

7000 Series Air Seeder

Specifications

7000 SERIES AIR CART

Specifications and Options

Model	7130	7180	
	Tow Behind	Tow Behind	Tow Between
Configuration			
Length without auger	17' 5"	17' 5"	20' 3"
Height	9' 7"	10' 9"	10' 9"
- Hydraulic Drive			
- Engine Drive	10' 4"	13' 8"	N/A
Width	10' 10"	11' 4"	11' 4"
Weight (Hydraulic Drive with Auger)	5,315 lbs.	5,720 lbs.	5,420 lbs.
Safety Chain	Standard	Standard	Standard
Tank Capacity			
- Front Tank	48 bushels/3,456 lbs.	71 bushels/5,112 lbs.	71 bushels/5,112 lbs.
- Rear Tank	82 bushels/5,904 lbs.	109 bushels/7,848 lbs.	109 bushels/7,848 lbs.
- Total	130 bushels/167 ft. cu.	180 bushels/231 ft. cu.	180 bushels/231 ft. cu.
Tank Access Screens	Optional	Optional	Optional
Tank Access Ladder R.H.S.	Standard	Standard	Standard
Fan Speed	Up to 5,000 r.p.m.	Up to 5,000 r.p.m.	Up to 5,000 r.p.m.
Fan Impeller Diameter	13"	13"	13"
Gas Engine Drive/Gas Tank Capacity	Optional 20 HP Kohler/17 Imp. Gal.	Optional 24 HP Onan/17 Imp. Gal.	N/A
Hydraulic Drive (Closed Centre or Closed Centre Load Sensing systems required)	Optional (Maximum 13 U.S. gal./min.) (Minimum 2100 p.s.i.)	Optional (Maximum 13 U.S. gal./min.) (Minimum 2100 p.s.i.)	Standard (Maximum 13 U.S. gal./min.) (Minimum 2100 p.s.i.)
Loading Auger	Standard (7" Diameter x 17' Long)	Standard (7" Diameter x 18.5' Long)	Standard (7" Diameter x 18.5' Long)
Brush Fighting Kit (Used with peas)	Optional	Optional	Optional
Tires			
- Flootation	(3) 16.5 x 16.1 - 6 ply rating	(3) 21.5 x 16.1 - 6 ply rating	(2) 21.5 x 16.1 - 6 ply rating
- Optional	(3) 21.5 x 16.1 - 6 ply rating	(3) 21.5 x 16.1 Rice - 8 ply rating	(2) 21.5 x 16.1 Rice - 8 ply rating
- Three Point Hitch	N/A	N/A	(2) 18.4 x 26 - 10 ply rating
Metering System - Ground Driven	Standard	Standard	Standard
Meter Shut Off	Electric	Electric	Electric
Number Secondary Runs - Single Shot	21 to 80	21 to 80	21 to 80
Number Secondary Runs - Double Shot	42 to 160	42 to 160	42 to 160
Primary Hose - Diameter	2 1/2"	2 1/2"	2 1/2"
Secondary Hose - Diameter	15/16"	15/16"	15/16"
Frame	Formed heavy wall 4" x 6" tubing	Formed heavy wall 4" x 6" tubing	Formed heavy wall 4" x 6" tubing
Walk Through Tank	Standard	Standard	Standard
Easy Clean Out System	Standard	Standard	Standard
Meter Drive Options:			
-Second Clutch (For spot fertilizing on the go)	Optional	Optional	Optional
-Kit (Fertilizer Bander) (For easy one transmission rate setting)	Optional	Optional	Optional
Monitor - (Shaft Motion (3), Bin Level (3), Fan Speed, Acre Tally, Ground Speed)	Standard Optional Seed Flow	Standard Optional Seed Flow	Standard Optional Seed Flow
Three Point Hitch (Categories II, III, III-N)	N/A	N/A	Optional
Trailing Hitch	Optional	Optional	N/A
Mechanical Acre Meter	Optional	Optional	Optional
Hitch Stand	Optional	Optional	N/A
Scraper (Front Wheel Only)	Optional	Optional	N/A
Third Tank	Optional	Optional	Optional
- Capacity	30 cu. ft.	30 cu. ft.	30 cu. ft.
Granular Applicator	Optional	Optional	Optional
- Capacity	30 cu. ft.	30 cu. ft.	30 cu. ft.
- Meter shut-off	Electric	Electric	Electric
- Zapper clutch	Standard	Standard	Standard
- Working width	26 ft. to 64 ft.	26 ft. to 64 ft.	26 ft. to 64 ft.
- Metering system	Ground Driven	Ground Driven	Ground Driven

