

The Tye Company

\$5.00
U.S.

tye

Pasture Pleaser

For Models: 104-3004, 104-3207, 104-3208,
104-3404, 104-3407, 104-3408,
104-4204, 104-4207, 104-4208,
104-4404, 104-4407, 104-4408.

FINAL SET UP AND OPERATOR'S MANUAL

*Do Not use or operate this unit
until this Manual and Assembly Instructions
have been read and understood.*

© 1988—The Tye Co.—All rights reserved. This publication may not be reproduced in whole or in part without the prior written approval of The Tye Company.

The Tye Company P. O. Box 218 Lockney, Texas 79241 (806) 652-3367 FAX 806-652-3618

00-340 Revision 7, Effective 8/1/88. Specifications and Design subject to change without notice.

The Tye Company



SAFETY SUGGESTIONS

You can make your farm a safer place to live and work by observing the following suggestions. Study these suggestions carefully and insist that they be followed by those working for you and with you.

- ▲ Thoroughly read and understand all instructions before assembly or operating this unit. If you have questions call or write **The Tye Company, Box 218, Lockney, TX 79241, 806-652-3367.**
- ▲ **NEVER** Work on the unit while it is in the raised position. Always lower unit to ground before making any adjustments.
- ▲ Do not touch or handle the Coulter or Double Disc Blades without protection, such as gloves. They are sharp and can cause severe cuts.
- ▲ Care should be exercised if carrying a Coulter or Double Disc Blade to prevent accidental dropping which could cause severe cuts.
- ▲ Never climb or walk on the unit. Falling could cause bodily harm.
- ▲ Keep all Safety Shields installed. They are for your protection. Do not operate unit without guard/shields in place.
- ▲ When handling heavy items, do not lift with your back.
- ▲ End-wheel (Pull-type) units: Never exceed 20 mph while towing.
- ▲ Mounted (Three-point) units: Be sure tractor is large enough to lift unit and still maintain steering ability.
- ▲ Use caution when planting around hills. Be sure that slope is not so steep as to cause unit and tractor to turn over. On steep slopes plant up and down the hill and use caution when turning with unit raised.
- ▲ Never ride or permit others to ride on the unit when in motion.
- ▲ The walk board is to be used for loading the hopper only.
- ▲ Never allow anyone other than driver on the tractor when operating or transporting the tool.
- ▲ Never allow anyone around the unit when you are performing operating functions of the tool.
- ▲ Reduce speed when transporting over uneven or rough terrain.
- ▲ Always lower the unit and stop the tractor engine before adjusting the unit.
- ▲ Keep all safety shields in place when the machine is operating.
- ▲ Place a "Slow Moving Vehicle" emblem on the rear of the unit before driving on open roads.
- ▲ Keep hands, feet, and clothing away from all moving parts.
- ▲ Do not permit smoking, sparks, or an open flame where combustible lubricants or liquids are being used.
- ▲ When using compressed air to clean the tool, wear suitable safety glasses.
- ▲ Stands should be installed for storage to help stabilize the unit.
- ▲ Do not check seeders by turning drive unit by hand.



SAFETY FIRST

PREVENT ACCIDENTS BY "THINKING SAFETY"

The Tye Company

FINAL SET-UP THREE-POINT HITCH MODELS

READ THOROUGHLY ALL INSTRUCTIONS BEFORE BEGINNING ASSEMBLY.

1. Install chains and idlers (located inside hopper) as designated in Figure A-1 and insure alignment of sprockets. Each idler assembly **must** be installed as designated.
2. Adjust chain tension with idlers. Properly adjusted, the center of the chain should have ½" play up or down. **Do Not Overtighten.**
3. Remove and install weight brackets into end of frame.
4. Install large chain shield to cover chain from jackshaft to large hopper sprocket; smaller shield to cover chain from hopper sprocket to legume box sprocket; and top shield to drive coultter. See Figure A-1.

END WHEEL MODELS

1. Remove wheels, tongue and third link assembly from shipping position on frame.
2. Install chains and idlers (located inside hopper) as designated in Figure A-1 and insure alignment of sprockets. Each idler assembly **must** be installed as designated.
3. Adjust chain tension with idlers. Properly adjusted, the center of the chain should have ½" play up or down. **Do Not Overtighten.**
4. Remove lift wheel arm & hubs and position each on opposite sides from which they were shipped.
5. Attach lift wheels between pivot ears as shown in Figure A-2. Inside pin also attaches tongue assembly. See Figure A-2. Replace all click pins to insure pins will not come out.
6. Mount wheels and tires.
7. Install jack stand to tongue.

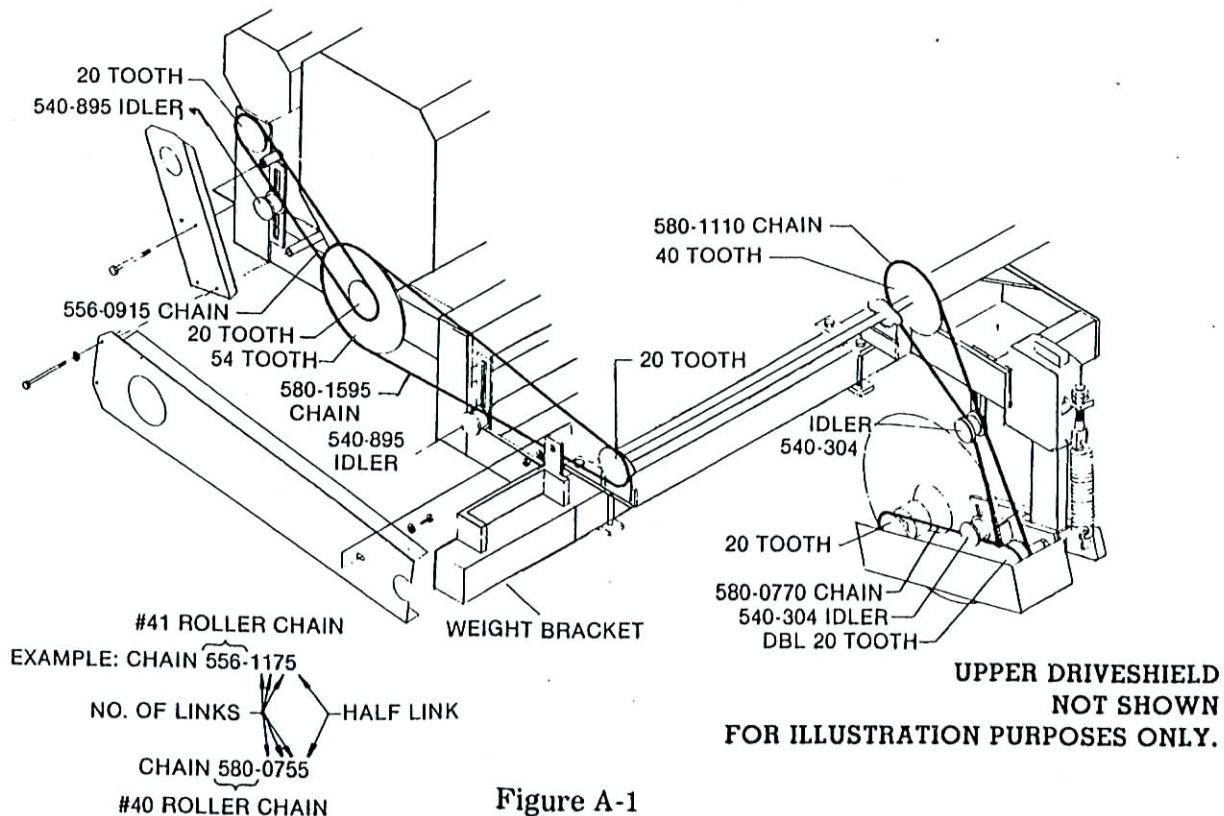


Figure A-1

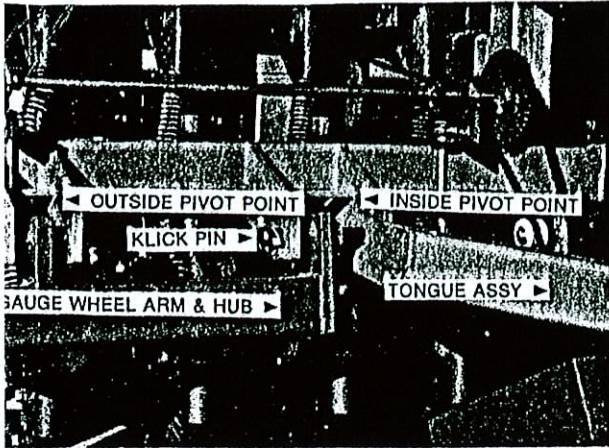


Figure A-2

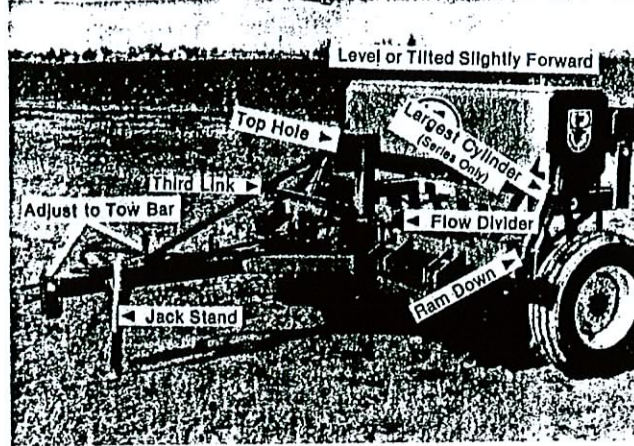


Figure A-3

Attach third link to tongue assembly and to top hole in top hitch. See Figure A-5.

Install wheels with 9.5L x 15 tires onto hubs.

When unit is attached to tractor drawbar, the top of the hopper should be level or tilted slightly forward. There are two attaching positions of the third link onto the tongue; additional adjustments can be made with the tractor drawbar or third link adjustment. See Figure A-3.

11. Attach hydraulic cylinders (ram end down) to the cylinder ear on lift wheel arm. Attach opposite end of hydraulic cylinder to cylinder ear on frame. See Figure A-3. Be sure retaining pins are properly replaced in cylinder pins to prevent their coming out. **Important!** See Figure 4 to determine large cylinder and small cylinder.

12. Install elbows and hydraulic hoses to cylinders and plumb per Figure A-4.

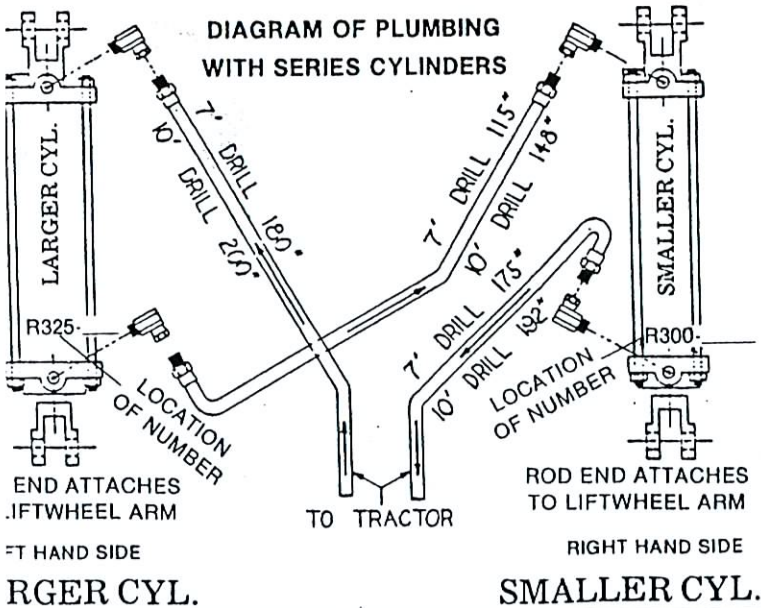


Figure A-4

Largest Cylinder Must Be Installed On The Left Hand Side. (Standing behind drill facing tractor)

To determine Large Cylinder from Small Cylinder, compare the numbers stamped on the rod end of each barrel. The number on the Large Cylinder will begin with 325; the number on the Small Cylinder will begin with 300.

