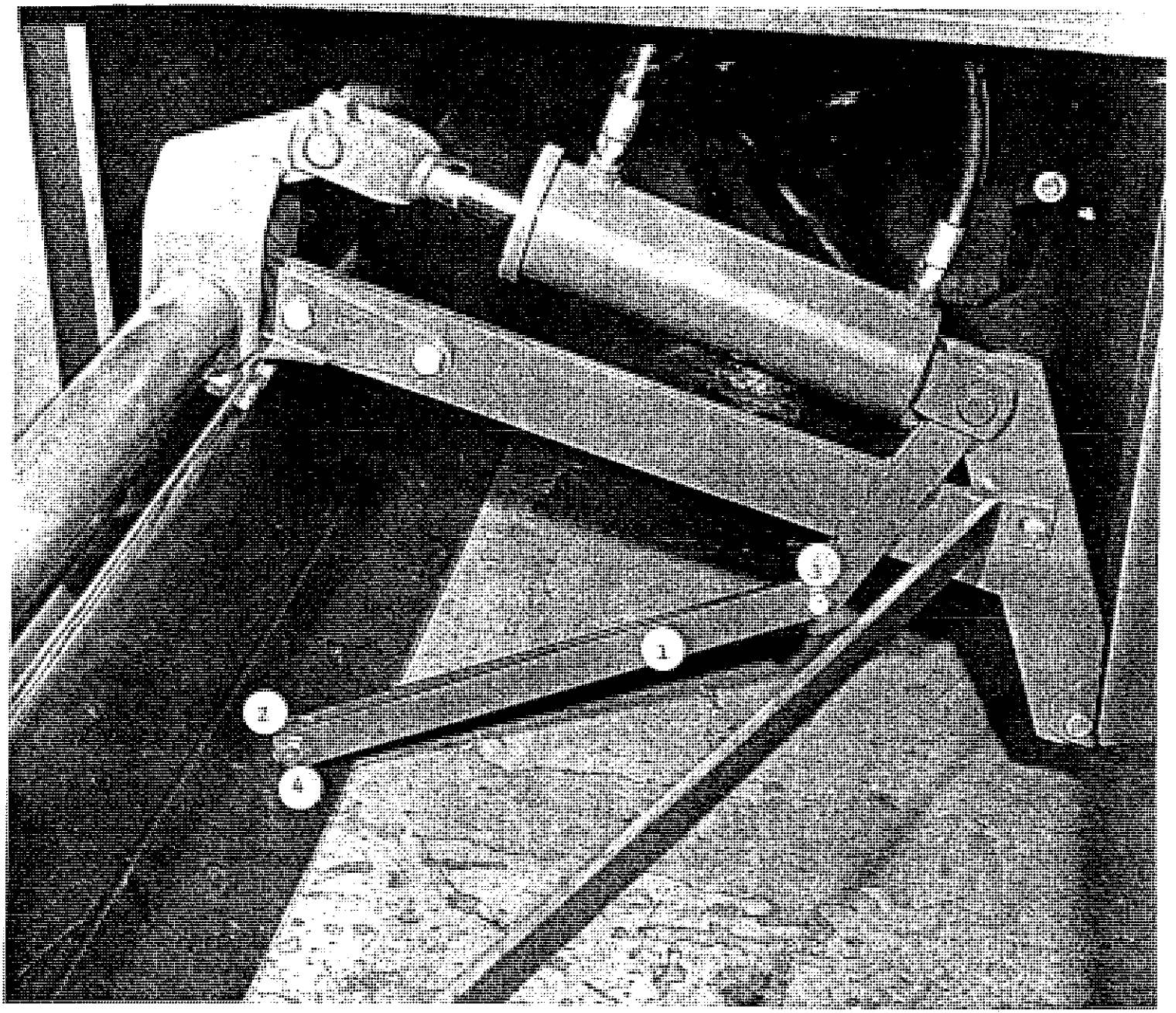






1. Install 30915 brackets to main frame and attach formed angles No. 4330-12 under rear corners of the main frame (Fig. 1) using beveled washers.
2. Attach center pull Bracket No. 4330-14 inside center of rear cross frame channel, with bracket resting on lower leg of channel. (Fig. 2)
3. Attach lift hooks No. 4330-16 to top of side boards. (Fig. 1)
4. Attach pull arms to angle brackets 4330-12 using hardened bushings and flat washers, and tighten ⅝ bolts securely. NOTE: Holes in angle brackets and pull arms provide adjustment so front and rear teeth can be made to dig equally at various depth settings. (Fig. 1)
5. Hook the center pull chain up through the keyhole in the center pull bracket. (Do not leave over one inch of slack.) (Fig. 2)
6. Hook the outer long chains to lift hooks No. 4330-16. These automatically lift the spring tooth attachment clear of the ground when the leveler is fully raised on the wheels. (Fig. 1)
7. Place the ends of the outer short *"depth control"* chains through the key hole in the bumpers. These provide an adjustment for controlling the maximum penetration. They also can be used as safety chains during transport if snubbed up tight when blade is fully raised. NOTE: It is easier to change the setting of these if the blade is raised first. Always set in the same number of links from the end on both sides of the machine. (Fig. 1)
8. Bolt spring teeth to holders on main pipe frame No. 30910. (Be sure pipe is right side up, i.e. with the rear teeth on top, as shown.) NOTE: Tighten ½ carriage bolts *without* lock washers until each holder draws in over tooth to hold them securely. (Fig. 2)

PARTS CHANGES ON LEVELER MODELS 329 AND 3212



Drawbar Brace Assembly, 704600, Replaced Old Drawbar 704618

on

329 - Serial No. 17936
3212 - Serial No. 12144

Parts: 704600 - Drawbar Brace Assembly Kit

1. 301420 - Bar
2. 301410 - Eyebolt
3. 055216 - 1/2 X 1-3/4" Hex Bolt
4. 055218 - 1/2 X 2" Hex Bolt

Order Kit No. 704600 to Install on All Old Models of 329 and 3212 Levelers.