Specifications

7000 Series Air Cart Specifications and Options

Model	7240	
	Tow Behind	Tow Between
Configuration		
Length without auger (with auger)	20' 4" (25' 8")	19' 2" (26' 10")
Height	11' 4"	11' 4"
- Hydraulic Drive		
- Engine Drive	12' 11"	N/A
Width	12'	12'
Weight (Hydraulic Drive with Auger)	7,315 lbs.	6,825 lbs.
Safety Chain	Standard	Standard
Tank Capacity		
- Front Tank	95 bushels/6,840 lbs.	95 bushels/6,840 lbs.
- Rear Tank	145 bushels/10,440 lbs.	145 bushels/10,440 lbs.
- Total	240 bushels/308 ft. cu.	240 bushels/308 ft. cu.
Tank Screens	Optional	Optional
Tank Access Ladder R.H.S.	Standard	Standard
Fan Speed	Up to 5,000 r.p.m.	Up to 5,000 r.p.m.
Fan Impeller Diameter	13"	13"
Gas Engine Drive/Gas Tank Capacity	Optional (24 HP Onan)/17 Imp. Gal.	N/A
Hydraulic Drive (Closed Centre or Closed Centre Load Sensing systems required)	Optional (Maximum 13 U.S. gal./min.) (Minimum 2100 p.s.i.)	Optional (Maximum 13 U.S. gal./min.) (Minimum 2100 p.s.i.)
Loading Auger (8" Optional)	Standard (7" Diameter x 20' Long)	Standard (7" Diameter x 20' Long)
Brush Flighting Kit (Used with peas)	Optional	Optional
Tires		
- Floatation (Front)	(2) 21.5 x 16.1 - 6 ply rating	N/A
- Floatation (Rear)	(2) 23.1 x 26 - 8 ply rating	(2) 23.1 x 26 - 8 ply rating
- Optional (Rear)	(2) 23.1 x 26 Rice - 10 ply rating	(2) 23.1 x 26 Rice - 10 ply rating
- Three Point Hitch (Rear)	N/A	(2) 23.1 x 26 - 12 ply rating
Metering System - Ground Driven	Standard	Standard
Meter Shut Off	Electric	Electric
Number Secondary Runs - Single Shoot	21 to 80	21 to 80
Number Secondary Runs - Double Shoot	42 to 160	42 to 160
Primary Hose - Diameter	2 1/2"	2 1/2"
Secondary Hose - Diameter	15/16"	15/16"
Frame	Formed heavy wall 4" x 8" tubing	Formed heavy wall 4" x 8" tubing
Walk Through Tank	Standard	Standard
Easy Clean Out System	Standard	Standard
Meter Drive Options:		
-Second Clutch (For spot fertilizing on the go)	Optional	Optional
-Fertilizer Bander Kit (For easy one transmission rate setting)	Optional	Optional
Monitor - (Shaft Motion (3), Bin Level (3), Fan Speed, Acre Tally, Ground Speed)	Standard Optional Seed Flow	Standard Optional Seed Flow
Three Point Hitch	N/A	N/A
Trailing Hitch	Optional	N/A
Mechanical Acre Meter	Optional	Optional
Hitch Stand	Optional	N/A
Scraper (Front Wheel Only)	N/A	N/A
Third Tank	Optional	Optional
- Capacity	40 cu. ft.	40 cu. ft.
Granular Applicator		
- Capacity	Optional	Optional
- Meter shut-off	40 cu. ft.	40 cu. ft.
- Zapper clutch	Electric	Electric
- Working width	Standard	Standard
- Metering system	26 ft. to 64 ft. Ground Driven	26 ft. to 64 ft. Ground Driven