Follow diagram above to properly install hydraulic hoses. Pay particular attention to the flow to the hydraulic fluid from the larger cylinder to the smaller cylinder.

After all hydraulic hoses have been installed, the hydraulic circuit must be purged (removal of air from hydraulic hoses and cylinders) as described below:

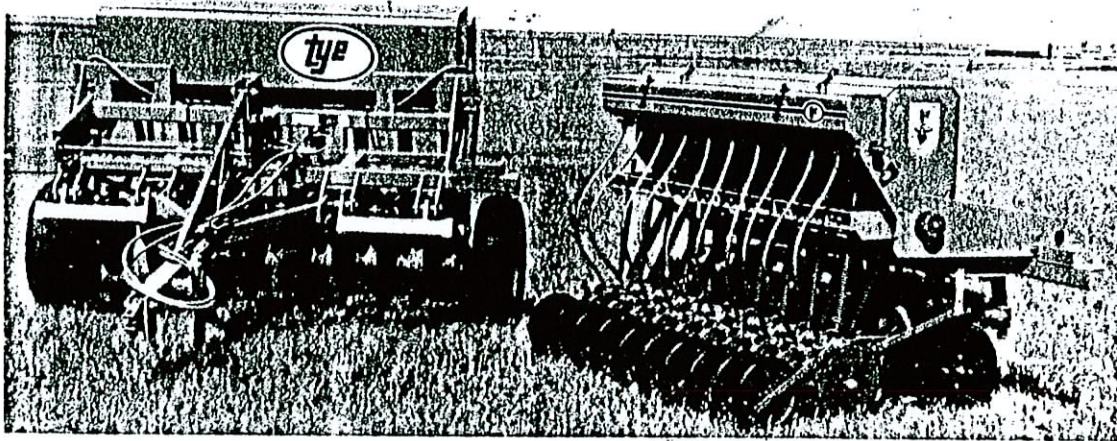
Step 1. Activate hydraulic lever to retract gauge wheels (lower drill into planting position) and hold the tractor lever activated for 15-20 seconds to pump oil through the circuit. **Note:** When the cylinders are retracted, a small by pass valve is opened inside the cylinders permitting oil flow from one end of the cylinder into the other, thus allowing air to be purged from the circuit.

Step 2. Extend gauge wheels (raise drill into transport position).

Step 3. Continue these steps until all air is purged from the hydraulic circuit and the drill cycles smoothly and evenly up and down.

The Tye Company

INTRODUCTION:



MODEL NO.	MODEL	OVERALL WIDTH	DRILLING WIDTH	HOPPER CAPACITY		SEED UNITS		EMPTY WT.
				LARGE	SMALL	NO.	SPACING	
104-3004	3-Point	110" (2.8m)*	80" (2.0m)	11 bu. (394l.)	1.9 bu. (67l.)	8	10" (25.4 cm)	1502# (691 kg)
104-3404	End Wheel	110" (2.8m)	80" (2.0m)	11 bu. (394l.)	1.9 bu. (67l.)	8	10" (25.4 cm)	2000# (909 kg)
104-4204	3-point	110" (2.8m)*	80" (2.0m)	11 bu. (394l.)	1.9 bu. (67l.)	10	8" (20.3 cm)	1670# (759 kg)
104-4404	End Wheel	110" (2.8m)	80" (2.0m)	11 bu. (394l.)	1.9 bu. (67l.)	10	8" (20.3 cm)	2150# (977 kg)

*With weight bracket in place.

The large or grain hopper of the Tye Pasture Pleaser is equipped with an internally fluted, adjustable seeder. This seeder will accurately meter out small grains such as wheat, rye, barley, oats, rice, and soybeans. Installation of optional seeder reducers allows planting of alfalfa from this hopper.

The small or "grass seed" hopper is in actuality a legume box, equipped with an externally fluted, adjustable seeder. This seeder allows accurate and positive seed flow of small dense seed such as clovers, millet, ryegrass, orchardgrass, alfalfa, birdsfoot trefoil, canarygrass, and crested wheat. This attachment may also be utilized for dry herbicide or insecticide metering.

Light, fluffy or trashy seed will not meter through either of these boxes. For lighter grasses such as brome, bluestem, little bluestem, and sideoats grama or mixes of these types of seeds an optional Bluestem Box is available as a bolt-on field option. Seed placement from this is on top of the ground, behind the double disc, in front of the press wheel.

The Tye Pasture Pleaser is normally equipped with individually spring loaded 17" duraflute coulters. Other coulter blades are available as optional accessories. See accessory section, Page C-3.

Double disc openers are standard equipment with the Tye Pasture Pleaser. Each is individually attached and spring loaded to help provide uniform seed depth placement and seed firming action.

A wide variety of optional attachments are available for the machine. These include an additional small or "grass seed" hopper, gauge wheels and stabilizers for the ends of the machine acremeter, walkboard, agitator, bluestem grass hopper attachment, dry fertilizer hopper attachment, and optional dual press wheels.

The purpose of this Operator's Manual is to explain adjustments and maintenance requirements which are necessary for the most efficient operation of the machine. Read this manual thoroughly and completely before taking your machine to the field. Keep this manual handy for reference when questions arise.

INITIAL INSPECTION

In order for your Pasture Pleaser to perform correctly and accurately, it must be set up properly. The factory, as well as the dealer from whom you purchased your unit, has performed set-up and inspection on the machine; however, before taking the unit to your field, follow these steps to insure proper operation:

Inspect the seed hoppers and remove any material or objects that could damage the seeder units.

Check the operation of the seeder shaft by turning the seeder shaft in the direction of operation with a wrench. Turning the seeder shaft will require removal of the seed hopper drive chains. Place a wrench at the mid point of each seeder shaft. Do not check the operation of drives by lifting the Pasture Pleaser and turning the drive unit by hand.

Check the alignment of all drive chains and sprockets. Chains must be adjusted so that they run straight and with the proper amount of tension to operate correctly. Properly adjusted, the center of the chain can be raised or lowered approximately $\frac{1}{2}$ ".

It is imperative that all seeder units be opened the same amount. To check this condition, close the seeding units to about $\frac{1}{8}$ " and check each one individually by noting the seeder wheel. See Figure B-1. (See page B-5 for instructions on adjusting the seeder units). The seeder unit is secured to the square seeder shaft by two clamps, one on each side of the seeder. To adjust, loosen the two clamps and slide the seeder wheel and tube the amount necessary to bring the wheel into adjustment with the other seeder units. Then retighten clamps.

Check the grass seeder, or small hopper, in a similar fashion. Correct any seeder units out of adjustment.

INSPECT DRIVE

Spring loaded coulter drive. The clamp should be mounted 2" from the right hand side and in front of the 2 x 4 bracket welded in front of the frame. The 1 x 3 mounting shank should be initially set about 1" above the clamp as shown in Figure B-2. Spring tension should initially be set such that nine (9) threads show above the adjusting nut before adding the jam nut. See Figure B-2.

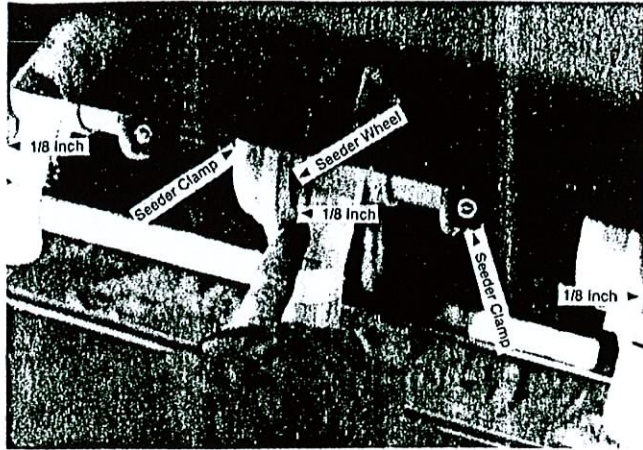


Figure B-1
Checking Seeder Units

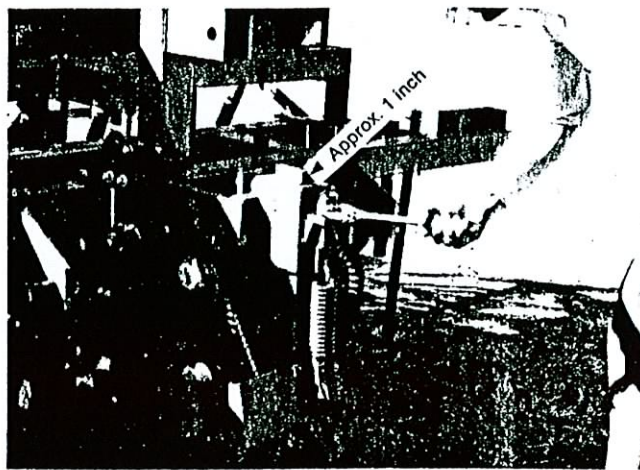


Figure B-2
Adjusting Spring Loaded Drive Coulter

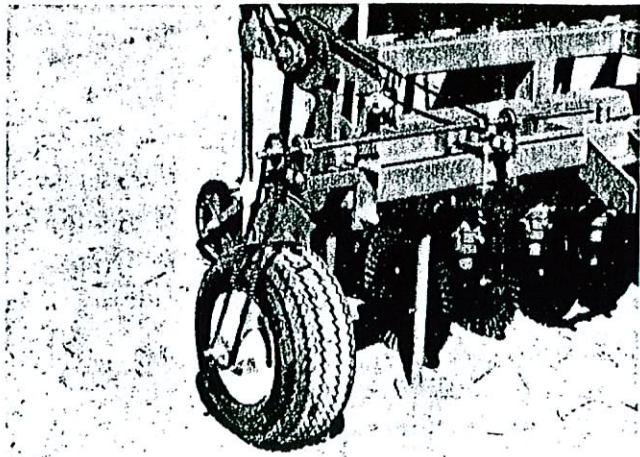


Figure B-3
End Gauge Wheel Drive

The Tye Company

When the end gauge wheel drive (optional) or end stabilizer drive (optional) is installed, the mounting clamp should be mounted on the right hand end of the frame, outboard and behind the weight bracket. See Figures B-3 and B-4 for proper arrangement of drive chains. A non-drive gauge wheel or stabilizer is required for the left end of the machine. When end mounted stabilizer coulters are used with the center spring loaded drive coulters on sloping hillsides, they are not used to drive the machine. For more information on this application see page C-3.

The 1½" round shank on which each spring swivel coultér is mounted should be initially set to extend above the welded clamp 1", and below the hinge casing 2". These shanks are made with an offset so that they may be turned to align the coultér blade (or trail cut by the coultér) with the double disc assembly. Any alignment adjustment should be done in the field with the machine properly weighted. After turning shanks be sure to adjust swivel locks as outlined below. See Figures B-5 and B-7.