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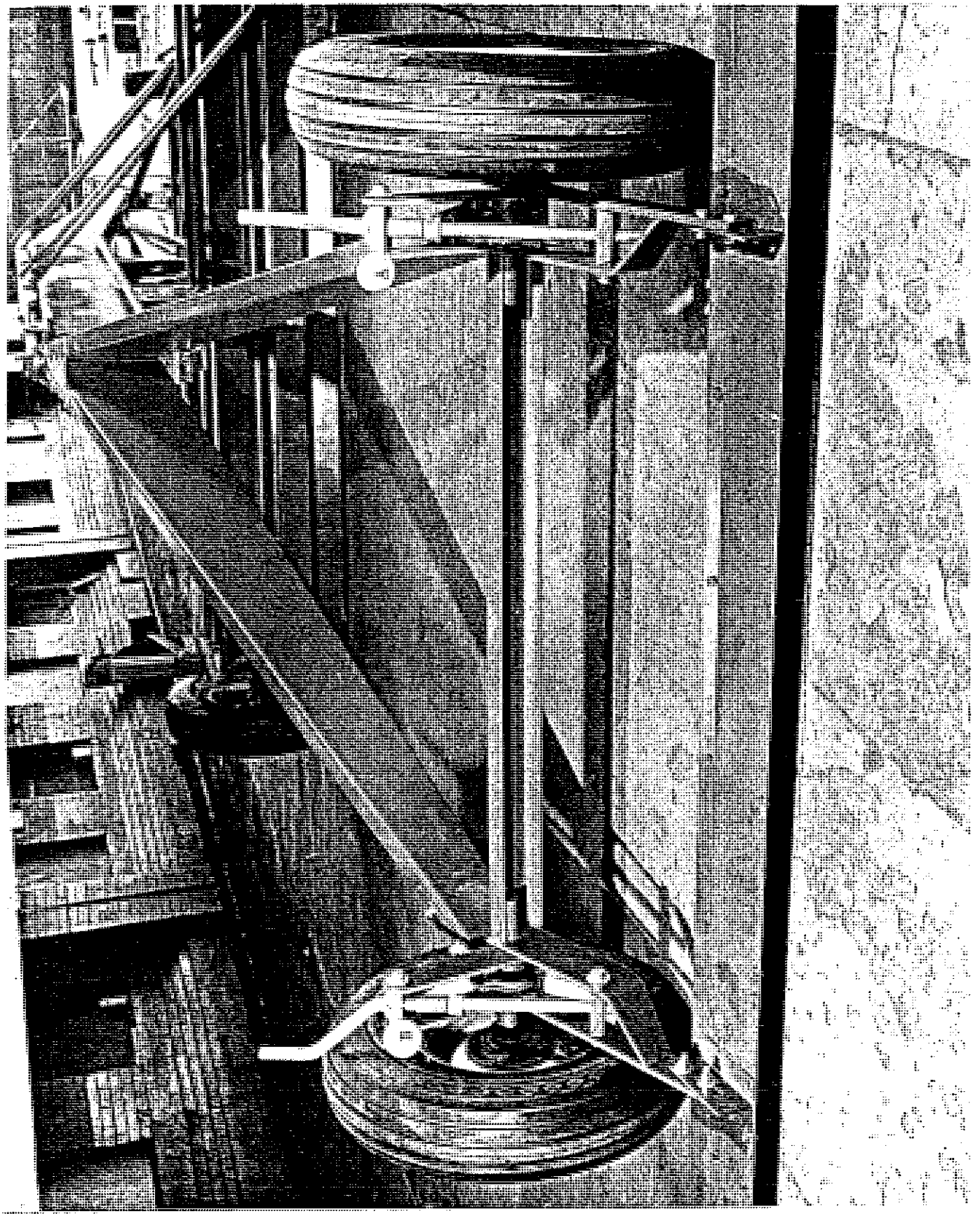
(19)(E)