Specifications

7000 Series Air Cart Specifications and Options

Model	7252	
Configuration	Tow Behind	Tow Between
Length without auger (with auger)	20' 4" (25' 8")	19' 2" (26' 10")
Height	11' 2"	11' 2"
- Hydraulic Drive		
- Engine Drive	12' 9"	N/A
Width	12'	12'
Weight (Hydraulic Drive with Auger)	8,295 lbs.	7,805 lbs.
Safety Chain	Standard	Standard
Tank Capacity		
- Front Tank	71.3 bushels/5,134 lbs.	71.3 bushels/5,134 lbs.
- Middle Tank	71.3 bushels/5,134 lbs.	71.3 bushels/5,134 lbs.
- Rear Tank	109.3 bushels/7,881 lbs.	109.3 bushels/7,881 lbs.
- Total	252 bushels/323.4 ft. cu.	252 bushels/323.4 ft. cu.
Tank Screens	Optional	Optional
Tank Access Ladder R.H.S.	Standard	Standard
Fan Speed	Up to 5,000 r.p.m.	Up to 5,000 r.p.m.
Fan Impeller Diameter	13"	13"
Gas Engine Drive/Gas Tank Capacity	Optional (24 HP Onan)/17 Imp. Gal.	N/A
Hydraulic Drive (Closed Centre or Closed Centre Load Sensing systems required)	Optional (Maximum 13 U.S. gal./min.) (Minimum 2100 p.s.i.)	Optional (Maximum 13 U.S. gal./min.) (Minimum 2100 p.s.i.)
Loading Auger	Standard (7" Diameter x 18.5' Long)	Standard (7" Diameter x 18.5' Long)
Brush Flighting Kit (Used with peas)	Optional	Optional
Tires		
- Floatation (Front)	(2) 21.5 x 16.1 - 6 ply rating	N/A
- Floatation (Rear)	(2) 23.1 x 26 - 8 ply rating	(2) 23.1 x 26 - 8 ply rating
- Optional (Rear)	(2) 23.1 x 26 Rice - 10 ply rating	(2) 23.1 x 26 Rice - 10 ply rating
- Three Point Hitch (Rear)	N/A	(2) 23.1 x 26 - 12 ply rating
Metering System - Ground Driven	Standard	Standard
Meter Shut Off	Electric	Electric
Number Secondary Runs - Single Shoot	21 to 80	21 to 80
Number Secondary Runs - Double Shoot	42 to 160	42 to 160
Primary Hose - Diameter	2 1/2"	2 1/2"
Secondary Hose - Diameter	15/16"	15/16"
Frame	Formed heavy wall 4" x 8" tubing	Formed heavy wall 4" x 8" tubing
Walk Through Tank	Standard	Standard
Easy Clean Out System	Standard	Standard
Meter Drive Options:		
-Second Clutch (For spot fertilizing on the go)	Optional	Optional
-Fertilizer Bander Kit (For easy one transmission rate setting)	N/A	N/A
Monitor - (Shaft Motion (3), Bin Level (3), Fan Speed, Acre Tally, Ground Speed)	Standard Optional Seed Flow	Standard Optional Seed Flow
Three Point Hitch	N/A	Optional
Trailing Hitch	Optional	N/A
Mechanical Acre Meter	Optional	Optional
Hitch Stand	Optional	N/A
Scraper (Front Wheel Only)	N/A	N/A
Third Tank	N/A	N/A
Granular Applicator	N/A	N/A