Each spring on the coultér assembly is preset at the factory to 6¼" to exert approximately 400# of pressure on the coultér before the spring will begin to compress further. See Figure B-6. This length may be verified, but should not be changed. The spring tension should prevent flexing when traveling through the field, but provide flex and shear protection when coultér strikes an obstruction.

The swivel lock which controls the side to side movement of each of the coultérs should be adjusted so that the coultér can not move far enough left or right to come in contact with the yoke side connecting the double disc to the unit. If adjustment is needed, loosen the set screw and adjust the locking collar to limit the movement of the swivel coultér. Be sure to retighten the set screw securely. Do not overtighten. See Figure B-7.

The weight brackets on the left and right side of the Pasture Pleaser should be secured with the two bolts furnished. These brackets are shipped, removed and banded to the frame of the machine. See Figure B-7. Optional bolt on weight brackets (P/N 204-083) (not shown) may be added for additional suitcase weight addition. See Page C-3.

Tighten all bolts.

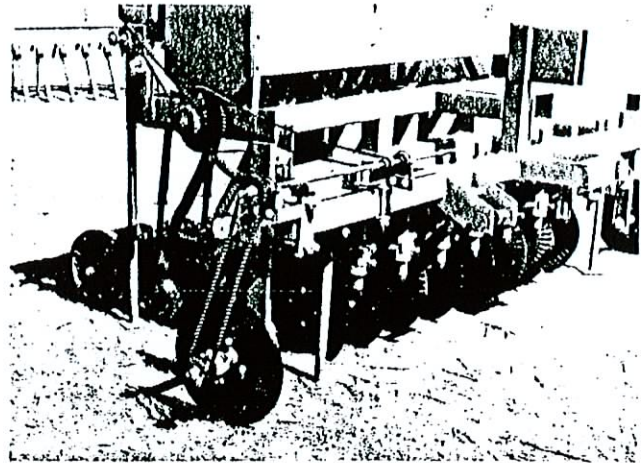


Figure B-4
End Stabilizer Drive

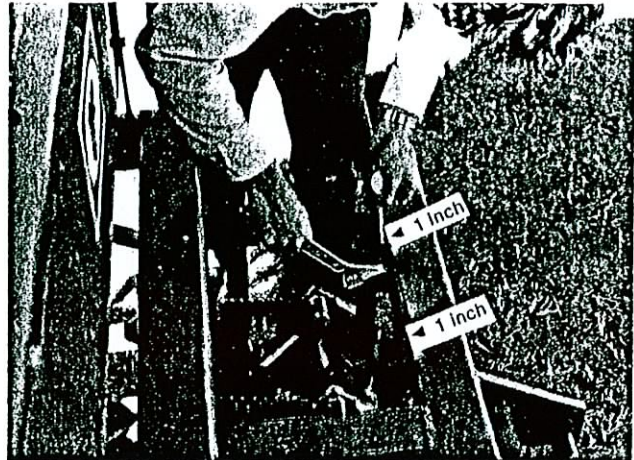


Figure B-5
Adjusting Height of Coulters

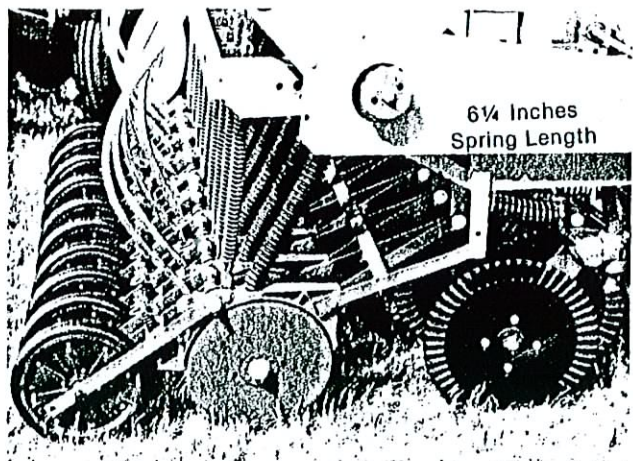


Figure B-6
Adjusting Spring Tension on Coulters

OPERATING CHECK LIST

▲ Do not allow anyone to operate this unit who has not been properly trained in its safe operation.

Go through the initial inspection at the beginning of each planting season. After performing the initial inspection, go through the following items on the operating checklist to operate your Pasture Pleaser. Each step is explained further below.

1. Adjust 3-point hitch or drawbar height.
2. Make initial setting of seed rate.
3. Add sufficient weight to obtain coulter penetration to depth desired.
4. Adjust spring pressure on double disc openers.
5. Adjust spring loaded drive coulter and spring swivel coulters, if required.
6. Examine the seed tubes.
7. Disengage any unused drives.
8. Fill seed hoppers in the field.
9. Check quantity being planted.

LEVEL ADJUSTMENT

The Pasture Pleaser should be initially set on flat ground. Adjust the third link of the three-point hitch models or drawbar height of end wheel models until the top of the seed hopper is parallel to the ground or tilted slightly forward. After this adjustment is made, the third link or drawbar height **should not** be adjusted again. See the depth adjustment section for information on changing seeding depth.

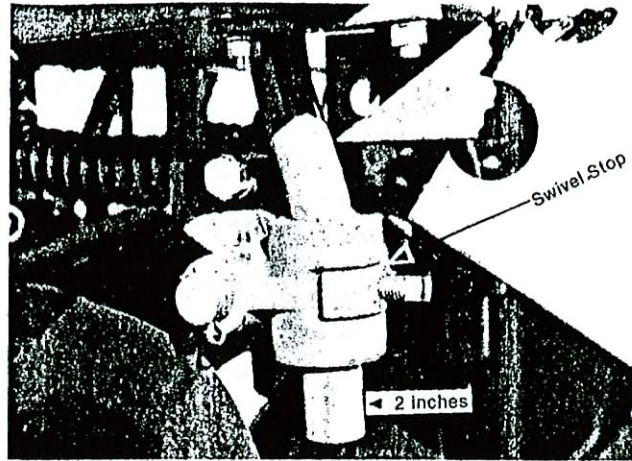


Figure B-7
Adjusting Swivel Stop on Coulters

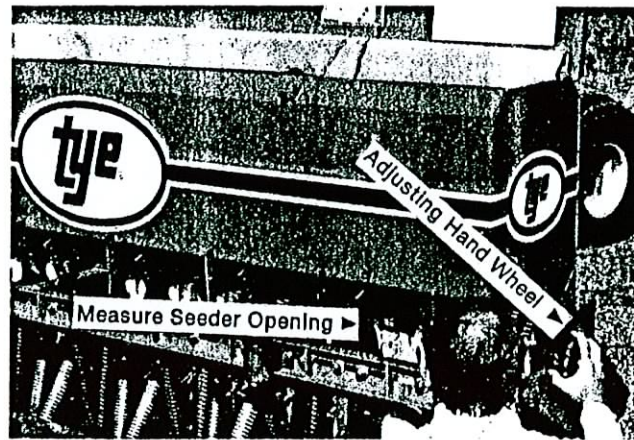


Figure B-8
Adjusting Seed Rate for Large Hopper

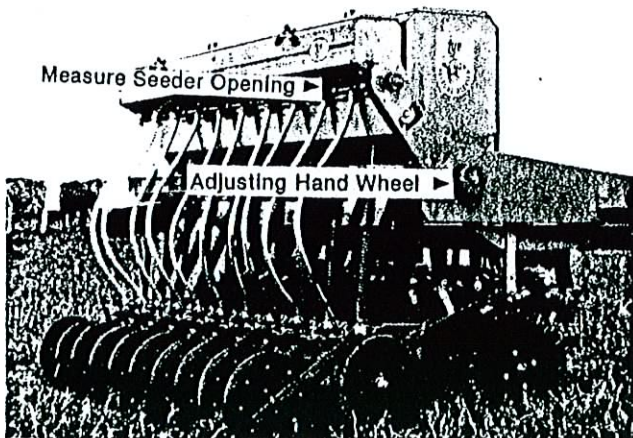


Figure B-9
Adjusting Seed Rate for Small or Legume Hopper

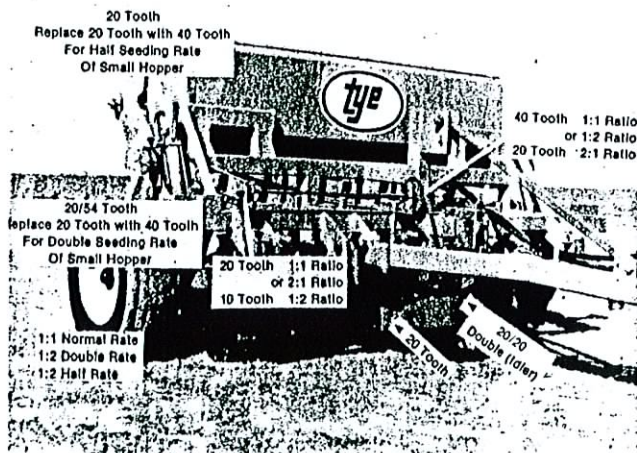


Figure B-10
Sprocket Ratios for Special Applications

SETTING THE SEEDING RATE

The seed rate charts on pages B-9 and B-10 were developed for various seeds in pounds per acre when the Pasture Pleaser is being driven by the 18" duraflute coultter blade (standard equipment). Variations in seed size, moisture, and slippage due to soil conditions will affect the seed rate. Since your Pasture Pleaser measures volume, not weight, variation in size, type, variety, moisture content, and kind (which may vary within even the same varieties) make it impossible to predict exact seed rates. Therefore, the seeder settings for pounds per acre should be used only as a guideline or approximate settings. To achieve exact pounds per acre, fill the box level full, plant a measured acre, and carefully weigh the seed required to refill the box level full. Then, adjust the seeder setting to compensate for any variations between the rate desired and the amount actually planted. For very low seeding rates, sometimes it is desirable to catch the output of each seeder unit in a plastic bag and weigh the amounts dispensed after pulling the units over a carefully measured acreage. Then, adjust the seeder setting to compensate for any variations between the rate desired and the amount actually dispensed.

INITIAL SETTING

To initially set the seeding rate of the Pasture Pleaser, find the desired rate in pounds per acre under the seed variety in the proper seeding rate chart. Be sure to choose the chart for the proper seed hopper (large or small). For amounts greater or lesser than shown in the seed chart, refer to page B-6 for instructions for changing the drive ratios.

To adjust planting rate, loosen the jam nut on the end of the seeder shaft and turn the hand wheel to open or close the seeder opening through which the seed is metered. See Figure B-8 for the large hopper and Figure B-9 for the small hopper. When closing the seeder opening on a loaded hopper, it is imperative the shaft be turned slowly during closing so that the seed in the seeder may escape. This should be done by removing the chain from the 54 tooth sprocket on the end of the seeder shaft and turning the sprocket by hand while closing the seeder opening. There is no stop on the seeder shaft at the maximum opening. It is possible to open the seeder past the maximum opening and allow the seeder wheels to come out of the cylinders. If this occurs, care must be taken to realign the notches in the seeder wheel with the spline in the cylinder before attempting to close the seeder. The setting distances in the chart coincide with the actual measured opening space of the seeder on the large hopper. See Figure B-11.

On the small hopper, the seeder adjustment differs from the large hopper in that the amount of smooth cylinder protruding from the seeder is measured as opposed to the actual seeder opening. See Figure B-12 to illustrate this measurement. The amount of smooth cylinder protruding from the seeder is directly proportional to the amount of fluted cylinder dispensing seed. As noted on the seed charts, the charts were developed for a specific drive unit under average circumstances. These seeding amounts should be used as a guideline to setting the Pasture Pleaser. The operator should verify the actual output. Never close seeder opening smaller than the seed being planted.