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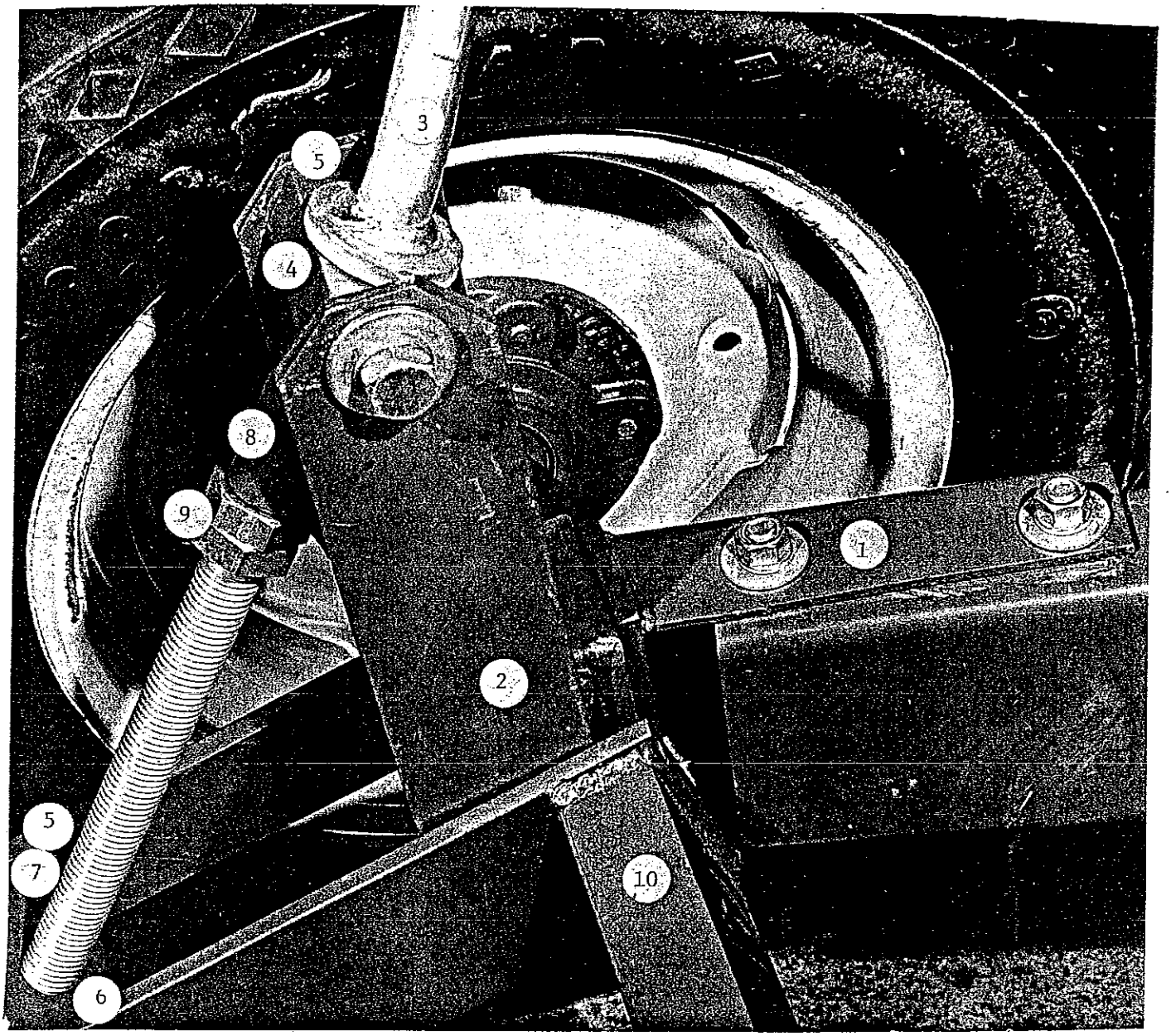
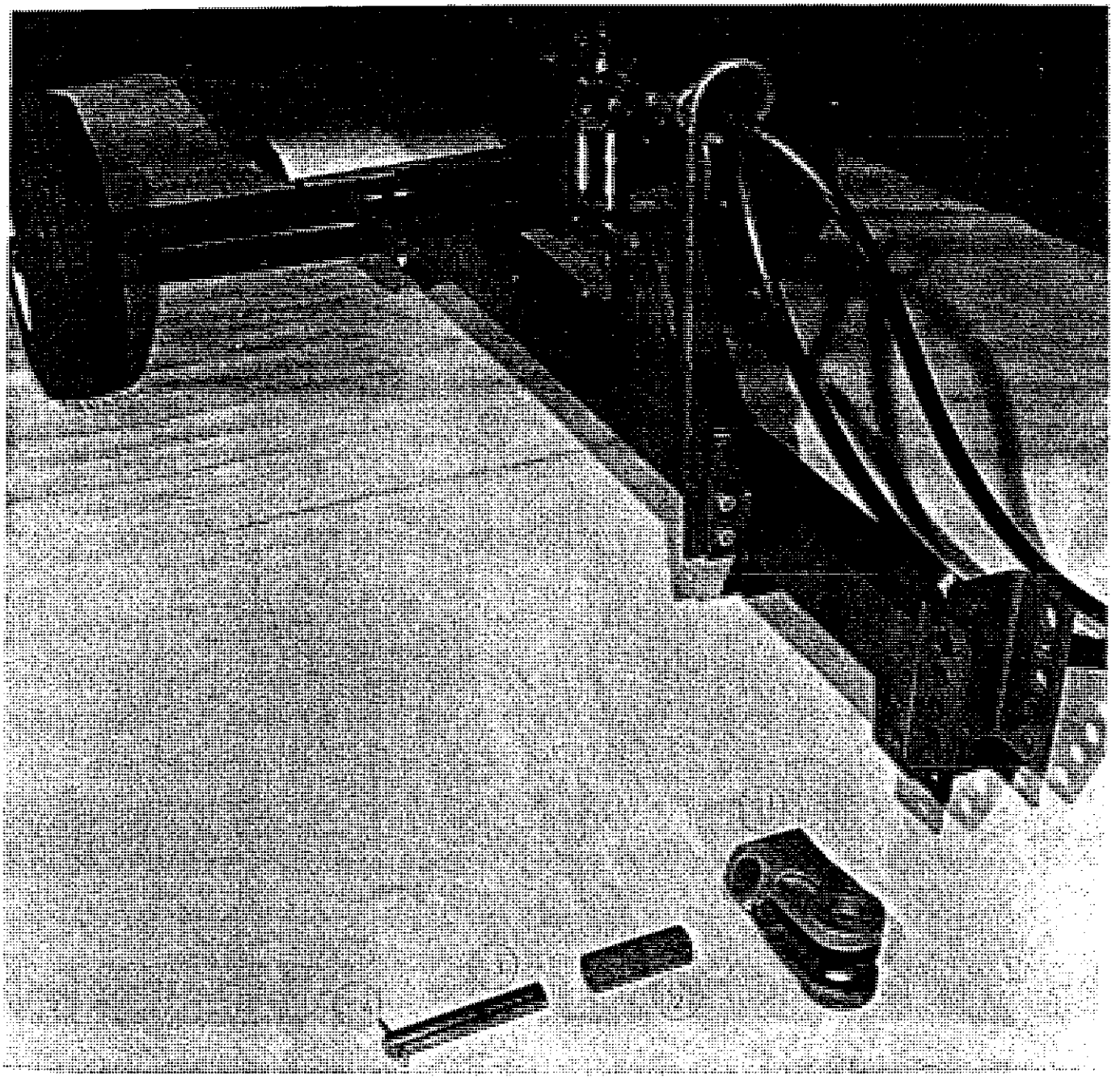