Specifications

7000 Series Air Cart Specifications and Options

Model	7300	
	Tow Behind	Tow Between
Configuration		
Length without auger (with auger)	20' 4" (25' 8")	19' 2" (26' 10")
Height - Hydraulic Drive	12'	12'
- Engine Drive	13' 7"	N/A
Width	12'	12'
Weight (Hydraulic Drive with Auger)	7,770 lbs.	7,325 lbs.
Safety Chain	Standard	Standard
Tank Capacity - Front Tank	120 bushels/8,640 lbs.	120 bushels/8,640 lbs.
- Rear Tank	180 bushels/12,960 lbs.	180 bushels/12,960 lbs.
- Total	300 bushels/385 ft. cu.	300 bushels/385 ft. cu.
Tank Screens	Optional	Optional
Tank Access Ladder R.H.S.	Standard	Standard
Fan Speed	Up to 5,000 r.p.m.	Up to 5,000 r.p.m.
Fan Impeller Diameter	12"	13"
Gas Engine Drive/Gas Tank Capacity	Optional (24 HP Gas)/17 Imp. Gal.	N/A
Hydraulic Drive (Closed Centre or Closed Centre Load Sensing systems required)	Optional (Maximum 13 U.S. gal./min.) (Minimum 2100 p.s.i.)	Optional (Maximum 13 U.S. gal./min.) (Minimum 2100 p.s.i.)
Loading Auger (8" Optional)	Standard (7" Diameter x 20' Long)	Standard (7" Diameter x 20' Long)
Brush Flighting Kit (Used with peas)	Optional	Optional
Tires - Floatation (Front)	(2) 21.5 x 16.1 - 10 ply rating	N/A
- Floatation (Rear)	(2) 23.1 x 26 - 12 ply rating	(2) 23.1 x 26 - 12 ply rating
- Optional (Rear)	(2) 23.1 x 26 Rice - 10 ply rating	(2) 23.1 x 26 Rice - 10 ply rating
- Three Point Hitch (Rear)	N/A	N/A
Metering System - Ground Driven	Standard	Standard
Meter Shut Off	Electric	Electric
Number Secondary Runs - Single Shot	21 to 80	21 to 80
Number Secondary Runs - Double Shot	42 to 160	42 to 160
Primary Hose - Diameter	2 1/2"	2 1/2"
Secondary Hose - Diameter	15/16"	15/16"
Frame	Formed heavy wall 4" x 8" tubing	Formed heavy wall 4" x 8" tubing
Walk Through Tank	Standard	Standard
Easy Clean Out System	Standard	Standard
Meter Drive Options:		
-Second Clutch (For spot fertilizing on the go)	Optional	Optional
-Fertilizer Bander Kit (For easy one transmission rate setting)	Optional	Optional
Monitor - (Shaft Motion (3), Bin Level (3), Fan Speed, Acres Tally, Ground Speed)	Standard Optional Seed Flow	Standard Optional Seed Flow
Three Point Hitch	N/A	N/A
Trailing Hitch	Optional	N/A
Mechanical Acre Meter	Optional	Optional
Hitch Stand	Optional	N/A
Scraper (Front Wheel Only)	N/A	N/A
Third Tank - Capacity	Optional 40 cu. ft.	N/A
Granular Applicator - Capacity - Meter shut-off - Zapper clutch - Working width - Metering system	Optional 40 cu. ft. Electric Standard 26 ft. to 64 ft. Ground Driven	N/A

Transport

Observe all applicable safety precautions under transport heading in Safety, Section 1.

- Refer to Specifications, Section 2 for weight, transport height and width.
- Transport with tractor only!
- Use Tow Hitch when transporting without seeding tool. (Tow Behind Units)
- Always connect safety chain provided to the towing vehicle and the hitch of the seed cart.
- Do not transport with the fan running.
- Disconnect main drive chain when towing air cart a long distance.
- Ensure all transport pins are secured.

Speed:

- Always travel at a safe speed. Do Not Exceed 20 M.P.H.
- The combined weight of the implements being towed, including material in tank, **must not exceed 1.5 times** the weight of towing vehicle.
- **REDUCE SPEED** with material in tank. Do Not Exceed a speed of 10 M.P.H.
- Use additional caution when towing loads under adverse surface conditions, when turning, and on inclines.

Lights:

- Ensure proper reflectors are in place, refer to Safety Section 1.
- Be familiar with and adhere to local laws.