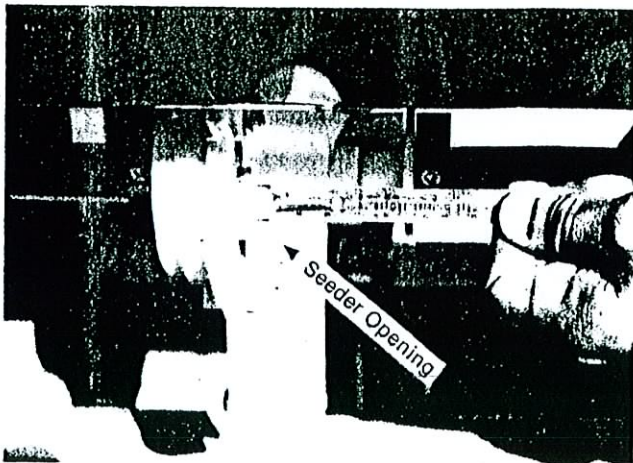


Figure B-11
Large Hopper

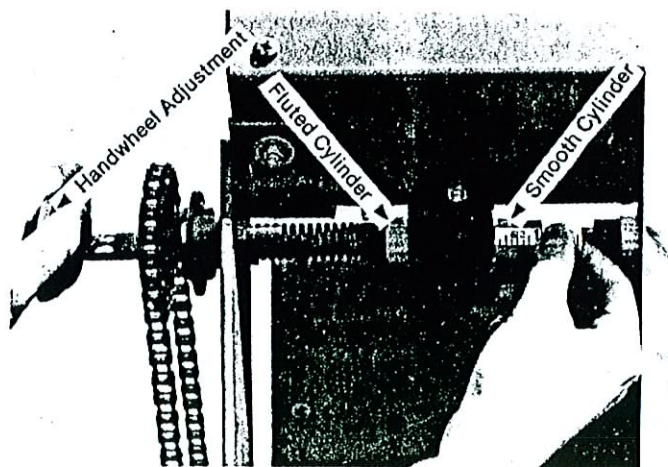


Figure B-12
Small Legume (Grass) Hopper

or rates less than or greater than those shown in the seed chart, a different sprocket ratio may be used. The Pasture Pleaser is shipped from the factory with a 1:1 sprocket ratio. This ratio is sufficient for most planting jobs. In the event that a slower seeding rate (to put out less seed) is required, the 1:2 slower ratio can be used. This is accomplished by replacing the 20 tooth sprocket on the outboard end of the jackshaft with a 10 tooth sprocket (P/N 560-160). This ratio will cut the seeding rate for both seed hoppers approximately in half from the amounts shown on the seed rate chart for the standard ratio. To approximately double the rate of both seed hoppers, replace the 40 tooth sprocket on jackshaft with a 20 tooth (P/N 560-162.). See Figure B-10.

In the event that only the grass seeder (small hopper) needs to be speeded up, a 40 tooth sprocket (P/N 560-240) can be substituted for the 20 tooth drive sprocket on the large hopper. If only the grass seeder (small hopper) needs to be slowed down, a 40 tooth sprocket (P/N 560-640) can be substituted for the 20 tooth sprocket on the small hopper. These sprockets will alter seeding rate of small hopper by a factor of two; either double the rate or cut it in half. See Figure B-10.

Add sufficient weight to obtain coulters penetration to depth desired.

The depth of seed placement will be governed by the depth at which the coulters running in front of the double disc opener penetrates the ground. Generally, the seed will be placed at a depth equal to or about 1/2" shallower than the bottom of the coulters trench. The Coulters Springs have been adjusted to 6 1/4" length to preload the spring to about 400# of force on each coulters. This amount of force is necessary to prevent excessive up and down movement of the coulters, causing accelerated wear on the hinge castings under normal conditions. During normal operating conditions, coulters should flex noticeably only when an obstruction is encountered. Attach suitcase type weights to the end of the Pasture Pleaser to gain sufficient ground penetration. See Figure B-14. Additional weight can also be placed on the front of the Pasture Pleaser frame. Weight should be added, as nearly as possible, over the coulters attachment point, since this will effect maximum coulters penetration, and keep the added weight close to the tractor to facilitate lifting the machine at the end of the field. In some cases involving soft ground, it may be necessary to carry a part of the weight of the machine on the three-point hitch of

the tractor or the end wheels to prevent the coulters and hence the seed placement from being too deep. This sometimes occurs even with no additional weight on the machine. The optional end gauge wheels are also recommended for three-point models under these soft conditions to help hold the machine out of the ground. See Accessories Page C-3.

Each field presents different circumstances and varies according to moisture content, soil type, vegetation type and content, and a host of other factors. The Pasture Pleaser must be tuned to each individual field with sufficient weight and proper accessories to place the seed at the optimum planting depth. **Generally, weight is the key to depth of seed placement.**

Adjust spring pressure on double disc openers.

The pressure rod on the double disc opener should be adjusted to provide just enough tension to place the double disc opener into the slot cut by the coulters. See Figure B-13. Additional pressure exerted on the double disc will not cause the double disc to run any deeper than the bottom of the coulters slot. The only way to gain additional depth is to force the coulters into the ground. This is accomplished by adding weight to the machine. Use of more spring pressure on the double disc opener than necessary will prevent the unit from moving freely and clearing obstructions, as well as contribute to early bearing and hub failure, and other structural failure of the double disc assembly.

Double Pressure Rod Assemblies are available (option) but they should not be installed when desiring deeper planting (add weight). They are recommended for extremely rough, uneven terrain to reduce the vertical movement of the opener.

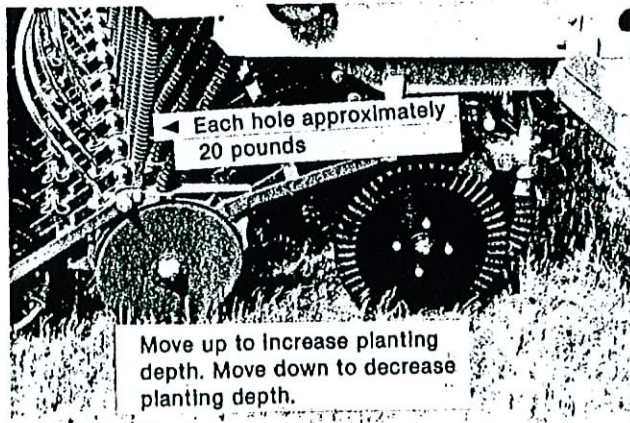


Figure B-13
Adjusting Spring Pressure

Adjust spring loaded drive coulters and spring coulters if necessary.

Coulters are installed at the factory with 1" of shank above the frame clamp (Figure B-5) and with 2" of shank below the casting (Figure B-7). Normally this setting should not be changed. Exception would be adjustment for furrowed ground.

It may be necessary to adjust the spring loaded drive coulters up or down so that the drive coulters remain in firm contact with the ground to drive the unit but is still afforded enough spring loaded travel to clear obstructions in the field. See Figure B-2.

Examine the seed tubes.

After adjusting the three-point hitch or drawbar height, setting the spring loaded swivel coulters, and setting pressure on the double disc openers, examine the rubber seed tubes. Under operating conditions, these seed tubes should be stretched as nearly straight as possible. To provide for nearly all conditions encountered in the field, the seed tubes are furnished in one standard length. It may be necessary to shorten the seed tube by cutting some of the length from the tube with a pocket knife. See Figure B-15. The seed tube can be reinstalled in the double disc casting by placing one or two rings of the seed tube under the lip in the double disc casting and insuring that all wrinkles are removed from the inside of the tube to allow smooth seed flow. A common mistake in adjusting the machine for deeper penetration by the double disc openers is to rock the machine back by lengthening the third link of the three-point hitch or by raising drawbar height to put greater spring pressure on the double disc openers. This should not be done because it moves the seeders closer to the double disc openers causing kinks in the seed tube which may cause uneven seed distribution. See Figure B-16. The machine should always be adjusted so that the top of the seed box is level with the ground or tilted slightly forward. Depth adjustments must be accomplished by forcing the spring loaded swivel deeper into the ground in order for the double disc to go deeper.

In firm soils, the duraflute coulters blade may only accommodate shallow seed placement (approx. $\frac{3}{4}$ "). For greater planting depth, a different style coulters blade may be required. See Page C-3.

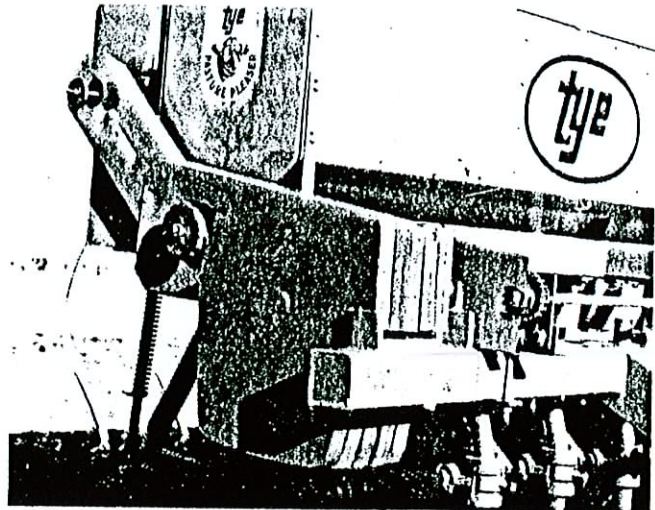


Figure B-14
End Weight Brackets

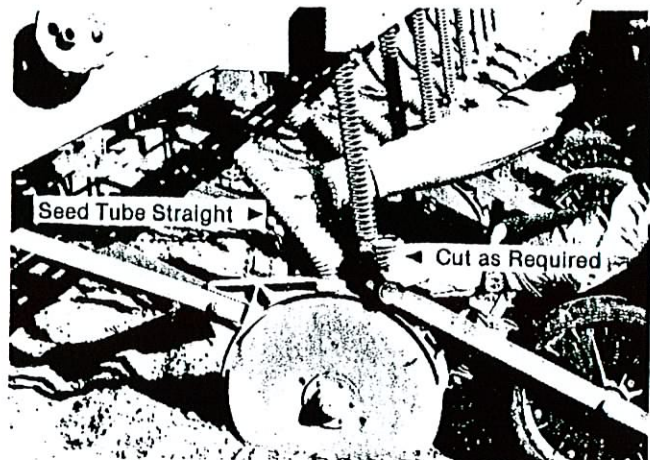


Figure B-15
Shortening Seed Tubes

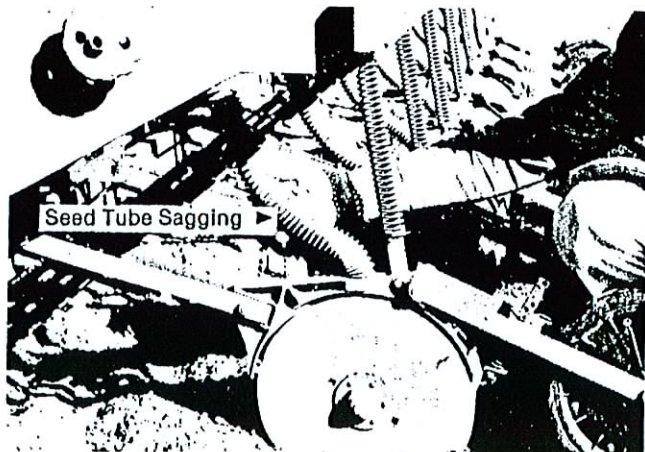


Figure B-16
Sagging Seed Tubes

Disengage Any Unused Drives

Frequently the machine is used in an operation not requiring all the driven components (grain box, fertilizer box, grass seed boxes, or agitator). To eliminate unnecessary wear, disengage the shaft of those items not being used by removing appropriate drive chain.