Adjusting screws were added to leveler models 329 (Serial No. 18039) and 3212 (Serial No. 12275) to permit lifting and varying pressure on the rear smoother blade. The spacer can be locked with the jam nuts against the pivot trunnion (A, page 2) to fix the depth of the rear smoother, or the jam nuts can be lowered (B, page 2) to allow the smoother to float.

Parts:

1. 303535 - Rear Axle Support Bracket
2. 441311 - Smoother Support Weldment
3. 441307 - Screw Crank
4. 441313 - Pivot Trunnion
5. 531424 - 1" X 7/16 Pivot Bushing
6. 441314 - Anchor Trunnion
7. 441306 - 1" X 9/16 Bushing
8. 440826 - Spacer
9. 062143 - 1" Jam Nut
10. 303532 - Rear Axle

These parts can be installed on older model levelers by ordering Kit No. 303537 which includes a new rear axle and hub assembly.



Cast Clevis, 040629, Replaces Clevis Weldment, 411000

on

329 - Serial No. 18144
3212 - Serial No. 12450

Drawbar Pins Up to 1-1/4" Diameter Can Be Used With This Clevis

Parts:

1. 040629 - Cast Clevis
2. 040619 - Sleeve Spacer
3. 040642 - 1 X 6-1/4" Pin
4. 063764 - 1/4 X 2 Cotter (2 Req.)