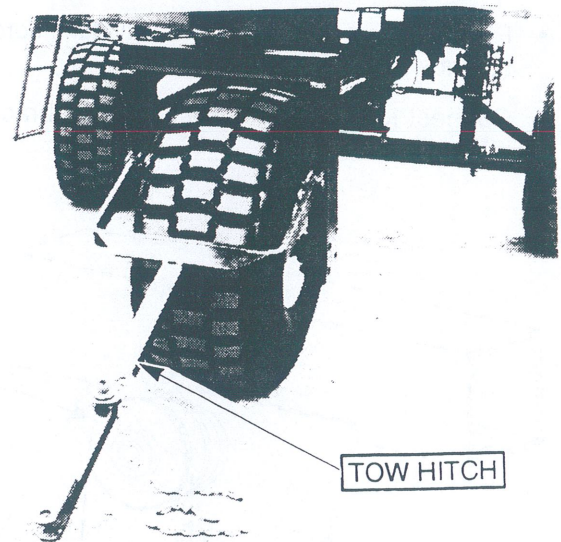
Use Tow Hitch (Tow Behind Units):

- Attach tow hitch to front axle with two 1" x 2 1/4" pins.
- Retain the pins with klik-pins.
- Use tow hitch when towing without seeding tool.
- **Do not** use transport hitch with material in tank.
- **Do not install transport lock pin in front castor fork when using tow hitch.**

MORRIS INDUSTRIES LTD. WILL NOT BE RESPONSIBLE FOR ANY DAMAGES OR OPERATOR INJURY RESULTING FROM NON-USE OR IMPROPER USE OF TRANSPORT LOCKS.

IMPORTANT

When the machines are being towed by a semi tractor or trucks of any description, the units **HAVE** to be towed separately from seeding tool with tow hitch provided.



Tow Hitch

IMPORTANT

DO NOT EXCEED 20 M.P.H. The front castor tire will contact the mud scraper if towing speeds exceed 20 M.P.H. causing severe damage to the tire and mud scraper.

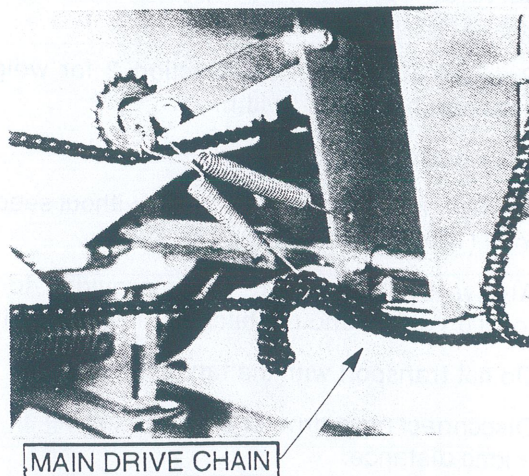
Operation

Transport - continued

Disconnect Main Drive Chain:

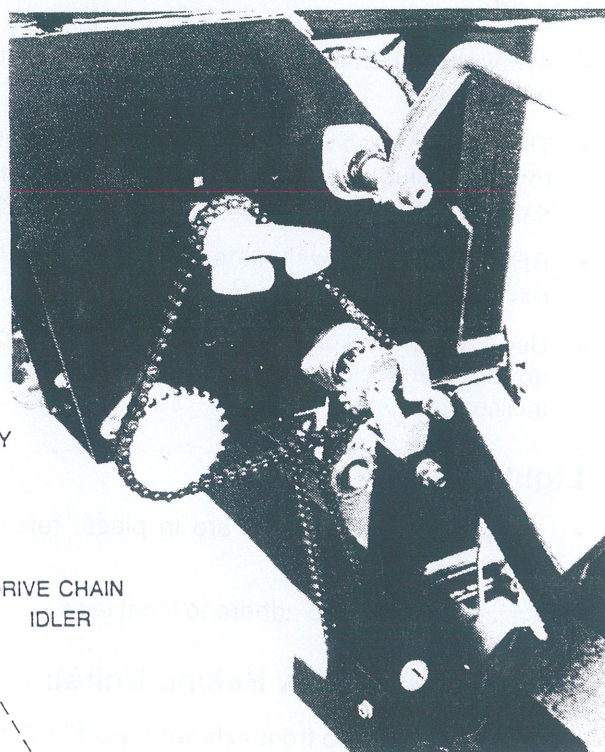
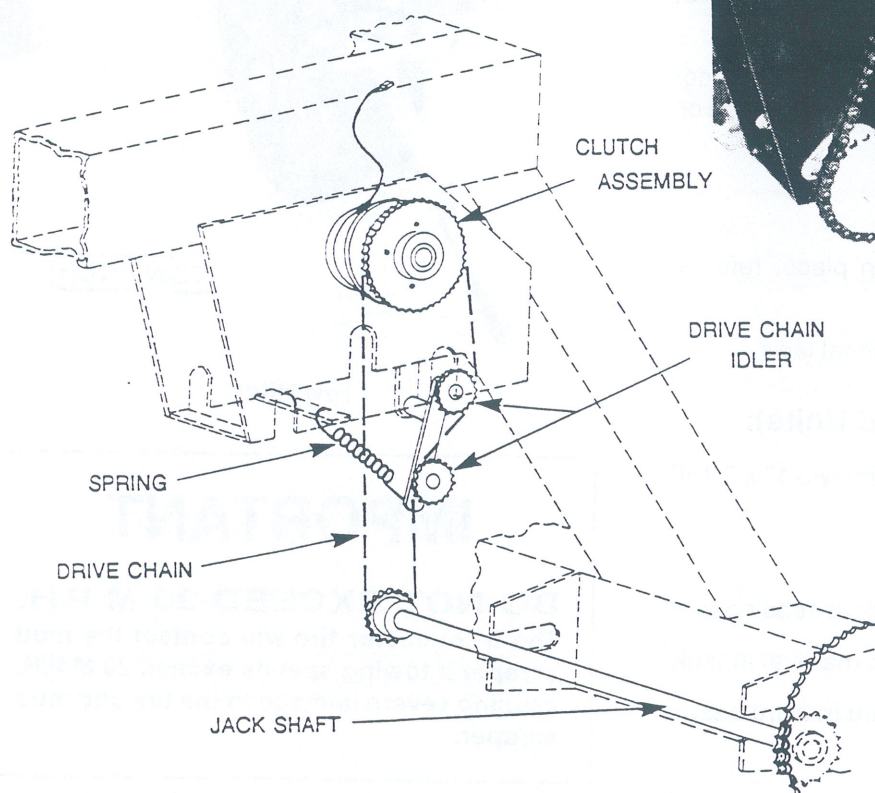
When travelling any distance the drive chain should be removed to prevent premature wear on the drive.

- Remove spring from the bottom idler.
- Remove chain from the jackshaft.
- Insert end of spring through the chain and hook other end of spring to the top idler as shown.



Installation of Main Drive Chain

- Unhook idler spring.
- Position chain on the jackshaft and idler sprockets as shown.
- Connect idler spring to transmission brace with idlers as shown.



Metering System

The 7000 Series Air Cart uses a combination of metering wheels and spacers shown below. The metering wheel is individually sized to correspond to the number of outlets at the connected secondary head and the spacers make up the space between the wheel and the body. Some openings may be blanked off depending on the number of secondary divider heads used on the seeding tool.

The 7000 Series Air Cart can meter all types of seeds and fertilizers by simply adjusting the slider plates. See "Slider Settings" for more details.

Different rates are easily obtained using the selection of quick change sprockets that attach to either of the two meter transmissions.

Note: Before putting product into the tanks check the following:

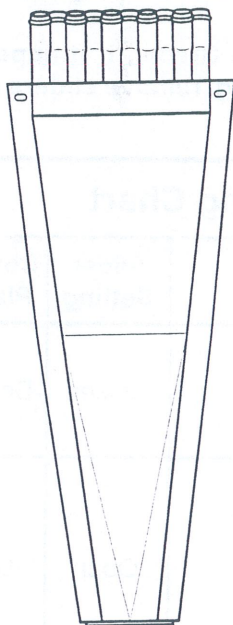
- (a) The slider plates are set correctly for product being applied.
- (b) The Clean-out doors are fully closed and sealed.
- (c) The plastic bag covering the fan is removed.