Fill Hoppers In The Field

Transporting the unit with the boxes full causes the seed to pack, resulting in improper feeding and possible damage to the drive and seeders.

If the unit has been transported with the boxes full or if the unit has been stopped for over an hour during planting of treated seed in the large hopper, it is advisable, before resuming operations to rotate the seeder shaft with a wrench to insure free flow. Place the wrench in the center of the seeder shaft to lessen strain on the shaft.

Check Quantity Being Planted

The seed charts for the machine are based on a standard weight per volume of seed. Your unit meters volume, not weight, and is dependent on a ground drive. Differences in rates actually planted and those shown in the seed chart can be due to many factors: weight, size, type variety, moisture content and kind of seed, coulter size, mud or soil buildup on tires, ground conditions, and rate setting errors.

Always check the quantity planted on a small measured area before beginning to plant any crop.

Maintenance

The Pasture Pleaser is equipped with sealed ball bearings in the double disc, press wheels, seeder shaft and jackshaft, which require no lubrication. The coulters are mounted on tapered roller bearings and should be cleaned and repacked with grease periodically. The hinge castings for the spring swivel coulter should be greased regularly at the point provided.

Category I Hitch

The 3-point hitch Pasture Pleaser is equipped with a Category II/III hitch pin system, suitable for a quick hitch. To attach to tractors with Category I hitch, install Category I pins (not furnished) to the inside plate of the bottom hitch side, pointing toward the center of the unit. Insure that the tractor is large enough to properly handle the unit (with any additional weight required) safely before attempting to move the tool.

Adjust Speed to Field Conditions

The speed of operation of the Pasture Pleaser is directly related to the soil and field conditions of the area to be seeded. Generally, the harder and more uneven the terrain, the slower will be the operating speed. As speed increases, the spring loaded coulters have a greater tendency to ride out of the ground as well as throw dirt to the side. The double disc openers also have a greater tendency to bounce out of the ground and vary seed placement. In favorable operating conditions, maximum speed should be considered about 4 to 5 miles per hour. As conditions deteriorate, a slower speed should be used. However, the field speed must be matched to each individual application. A tractor in the 60 - 70 horsepower range is recommended for 3-point hitch machines, but as weight is added to the tool, or as planting terrain becomes more rugged, larger tractors are required for proper handling of the tool. End wheel models require less horsepower for lifting, but do require a tractor with remote hydraulic connects.

The Tye Company

LARGE HOPPER

THE TYE PASTURE PLEASER — 80 INCH

SEEDING RATE CHART — RATES IN POUNDS PER ACRE

LARGE HOPPER — 10'' SPACED — 18'' COULTER [56'' Circumference]

- NOTE: (1) If using 8 x 20 x 10 Gauge Wheel [65'' Circumference] multiply amount shown in chart by 0.85
 (2) Initial setting for seeds not shown, use seeding rate of seed with similar size and weight. See caution below.
 (3) "*" indicates seed requiring use of P/N 204-134 reducer.

SEEDER OPENING (INCHES)	SPROCKET RATIO	WHEAT & RYE	BARLEY	OATS	RICE	TALL FESCUE	SOYBEAN	SORGHUM SUDAN, MILO	CORN (Ensilage Only)	ORCHARD GRASS	ALFALFA *
		1:1	1:1	1:1	1:1	1:1	1:1	1:2	1:4 · 1:4	1:1	1:2 1:1
1/4		39	18	21	30	10		16	SMALL ROUND	*(1/8) 3	19 38
5/16		58	28	34	41	20	23	24	MED ROUND	*(3/16) 5	24 48
3/8		77	52	50	53	28	36			*(1/4) 10	29 58
1/2		116	78	68	78	36	62		15		39 79
9/16		135	89	78	94	44	81		19 14		44 89
5/8		154	99	83	104	52	107		26 22		50 99
11/16		174	115	99	120	57	120		30 26		55 109
3/4		192	128	104	133	62	136				60 120
13/16		211	136	125	146	68					65 130
7/8		230	139	136	154	73				*(Seeder Opening)	70 140

© 1984 THE TYE CO. CAUTION: Rates are approximate. Operator should verify actual output. Refer to operator's manual before using this chart. P/N 575-034 R/1



LARGE HOPPER — 8'' SPACED — 18'' COULTER [56'' Circumference]

- NOTE: (1) "*" indicates seed and seeding rate requiring the use of P/N 204-134P Reducer.
 (2) For seeds not listed on this chart, choose a seed which is listed that is similar in weight and size. Verify actual output. Refer to Operator's Manual for calibration procedures.
 (3) Rates shown on this chart are based on seeds of average weight per bushel indicated.
 For lighter seeds; increase seeder opening.
 For heavier seeds; decrease seeder opening.
 (4) if using 8 x 20 x 10 tire [65'' Circumference] multiply rate shown in chart by 0.85.

SEED	WHEAT	BATOR RYE	BUFF BUCKWHEAT	FESCUE	ALFALFA CLOVER	WHEATGRASS	PEARL MILLET	BARLEY	OATS	BUDAGRASS	MILO	RICE	SOYBEAN	BT BLUEGRASS
#/Bu.	59.5	51.8	28.7	24.0	61.7	21.4	67.2	50.5	33.5	58.3	58.9	47.4	56.1	23.6
Seeds/#	14,000	30,600	—	—	210,000	—	89,250	13,200	12,500	17,500	10,000	20,300	2,600	—
SPROCKET RATIO	1:2 1:1	1:2 1:1	1:2 1:1	1:2 1:1	1:2 1:1	1:2 1:1	1:2 1:1	1:2 1:1	1:2 1:1	1:2 1:1	1:2 1:1	1:2 1:1	1:2 1:1	1:2 1:1
1/8	—	—	1 2	—	10 20	—	10 20	—	—	—	—	—	—	3 6
3/16	14 28	9 18	7 13	4 8	22 44	—	23 45	—	—	9 17	7 14	—	—	3 6
1/4	24 49	19 38	12 24	9 17	34 67	—	35 70	12 24	6 12	20 39	18 36	13 26	—	12 24
5/16	35 70	29 58	17 35	13 26	45 91	—	48 95	22 44	13 25	31 61	29 58	22 44	16 31	17 33
3/8	45 91	39 78	23 45	18 35	57 114	16 32	60 120	32 64	19 39	42 83	40 80	31 61	27 53	21 42
7/16	56 112	49 99	28 56	22 44	69 138	19 38	73 145	42 85	26 53	52 105	51 103	39 79	38 76	26 52
1/2	66 133	60 119	33 67	27 53	81 161	22 44	85 170	52 105	33 66	64 127	62 125	48 96	49 98	30 61
9/16	77 154	70 139	39 78	31 62	92 184	25 50	96 195	62 125	40 80	74 149	74 147	57 114	60 120	35 70
5/8	87 175	80 160	44 89	36 71	104 208	28 56	110 220	73 145	47 93	85 171	85 169	66 131	71 143	39 79
11/16	98 196	90 180	50 99	40 80	116 231	31 62	122 245	83 165	53 107	96 193	96 192	74 149	83 165	44 88
3/4	108 216	100 200	55 110	45 89	127 255	34 68	135 270	93 186	60 120	107 215	107 214	83 165	94 188	49 97
13/16	119 238	110 220	61 121	49 98	139 278	37 75	148 295	103 206	67 134	118 237	118 236	92 184	105 210	53 106
7/8	129 258	120 241	66 132	54 107	151 302	40 81	160 320	113 226	74 148	129 259	129 258	101 201	116 232	57 115

© 1987 THE TYE CO. CAUTION: Rates are approximate. Operator should verify actual output. Refer to operator's manual before using this chart. P/N 575-053 R/2

- NOTE: (1) See Figure B-12 for proper measurement of seeder setting.
 (2) Rates given are for unit operating with 18'' diameter drive coulters.
 (3) The rates shown on this chart are based on seeds of average weight per bushel. Increase opening for lighter seeds; reduce opening for heavier seeds. The operator should verify actual output.
 (4) When drilling seeds not shown on the chart, compare weight and size of seeds with those shown.
 (5) If using 4'' x 8'' center gauge wheel drive (48'' circumference) multiply rates shown in the charts by 1.17.

Walkboard

A walkboard attachment is furnished to provide a convenient step to be used during hopper refilling. Longer brackets are required when rear mounted hoppers are installed. See Figure C-4.

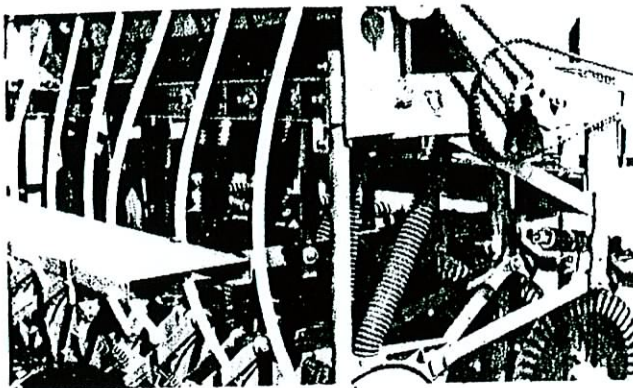


Figure C-4
Walkboard

Press Wheels

2" x 13" press/depth control wheels (P/N 204-020) are recommended on all Tye Pasture Pleasers. They should be installed with a spring both above and below the press wheel frame. See Figure C-5. Optional angled 1 x 10 or angled metal press wheels may also be configured, as described above.

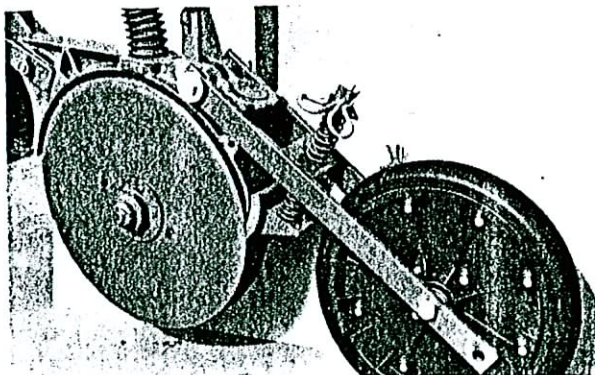


Figure C-5
2" x 13" Press Wheel

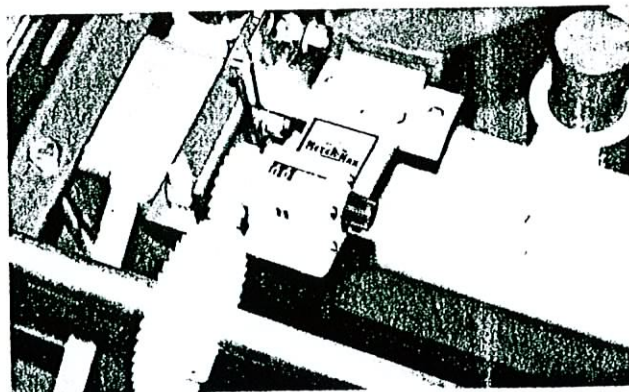
Acremeter

A resettable acremeter is available for the Tye Pasture Pleaser. When mounted to the jackshaft, the unit will read acres to nearest 1/100 acre.