Order Clevis Replacement Kit 020292 For All Old Model Levelers

Description	Old Part Number	Current Number		Effective Serial No.		No. Per Machine
		329	3212	329	3212	
Center Truss	30200	302002	302002	16191	All	1
Hinge Casting Assembly	30240	302005	302005	"	"	1
Main Frame	30500	305000	305010	"	"	1
Front Truss	30100	310115	310115	"	"	1
L.H. Rear Truss	30331-L	303330	303330	"	"	1
R.H. Rear Truss	30332-R	303340	303340	"	"	1
Outer Pull Pipe	30480	304800	304860	"	"	2
Center Pull Pipe	30485	304850	304850	"	"	1
Rear Axle-Less Hubs	30350	303532	303532	18039	12275	1
Spindle Only	30368	303680	303680	All	All	2
Rear Axle Bracket	--	303535	303535	18039	12275	2
Adjusting Crank - Weldment (Note a)	--	441307	441307	"	"	2
9/16 x 1" Bushing	--	441306	441306	"	"	2
7/16 x 1" Bushing	--	531424	531424	"	"	6
Pivot Trunnion	--	441313	441313	"	"	2
Anchor Trunnion	--	441314	441314	"	"	2
Spacer	--	440826	440826	"	"	2
1" Jam Nut	--	062143	062143	"	"	4
Main Axle-Less Hubs	30800	308011	308810	13459	All	1
Spindle Only	S-2346A	023460	023460	"	"	1
Axle Clip	30840	308400	308400	"	"	2
Dolly Axle-Less Hubs	30419	422203	422203	16118	"	1
Spindle Only	S-2346A	422030	422030	"	"	1
Lift Pipe	30700	307000	307300	All	"	1
Moldboard Assembly	30600	306000	301010	"	"	1
Moldboard Only	30610	306110	301050	"	"	1
Cutting Bit	30620	306200	306210	"	"	1
Rear Smoother Assy.	30380	303800	303900	"	"	1
Top Section	30387	--	303930	"	"	1
Wear Plate	30386	303860	303910	"	"	1
Tongue	30400	404100	404100	16118	"	1
Brace Pipe	30295L	302990	302980	16191	"	4
Blade Brace	7042	704200	306090	All	"	2
L.H. Sideboard	30631-L	306310	306310	"	"	1
R.H. Sideboard	30632-R	306320	306320	"	"	1
Drawbar	30660	306600	306600	"	"	1
Drawbar Brace Assembly (Note b)	704618	704600	704600	17936	12144	1
Bar	--	301420	301420	"	"	1
Eyebolt	--	301410	301410	"	"	1
Main & Rear Wheel	9034	590400	590400	"	"	4
Dolly Wheel	70800	440848	440848	18555	13010	2
Tire & Wheel	440705	440847	440847	"	"	2
Tire Only	711201	440849	440849	"	"	2
Hinge Assembly	30300	303000	303000	All	All	1
Housing	30205	303160	303160	"	"	1
Lower Cone	30309	303090	303090	"	"	1
Upper Cone	4008-10	400810	400810	"	"	1
Shaft	30310	303100	303100	"	"	1
Brass Bearing	30311	303170	303170	"	"	1
Thrust Washer	30312	066252	066251	"	"	1