IMPORTANT

Ensure distribution system is balanced. It is very important that head outlets only vary by one . (i.e. use only 7 and 8 together, 8 and 9 together, 9 and 10 together)

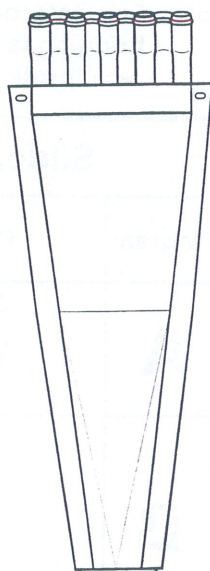
Note: The number of outlets on the divider head must match the metering wheel size.

10 Outlet Head



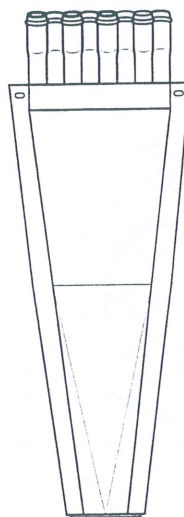
10 Outlet
Metering Wheel
with no spacer.

9 Outlet Head



9 Outlet
Metering Wheel
with a single
spacer.

8 Outlet Head



8 Outlet
Metering Wheel
with two single
spacers.

7 Outlet Head



7 Outlet
Metering Wheel
with a single
and one double
spacer.

Operation

Slider Setting

The slider plates come in 4 different sizes. Each slider plate matches a specific metering wheel.

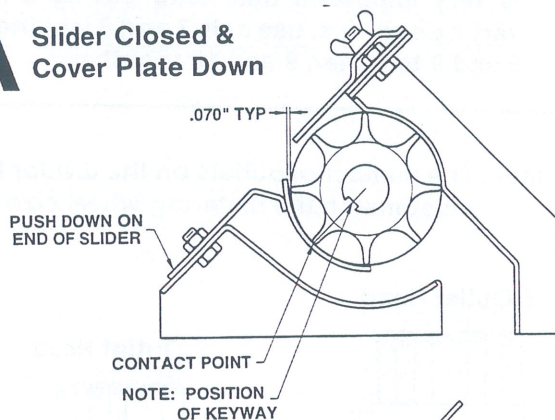
Note: The slider plates must match the metering wheel size.

The slider plates have three positions to allow all types of seeds and fertilizers to be metered.

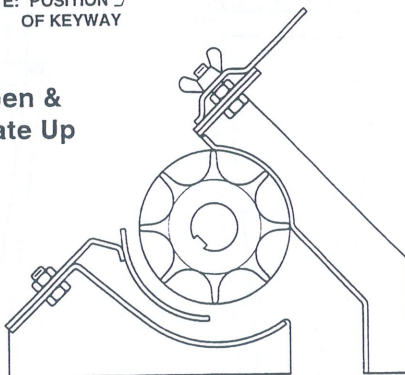
The slider plate positions are **closed**, **open**, and **removed** as indicated below.

- Position slider as indicated below and tighten nut to hold slider tightly in place.
- Position cover plate as indicated below and tighten wing nuts to hold cover plate in place.

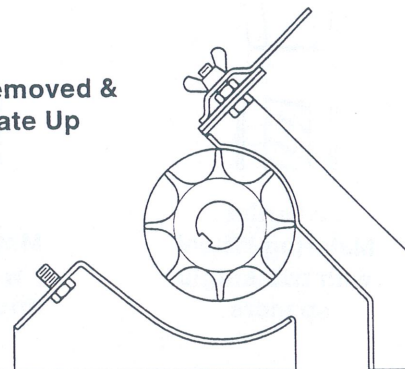
A Slider Closed & Cover Plate Down



B Slider Open & Cover Plate Up



C Slider Removed & Cover Plate Up



IMPORTANT

When adjusting the sliders to the closed position follow the procedures below:

- 1) Locate the key-way in the metering wheel. Rotate shaft until high spot is located, this is the key-way location. Mark shaft for future reference.
- 2) Rotate metering shaft until key-way is in location shown below.
- 3) Keep the slider mounting plate flat on the metering body surface. See diagram A.