If Acremeter measurement is inaccurate, check for one of the following:

1. Incorrect Acremeter for drill width.
2. Incorrect Acremeter for drive unit.
3. Wheel rolling at end of field.
4. Not planting full width of drill.
5. Test plot acreage not correctly determined.

To correct for all variable factors, plant a known measured acreage and compare with Acremeter reading:



$$\frac{\text{Known Acreage}}{\text{Acremeter Reading}} = \text{Correction Factor (C.F.)}$$

All future Acremeter readings, if multiplied by correction factor (C.F.) will provide accurate reading.



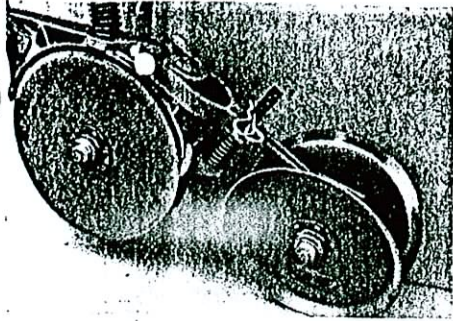
Example: A five (5) acre plot indicated 4.5 on

$$\text{Acremeter } \frac{5}{4.5} = 1.11 \text{ C.F.}$$

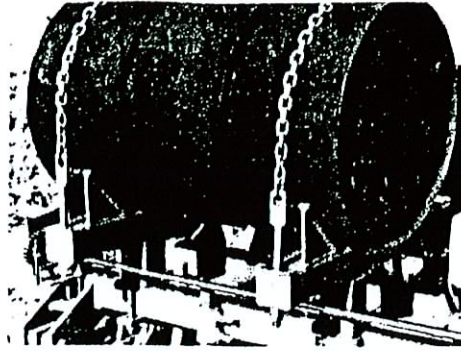
If Acremeter reads 400 acres x (1.11 C. F.) 444 were actually planted.

Figure C-6
Acremeters

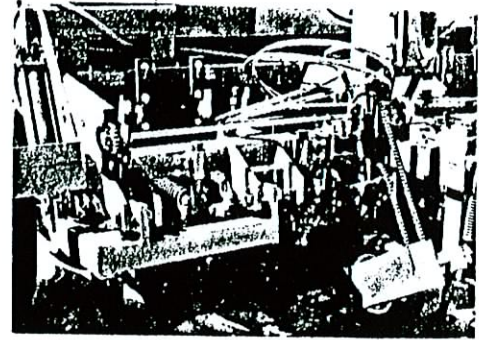
The Tye Company



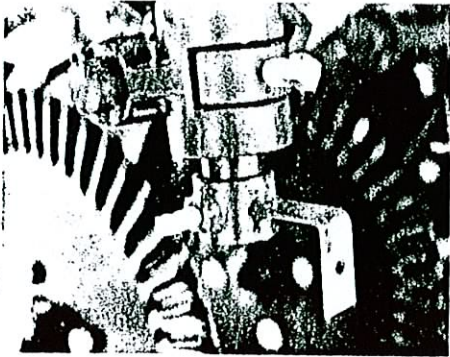
Metal Angled Press Wheels. 11" diameter metal angled press wheels formed with lip to close opening cut by coulters. Sealed bearings. Not recommended for prepared seedbeds.



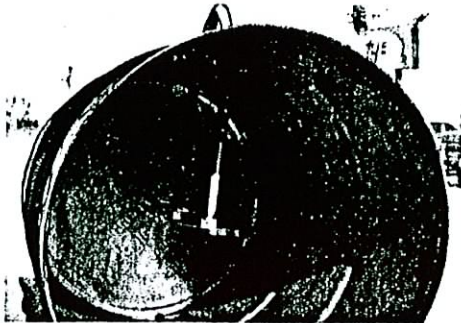
Barrel Weight Bracket. Mounts above coulters bar on Stubble Drills and Pasture Pleasers and attaches to top front frame member. Designed to attach 55 gallon barrel to be filled with water (approximately 450#) or concrete (approximately 1150#). Tye Pasture Pleasers can accommodate two (2) units. (Barrel not included.)



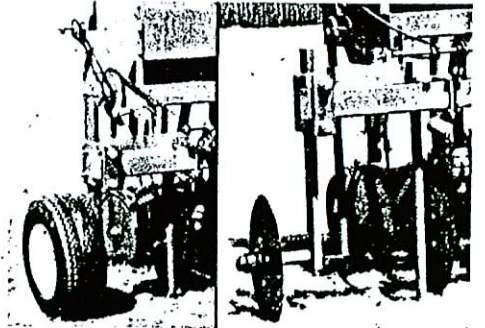
Center Gauge Wheel Drive. This drive is available for 7' & 10' Pasture Pleasers and Stubble Drills. Recommended for units to be operated in conventionally prepared seedbeds.



Spray Nozzle Support. Attaches to bottom end of coulters mounting shank for installation of spray nozzle.



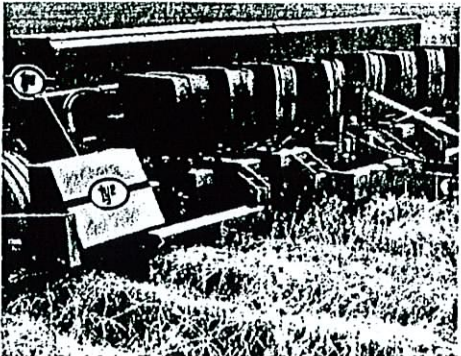
Barrel Hanger Bracket. Lift fixture to install into side of barrel prior to filling with concrete. Facilitates lifting of barrel weight. (Barrel not included.)



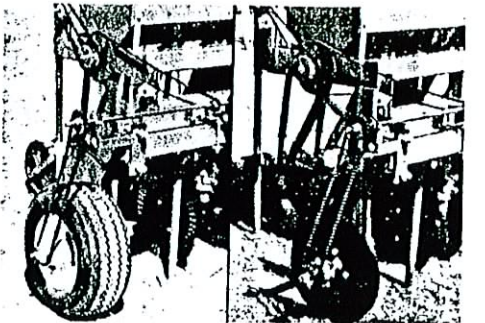
END STABILIZER. Available for three-point and end wheel 7' Pasture Pleaser models only. Rigid 17" stabilizing coulters or 8" x 10" gauge wheel provides lateral stabilization. Recommended for improved opener/coulters tracking on slopes up to approximately 10°. Gauge wheels for improved flotation in prepared seedbeds.



Coulters. Choose from (3) blades styles on Tye's Spring Swivel, Tapered Bearing Coulters Assemblies. 17" Dura flute (pasture, shallow planting); 18" Bubble (pasture, no till, moist soils); 18" x 1" fluted (no till, dry soils).



Weight Bracket. Bolt-on weight brackets attach to top front frame member for addition of suitcase style weights. Approximately 500 pound capacity. Tye Pasture Pleasers can accommodate up to (2) units. (Suitcase weights not included.)



END DRIVE. Available for three-point hitch 7' Pasture Pleaser models only. Rigid end mounted 17" coulters or 8" x 10" gauge wheel drive enables drill unit to be driven from end when clearance prohibits the use of center coulters drive. Non-drive components also available.

The Tye Company

FRONT AND REAR MOUNTED FERTILIZER HOPPER (Fluted Dispenser 1/85)

THE TYE PASTURE PLEASER — 80 INCH

APPLICATION RATE CHART — RATES IN POUNDS PER ACRE — 1:1 RATIO

18" COULTER [56" Circumference] Drive; 20 Tooth Drive Sprocket

10" Spacing

Lever Setting	Pounds/Acre
1	—
2	24
3	60
4	96
5	132
6	168
7	204
8	241
9	276
10	311

8" Spacing

Lever Setting	Pounds/Acre
1	—
2	30
3	75
4	120
5	165
6	210
7	255
8	301
9	345
10	389

NOTE: This chart was developed as a guideline. Actual output will vary with changes in fertilizer density. The operator should verify actual output.

PREPARING THE PASTURE PLEASER FOR STORAGE

Clean the unit thoroughly and inspect all parts for wear or breakage. Order replacement parts required now, so needless delays can be avoided at the beginning of the next planting season.

Remove any seed remaining in the grain box by removing the box clean out plugs in the bottom of the hopper and brushing grain out of the box. Any remaining grain in the seeder units should be removed by rotating the seeder shaft. Both the hopper and seeder units should be completely clear of grain and residue before storing the unit.

Remove the rubber seed tubes and store inside.

Coat the double disc units and coulters with oil or grease to prevent rusting.

Remove all drive chains and clean with diesel fuel. Oil thoroughly and store in a dust proof and moisture proof container.

Clean all seed from the grass seed box and feeds.

Coat all sprockets with oil or grease to prevent rusting.

Wash fertilizer hopper thoroughly with water and coat inside of box and feed mechanisms with oil.

Clean all seed from all accessory hoppers and feeds.

Grease spring swivel coulters hubs and hinges in zerts provided.

The Tye Company

TROUBLE SHOOTING

Problem	Cause	Solution
Coulter not Penetrating	Insufficient Weight	Add Weight To Drill Frame
	Dull Coulter Blade	Sharpen Cutting Edge
Double Disc Not Tracking	Coulter Misaligned	Align Coulter
	Coulter Shank Bent	Do Not Turn While Unit Is Engaging Ground
	Double Disc Opener Yoke Bent	
Coulter Drive Slipping	Insufficient Weight On Drill	Add Weight To Drill Frame
	Hydraulics Not Fully Down	Use Flotation Mode On Tractor Hydraulics
	Drive Adjusted Too High	Lower Coulter Drive
	Coulter Set Too Low	Adjust Coulter
Planting Too Shallow	Coulter Track Too Narrow	Replace Coulter Blades With Wider Fluted Style
	Insufficient Weight	Add Weights To Drill
	Coulter Adjusted Improperly	
	Insufficient Down Pressure	Raise Clip In Pressure Rod
	Press Wheel Adjusted Too Low	Raise Clip Pin Depth Strap
	Ground Speed Too Fast	
Seed Bunching	Seed Tubes Sagging	Level Drill Shorten Seed Tube
	Double Disc Not Turning	Adjust Internal Scraper Replace Frozen Bearing
	Slow Sprocket Ratio	Use Faster Ratio and Reduce Seeder Opening
	Ground Speed Too Slow	
Planting Too Deep	Excessive Down Pressure	Lower Bottom Clip Setting In Pressure Rod
	Drill Too Low	Remove Extra Weight
	Press Wheel Adjusted Too High	Lower Clip Pin Setting In Depth Strap
	Seed Bed Too Loose	
	Drill Not Levelled	Adjust Third Link (Level Drill)
Chain Jumping Off	Sprockets Worn	Replace Sprockets
	Chain Worn	Replace Chain
	Sprockets Not Aligned	Align Chain and Sprockets
	Idler Holding Chain Away From Sprocket	Idler Incorrectly Installed - Install Correctly

TROUBLE SHOOTING

Problem	Cause	Solution
One Seeder Planting At Different Rate	Out of Adjustment	Loosen Seeder Clamps and Adjust to Match Other Seeders
	Obstruction Over Seeder Hole	
	Seed Bridging	
Seed Rate Chart Incorrect	Incorrect Sprocket Ratio	
	Seeder Setting Incorrect	
	Variance In Density Of Seed	
	Acreage Planted Incorrect	
Acrometer Error	Incorrect Meter For Drill or Tire Size	
	Gauge Wheel Rolling At End of Field	
	Not Planting Full Drill Width	
	Acreage Checked Incorrectly	
Seeds Jumping From Seeder	Seeder Opening Too Small	Open Seeder Opening
	Planting Too Fast	
Seeds Not Covered	Planting Too Shallow	Choose Alternate Press/Depth Control Wheel
	Planting Too Wet	
	Planting Too Fast	
Press Wheels Do Not Touch Ground	Drill Tilted To Rear	Level Drill or Tilt Slightly Forward

The Tye Company

SMALL HOPPER

THE TYE PASTURE PLEASER — 80 INCH SEEDING RATE CHART — RATES IN POUNDS PER ACRE

LEGUME HOPPER — 10" SPACED — 18" COULTER [56" Circumference]

NOTE: (1) If using 8 x 20 x 10 Gauge Wheel [65" Circumference] multiply amount shown in chart by 0.85

(2) Initial setting for seeds not shown, use seeding rate of seed with similar size and weight. See caution below.