Description	Old Part Number	Current Number		Effective Serial No.		No. Per Machine
		329	3212	329	3212	
Hinge Clamp Bolt	30275	051486	051486	All	All	1
Tapered Nut	30276	302760	302760	"	"	1
Ball Hitch	30130	301300	301300	"	"	1
Slide Pin	4002-20	400220	400220	"	"	1
Crank	4002-26	400226	400226	"	"	1
Adjusting Screw	4001-58	400258	400258	"	"	1
Stabilizer Pivot Arm	30260	302051	302051	"	"	1
Grooved Bushing	30265	302651	302651	"	"	1
1-1/2" Flat Washer	063596	067502	067502	18203	12661	1
Snap Ring (Note – D)		400511	400511	"	"	1
Pivot Arm Actuator	30325	303250	303250	All	All	1
Stabilizer Spring	30271	311215	311215	"	"	1
Chain Links	30272	302720	302720	"	"	1
Rocker Chain Assy.	4062A-18	302840	302840	16191	"	1
Rocker Arm	4062A-20	406202	406202	"	"	1
Back-Up Plate	--	302380	302380	"	"	1
Limit Bolt	--	057318	057318	"	"	1
Wheel Tractor Clevis Cstg. (Note - C)	411000	040629	040629	All	"	1
Clevis Pin	708400	040642	040642	"	"	1
Hitch Clevis Spacer	7086	040619	040619	"	"	1
Hitch Adaptor	4096	409604	409604	"	"	1
Hub Assembly	SA2347A	023470	023470	13459	"	6
Hub Casting(S-3100A)	SA3109	031090	031090	"	"	1
Spindle Nut	S3122	062567	062567	"	"	1
7/8" Washer	S3062	030620	030620	"	"	1
Grease Fitting	S3038	006000	006000	"	"	1
Lug Bolt	S 3127	007000	007000	"	"	5
Hub Repair Kit	707732	023520	023520	13459	"	1
Triple Lip Seal	--	023490	023490	"	"	1
Wear Sleeve	--	023510	023510	"	"	1
Outer Bearing	--	030800	030800	"	"	1
Outer Cup	--	523500	523500	"	"	1
Hub Cap	--	031010	031010	"	"	1
Inner Bearing	--	501329	501329	"	"	1
Inner Cup	--	501330	501330	"	"	1
Slotted Link	30760	307600	307600	13459	"	2
Link Bushing	30764	307640	307640	"	"	7
Fixed Link	30765	307650	307650	"	"	1
Adjustable Link	30770	307700	307700	"	"	1
Side Spring	7016-2	007016	007016	"	"	2
Side Spring Rod	4082-A	408201	408201	"	"	2
Indicator Gauge	4072	407200	407200	"	"	1
Indicator Arm	4072-20	407220	407220	"	"	1
Gauge Pointer	7072-22	707222	707222	"	"	1
Gauge Link	30875	308750	308750	"	"	1
Hydraulic Tubing	30850	311010	311010	16523	"	2
Pipe Clip	7058	301350	301350	"	"	2
88" Hose	4058	405800	405800	"	"	2
Cylinder Hose (42")	4112	411200	411200	"	"	2
Swivel Connector	7104	710402	710402	"	"	2
Male Tube Fitting	441005	441025	441025	16719	10780	2
Female Tube Fitting	441004	441024	441024	"	"	2

Description	Old Part Number	Current Number		Effective Serial No.		No. Per Machine
		329	3212	329	3212	
Check Valve	70610	308250	308250	All	All	1
Cylinder Assembly	30560	311021	311021	"	"	1
Clevis Pin	7010-26	701026	701026	"	"	2
Barrel	30565	311016	311016	"	"	1
Piston Rod	30573	311022	311022	"	"	1
Rod Guide	S3126A	041077	041077	"	"	1
Piston	4010-43A	041063	041063	"	"	1
Piston Nut	4010-40	064668	064668	"	"	1
Snap Ring	4010-8	401008	401008	"	"	1
Elbow	S2226	622320	622320	"	"	2
Seal Repair Kit	4010-52	041034	041034	17722	11809	1
Rod Wiper Seal	4010-18	041095	041095	"	"	1
Guide U-Cup	4010-12	041059	041059	"	"	1
Rod Guide O-Ring	4010-4	401004	401004	"	"	1
Back-Up Washer-Guide	4010-36	030460	030460	"	"	1
Piston Seal	4010-12	041033	041033	"	"	2
O-Ring Seal Piston	4010-6	701006	701006	"	"	1
OPTIONAL EQUIPMENT						
Springtooth Attachment						
Pipe	30900	309000	443101	All	All	1
Chain Bracket	30915	309150	309150	"	"	2
Outer Draft Bracket	4330-12	433012	433012	"	"	2
Hardened Bushings	4330-18	307640	307640	"	"	2
Center Draft Bracket	4330-14	433014	433014	"	"	1
Spring Tooth	7320	732000	732000	"	"	13-17
Helper Spring	7322	732200	732200	"	"	13-17
Shovel	7324	732400	732400	"	"	13-17
3/8 x 1-½ Plow Bolt	--	059727	059727	"	"	13-17
3/8 x 1-¼ Plow Bolt	7750	059726	059726	"	"	13-17
Quick Disconnect Coupler						
½"Coupler(Pioneer#7000)		710700	710700	"	"	2
Body		710602	710602	"	"	2
Male Tip		710604	710604	"	"	2
Male Screw Tip		710606	710606	"	"	2
O-Ring		710608	710608	"	"	2
Dust Plug		710610	710610	"	"	2
Dust Cap		710612	710612	"	"	2
Double Breakaway Clamp		710614	710614	"	"	1
Single Breakaway Clamp		710616	710616	"	"	2
Slow Moving Vehicle Sign						
Steel Backed Decal		600253	600253	"	"	1
Pole Mounting Assy.		600256	600256	"	"	1