SEEDER OPENING (INCHES)	ARROWLEAF CLOVER CRIMSON CLOVER PEARL MILLET	ANNUAL RYEGRASS ALSATI BACATON	BIRDSFOOT TREFOIL SERICEA LESPEDeza HULLED	SIBERIAN WHEATGRASS	ALFALFA SWEET CLOVER YUCHI CLOVER LADINO CLOVER LENNHANN LOVEGRASS	WEEPING LOVEGRASS KLIENGRASS	SAND DROP SEED DROPSSEED	INDIAN RICEGRASS	ORCHARD GRASS	REDTOP	TIMOTHY LESPEDeza UNHULLED	KENTUCKY BLUEGRASS
SPROCKET RATIO	1:1	1:1	1:1	1:1	1:1	1:1	1:1	1:1	1:1	1:1	1:1	1:1
1/16	1/4	—	3/4	—	1	1 1/4	1	—	—	—	—	—
1/8	2	1	2 1/2	1/4	2	2 1/4	1 3/4	—	—	1	1 1/4	—
3/16	3 3/4	1 3/4	4	3/4	3 1/2	3 1/4	2 1/2	2	—	1 1/2	2 1/2	—
3/8	9	4	9	2	7 1/2	6 1/2	4 1/2	5 1/2	1 1/4	2 3/4	6 1/2	3
5/8	16	7 1/4	16	3 3/4	11 1/2	10 3/4	7 1/4	10	2 1/2	4 1/2	11 3/4	5
7/8	23	10 1/4	22 1/2	5 1/2	18	15	10	14 1/4	3 3/4	8 1/4	16 3/4	7
1 1/8	30	13 1/2	29 1/4	7 1/4	23	19	12 3/4	18 3/4	5	8	22	9

© 1983 THE TYE CO.

CAUTION: Rates are approximate. Operator should verify actual output. Refer to operator's manual before using this chart.

P/N 575-033 R/1



LEGUME HOPPER — 8" SPACED — 18" COULTER [56" Circumference]

NOTE: (1) If using 8 x 20 x 10 Gauge Wheel [65" Circumference] multiply amount shown in chart by 0.85

(2) Initial setting for seeds not shown, use seeding rate of seed with similar size and weight. See caution below.

SEED	CRIMSON CLOVER PEARL MILLET	BIRDSFOOT TREFOIL ARROWLEAF CLOVER LESPEDeza SERICEA HULLED	YUCHI CLOVER	ALFALFA SWEET CLOVER LADINO CLOVER LENNHANN LOVEGRASS	TIMOTHY LESPEDeza SERICEA UNHULLED CENTIFERA	WEEPING LOVEGRASS KLIENGRASS	INDIAN RICEGRASS	SAND DROP SEED DROPSSEED	ALFALFA SWEET CLOVER YUCHI CLOVER LADINO CLOVER LENNHANN LOVEGRASS	SAND DROP SEED DROPSSEED	INDIAN RICEGRASS	BLUEGRASS (KENTUCKY)	WHEATGRASS (SIBERIAN) REDTOP	ORCHARD GRASS
SPROCKET RATIO	1:1	1:1	1:1	1:1	1:1	1:1	1:1	1:1	1:1	1:1	1:1	1:1	1:1	1:1
1/8	2 1/4	3	2 3/4	2 1/4	1 1/2	2 1/2	1 1/2	2	1 1/4	1	1	1	1/2	—
3/16	5	5	4 1/2	4 1/2	3	4	3 1/2	2 1/2	2	2	2 1/4	2 1/4	1	—
1/4	7 1/4	7	6 1/4	6	4 1/4	5 1/4	4	4 1/2	3 1/2	3	2 3/4	2 1/2	1 1/2	1
5/16	9 1/2	9	8	7 1/2	6 1/4	6 1/2	5 1/4	5 1/4	4 1/4	4	3 1/2	2 3/4	2	1 1/2
3/8	11 1/4	11	9 1/2	9 1/4	7 3/4	7 1/2	6 1/2	7	5 1/4	5	4 1/2	3 1/2	2 1/2	1 1/2
7/16	14	13	11 1/2	11	9 1/4	9	8	8 1/4	7	6	5 1/4	4	3	2
1/2	16 1/4	15	13	12 1/2	11	10 1/2	9 1/4	9 1/2	8	6 1/4	6	4 1/2	3 1/2	2 1/2
9/16	18 1/2	17	14 1/4	14 1/2	12 1/2	11 1/2	10 1/2	10 3/4	9 1/4	7 1/4	7	5	4	2 1/2
5/8	20 1/4	19	16 1/2	16	14	13	12	12	10 1/2	8 1/4	7 1/4	5 1/4	4 1/2	3
11/16	23	21	18 1/4	17 1/2	15 1/2	14 1/2	13 1/2	13 1/4	11 1/2	9 1/2	8 1/2	6 1/4	5	3 1/2
3/4	25 1/4	23	20	19 1/4	17	15 1/2	14 1/2	14 1/2	12 1/2	10 1/2	9 1/2	6 1/4	5 1/2	3 1/2
13/16	27 1/2	25	21 1/4	21	18 1/2	16 1/4	15	15 1/4	13 1/4	11 1/2	10 1/4	7 1/2	6	4 1/2
7/8	29 1/4	27	23 1/2	22 1/2	20 1/4	18	17 1/4	17	15	12 1/2	11	8	6 1/4	4 1/2
15/16	32	29	25 1/4	24 1/2	21 1/4	19 1/2	18 1/2	18 1/4	16	13 1/2	12	8 1/2	7 1/4	5
1	34 1/4	31	27	25 1/4	23 1/4	20 1/2	19 1/2	19 1/4	17	14 1/2	13	9	7 1/4	5 1/2
1 1/16	36 1/2	33	28 1/4	27 1/2	24 1/4	21 1/2	21 1/4	20 1/2	18 1/4	15 1/2	13 1/2	9 1/2	8 1/4	5 1/2
1 1/8	38 1/4	35	30 1/2	29 1/4	26 1/2	23	22 1/2	22	19 1/2	16 1/4	14 1/2	10 1/4	8 1/4	6

© 1987 THE TYE CO.

CAUTION: Rates are approximate. Operator should verify actual output. Refer to operator's manual before using this chart.

P/N 575-054 R/2

NOTE: (1) See Figure B-12 for proper measurement of seeder setting.

(2) Rates given are for unit operating with 18" diameter drive couler.

(3) The rates shown on this chart are based on seeds of average weight per bushel. Increase opening for lighter seeds; reduce opening for heavier seeds. The operator should verify actual output.

(4) When drilling seeds not shown on the chart, compare weight and size of seeds with those shown.

(5) If using 4" x 8" center gauge wheel drive (48" circumference) multiply rates shown in the charts by 1.17.

be loosened before inserting the agitator shaft to permit free alignment; retighten after shaft is installed. Loosen or remove the set screws on each agitator. Install the agitator into drive hopper and agitators, and on the slave hopper, threading the lockcollars onto the shaft as designated above. Extend the shaft into the first agitator of the slave hopper until it stops, usually about 12 inches. Center the agitators in the hopper sections and secure to the shaft by tightening the set screws on each agitator. (See Figure 4) Position and "lock" the lockcollars and retighten the bearing mountings. Using the coupler on the lower hex shaft, connect the drive and slave picker wheel shafts.

E. DELIVERY SPOUT

The drill should be equipped with 2"x13" single press wheels (P/N 204-020). Move the wheel & tire assembly into the rear position on the press wheel frame. Install the delivery spout forward of the wheel & tire assembly and attach to the press wheel frame as shown in Figure 8. Attach the seed tubes and secure each end with the hose clamps provided. Figure 9 shows the Rear Seed Delivery (RSD) double disc opener. (Factory installed only)

F. DRIVE

With sprockets with 3/4" round hubs should be installed on both the agitator shaft and the picker wheel shaft of each drive hopper. The hubs should be "out" if driving the attachment with the same sprocket as the legume (if installed) or "in" if driving it from the outboard double sprocket. Align the two 30 tooth sprockets with the drive sprocket and tighten the set on the flat portion of the shaft. (See Figure 1 & 2)

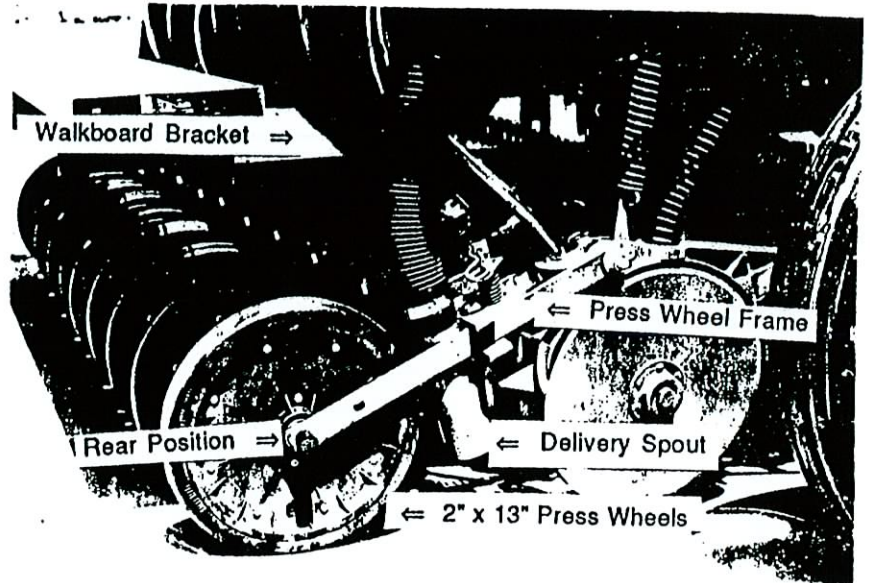


Figure 8

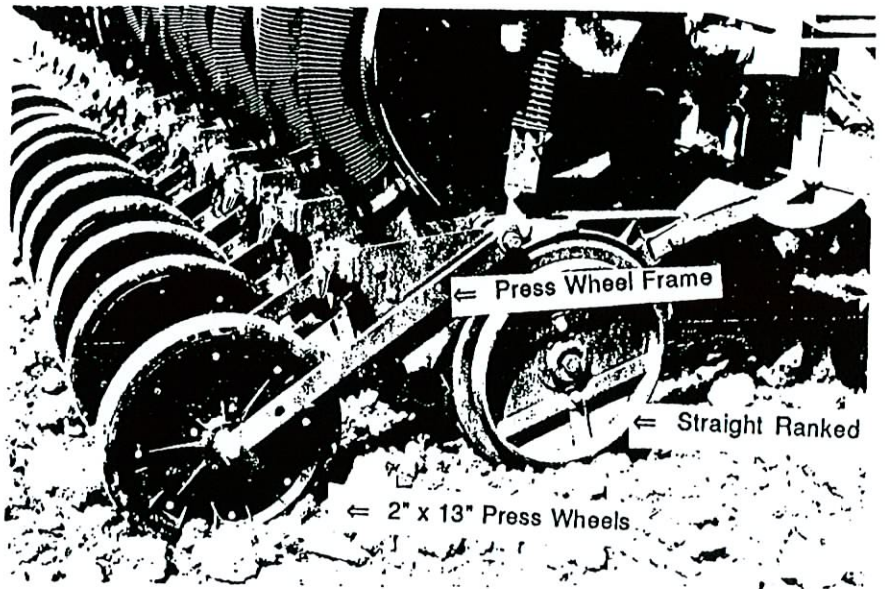


Figure 9



Figure 10

SEED RATE & PURE-LIVE SEED (PLS)

A. Seeding Rate Charts

Seeding rate charts are not available for the Bluestem Attachments. It would be impossible to provide a rate chart for each grass and grass mixture due to the varying purity and germination of grass seeds. To set the seeding rate, first determine the amount of seed being metered by following the calibration procedure described below. Changes in the seeding rates are made with sprocket changes: Double the speed, double the rate; half the speed, half the rate.

B. Changing Seeding Rates

The seeding rate of the Bluestem attachment is adjusted by changing the Drive Sprocket. (See Figure 1 & 2) Double the speed, double the output; half the speed, half the output. **CAUTION:** Changing the drive sprocket requires the adjusting handwheel to be removed which permits the seeder shaft to retract, and can allow the seeder wheels to come out of the seeder cylinder and become misaligned. This may be prevented by first installing a seeder shaft stop plate or placing a temporary stop on the end of the seeder shaft preventing movement when the hand wheel is removed as shown in Figure 5 & 6. **NOTE:** If the seeder wheels do become misaligned, realignment is needed prior to tightening the hand adjustment wheel or damage may occur to the wheels necessitating seeder shaft removal. (See Figure 7)

C. Legume (small hopper) Attachment

It may be necessary to drive the legume attachment with a sprocket other than the 20 tooth furnished with the attachment. If the legume attachment is driven with any sprocket other than a 20 tooth, the seeding rate chart will be proportionally incorrect. If the drill is operating at a 1:1 ratio, multiply the rate found in the seeding rate chart for the legume attachment by the following correction factors for the respective drive sprocket being utilized.

<u>Correction Factor</u>	<u>Drive Sprocket</u>
.75	15 Tooth
.00	20 Tooth
1.25	25 Tooth
1.50	30 Tooth
2.00	40 Tooth

D. Calculation of PLS (Pure Live Seed)

Most seeds purchased from seed dealers will be tagged with information containing (1) % germination, and (2) % purity. Germination is that percentage of the seed that is capable of germination. Purity refers to the percentage of actual seeds per pound of bulk mixture. Often seeds are so small and difficult to meter that a "filler" is added, or the seeds cannot be totally cleaned and contain varying amounts of trash, stems, and leaves.

Pure Live Seed (PLS) adjusts for germination and purity. Many planting rates specify PLS requirements; therefore the bulk planting rate must be calculated from the information on the seed bag. Desired pounds of PLS divided by (Germination multiplied by Purity) is equal to the pounds of bulk seed required to plant, i.e. seed bag states: (1) 50% Germination, and (2) 50% Purity. Desired PLS/Acre = 2 pounds.

$$\frac{2\# \text{ Per Acre (PLS)}}{(.50) \text{ Germination} \times (.50) \text{ Purity}} = 8\# \text{ Bulk Seed}$$

Of the total 8 pounds of bulk seed: 4 pounds is not seed at all, and only 2 pounds of the remaining 4 pounds of seed are capable of germination. Thus 8 pounds of the seed mixture must be planted per acre to achieve 2 pounds PLS per acre.

CALIBRATION & SETTING SEED RATE

The seeding rate must be determined with each seed or seed mixture to be planted

A. Initial calibration should be performed with the existing sprockets already mounted on the drill, regardless of what they may be. Remember that setting the seeding rate is all relative: Double the speed, double the output; half the speed, half the output.

Fill hopper at least one-third full of seed, and pull the drill a short distance or turn the gauge wheel drive to "normalize" or settle the seed placed into the seed hopper.

C. Remove five (5) or more seed delivery tubes from picker-wheel spouts and attach a plastic bag or other suitable container with a rubber band to the picker-wheel spout for seed collection. NOTE: Place seed tube clamp in the bag to hold it in the down position as shown in Figure 10. At least five collection bags are recommended to increase sample weight and reduce error.

43,560 sq. ft. = 1 acre

43,560 ÷ drill width = distance drill must go to plant 1 acre

43,560 ÷ drill width + 10 = distance drill must go to plant 1/10 acre

Drive wheel circumference + 12" = drive wheel circumference in feet

Distance to plant 1/10 acre ÷ Drive wheel circumference (ft) = Wheel revolutions to plant 1/10 acre

Drill Width (ft)	7	10	13.3	15	20	26.6	30	40
Distance(ft)=1/10 acre	660	436	328	290	218	164	145	109
Revolution = 1/10 acre	141	93*/56**	42	37	28	21	19	14

*Stubble Drill **Grass Drill

Pull the drill, or turn the drive wheel the designated amount to represent 1/10 acre.

E. 16 ounces = 1 pound
454 grams = 1 pound

The sample weight will be small and will necessitate weighing with an ounce or gram scale and then converting to pounds. The more seeders used to collect the sample, the larger the sample weight, and the more accurate the calibration.

Remove collection bags; remove clamp from each bag (if used), and weigh the amount of seed collected. NOTE: Weight of bags should be subtracted if included in collection weight. Divide the total weight collected by the number of seeders used to collect the sample to achieve the average weight from one seeder; multiply this average by the total number of seeders on the drill to arrive at the total weight the drill would have metered in 1/10 acre. Then multiply by 10 to convert the amount from 1/10 acre to 1 acre.

F. Example. A 20' drill was pulled 218 feet (drive wheel turned 28 revolutions) and 2.0 ounces of seed was caught from 5 seeders: 2.0 ounces ÷ 5 = 0.4 ounces per seeder X 24 seeders (20' drill with 10" row spacing has 24 seeders) = 9.6 ounces per 1/10 acre. 9.6 ounces X 10 = 96 ounces per acre ÷ 16 ounces/lb = 6 pounds/acre.

If the rate (pounds per acre) is greater than desired, replace the existing drive sprocket with one which has fewer teeth. (See Figure 1) If pounds per acre is less than desired, replace drive sprocket with one which has more teeth. Double the size of sprocket (i.e. 15 tooth to a 30 tooth) and double the rate. Half the size of sprocket (i.e. 40 tooth to a 20 tooth) and half the rate. Repeat calibration procedure until desired rate is achieved. Removal of picker-wheel guides (the square plate surrounding the picker-wheel inside of the hopper) will increase planting rate. (See Figure 4) NOTE: The unit should be recalibrated each time a different variety of mixture of seed is used.

H. If rate desired cannot be achieved with the five (5) drive sprockets provided (15-20, 25-30, and 40 tooth-See Figure 1), it may be necessary to change the drive ratio of the drill unit. Changing drill unit from a 1:1 to a 1:2 ratio will approximately half the rate; a 2:1 ratio will approximately double the rate. Changing the drive ratio will also change the seeding rate of the small grains hopper and legume attachment accordingly. Refer to Operator's Manual of drill unit for changing drive ratios.

The above calibration procedure is for estimating initial setting of seeding rate; verify actual output.

COMMENTS

1. Increasing the speed of the picker-wheel without increasing the speed of the agitator may result in lower and more erratic metering. Exceeding a "critical speed" for the picker-wheels will actually decrease the amount of seed metered out. This speed differs for different seed mixtures.
2. Some seeds will require the use of the guide plates installed with the attachment. These plates are attached around the picker-wheel and reduce the opening through which the seeds are metered. (See Figure 4)
3. High humidity will decrease seeding rate.
4. Rough terrain will increase rate.

Always refill seed hopper when seed level reaches 1/3 to 1/4 empty.

The Tye Company

ACCESSORIES:

Accessory Hoppers

The Pasture Pleaser is furnished with a large seed hopper and a "grass seeder" or legume box as standard equipment. In addition, there are three other alternative hoppers available for the unit.

Grass or Legume Box

An additional grass seed hopper or legume box is available for mounting on the front or rear of the Pasture Pleaser. This hopper is identical to the hopper furnished as standard equipment and allows the machine to plant up to three dissimilar seeds, each at a different rate. The unit is driven from a common chain connecting the three hoppers. (For rate chart, see Page B-10). This hopper will not mount on end wheel models.

Dry Fertilizer Hopper

A dry fertilizer attachment with a capacity of 72#/ft. of dry pelleted fertilizer (65#/ft.³) is available. This unit dispenses fertilizer into the double disc assembly above the seed or on top of the ground in front of the press wheel. Adjustment of the output from the hopper is achieved by a lever setting. Refer to Operator's Manual (Form 1116) furnished with your fertilizer attachment for output ranges and adjustments or see Pages C-4.

Always empty the hopper of dry fertilizer each evening after day of use. At the end of the season, wash the fertilizer hopper thoroughly and coat all exposed metal parts with a thin layer of oil or grease to retard corrosion.

Only clean dry pelleted fertilizer without lumps or clods should be used in the fertilizer hopper.

Bluestem Grass Hopper

The Bluestem Grass Hopper is equipped with a "picker wheel" type seeder and special agitator. This hopper is designed for light, fluffy seeds such as bluestem, sideoats grama, trashy brome or mixtures which may include some trash and stems. The "picker wheel" actually "pulls" the seed through the hopper opening into a large seed tube for delivery behind the double disc and in front of the press wheel to insure minimum dirt cover. The unit mounts to the rear of the machine and is driven with a roller chain connected to a drive sprocket on the large hopper drive sprocket hub. Changes in seeding rates are accomplished by changing the drive sprocket on the large hopper drive sprocket hub. Picker wheel guides (furnished) should be installed for planting small less trashy seeds through this hopper. Refer to the seed rate chart in the Operator's Manual (Form 500), furnished with your Bluestem hopper for planting ranges and adjustments or see Page C-4.

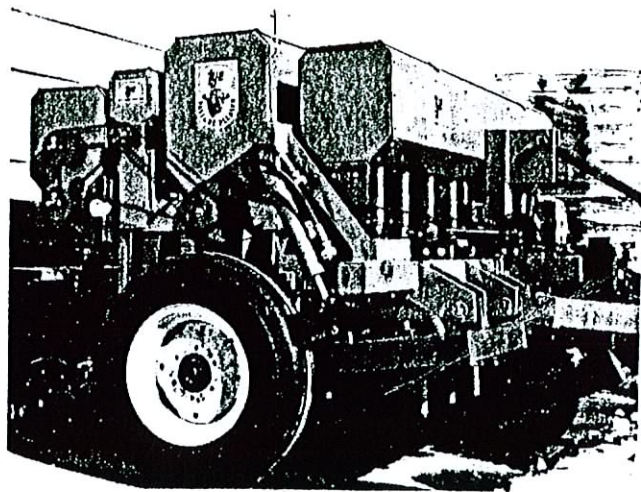


Figure C-1

The Tye End Wheel Pasture Pleaser with optional front mounted Fertilizer Hopper to place dry fertilizer in front of each coulter and optional rear mounted Bluestem Hopper to place seed behind the double disc, in front of the press wheel.