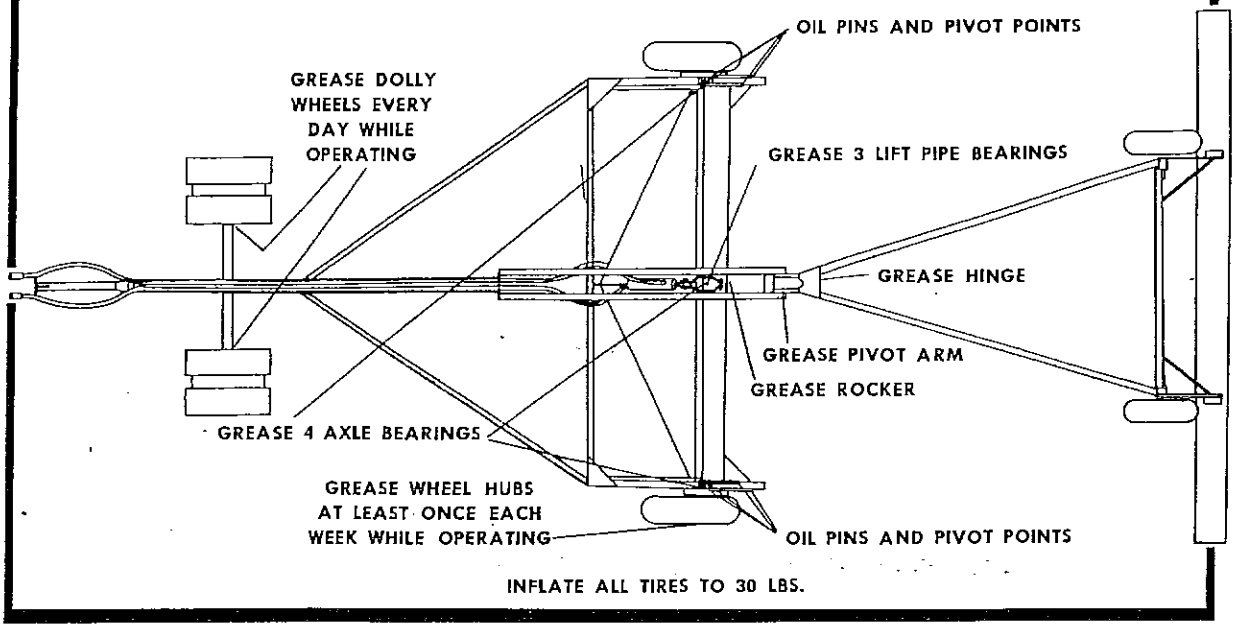
A) To install adjusting crank assembly on old Model 329 and 3212 levelers, orde Kit No. 303537.

B) To install drawbar brace on old models order Kit No. 704600.

C) On old levelers, to replace 411000 clevis, order Cast Clevis Kit No. 020292, and install with old 708400 hitch pin.

D) To replace 30202 pivot arm bracket, order 400509 pin and 2-302013 side bracket.

LUBRICATION CHART



INFLATE ALL TIRES TO 30 LBS.