If the slider is tipped up when set to the closed position interference with the metering wheel will occur.

Note: In the closed position there is a gap of .070\"

Note: For Oats or Coarse Grains, if it appears bridging is occurring, remove sliders and recalibrate.

Slider Setting Chart

Diagram	Product	Slider Setting	Cover Plate
A	Canola Mustard Flax	Closed	Down
B	Oats Barley Wheat Lentils Fine Fertilizer	Open	Up
C	Peas Beans 11-51-0 Fertilizers containing Sulphur and/or Potash 10-46-0-0	Removed	Up

Filling Tank

The Morris 7000 Series Air Cart is equipped with 2 tanks. The front tank is for seed and the rear tank is for fertilizer. However, BOTH tanks can be used for the same product.

The capacity of the Air Cart Tanks are as follows:

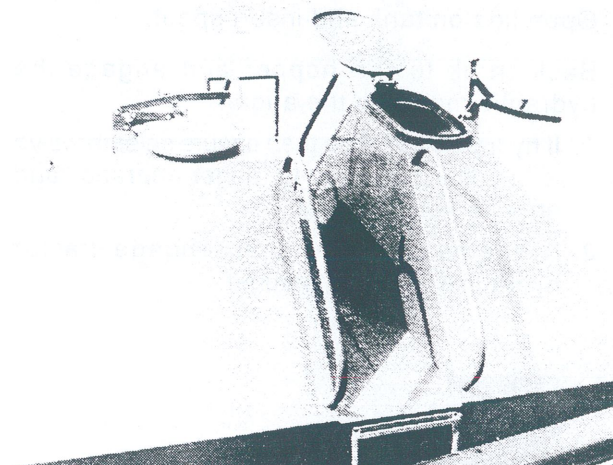
Tank Capacity				
Model	Front Tank	Middle Tank	Rear Tank	Total Capacity
7130	48 bushels 3,456 lbs. 62 ft. cu. 1,750 L	N/A	82 bushels 5,904 lbs. 105 ft. cu. 2,980 L	130 bushels 167 ft. cu. 4,730 L
7180	71 bushels 5,112 lbs. 91 ft. cu. 2,580 L	N/A	109 bushels 7,848 lbs. 140 ft. cu. 3,970 L	180 bushels 231 ft. cu. 6,550 L
7240	95 bushels 6,840 lbs. 122 ft. cu. 3,460 L	N/A	145 bushels 10,440 lbs. 186 ft. cu. 5,270 L	240 bushels 308 ft. cu. 8,730 L
7252	71.3 bushels 5,134 lbs. 91.4 ft. cu. 2,590 L	71.3 bushels 5,134 lbs. 91.4 ft. cu. 2,590 L	109.3 bushels 7,881 lbs. 140.6 ft. cu. 3,990 L	252 bushels 323.4 ft. cu. 9,170 L
7300	120 bushels 8,640 lbs. 154 ft. cu. 4,360 L	N/A	180 bushels 12,960 lbs. 231 ft. cu. 6,550 L	300 bushels 385 ft. cu. 10,910 L

- Open lid fully on tank being filled.
- Check and remove any debris inside tank.
- Remove clean-out door.
- Check for debris inside metering body.
- Check the slider plates are set correctly.
- Fully close and seal the Clean-out door.
- Ensure the auger screen is in place.
- Always use screen to filter debris when filling.

Note: Even small fertilizer lumps can cause problems with plugging. All possible precautions should be taken to prevent lumpy fertilizer from entering the tank.

Note: Before putting product into the tanks check the following:

- The slider plates are set correctly for product being applied.
- The Clean-out doors are fully closed and sealed.
- The plastic bag covering the fan is removed.



Tank Lids



WARNING

Do not enter tank unless another person is present.

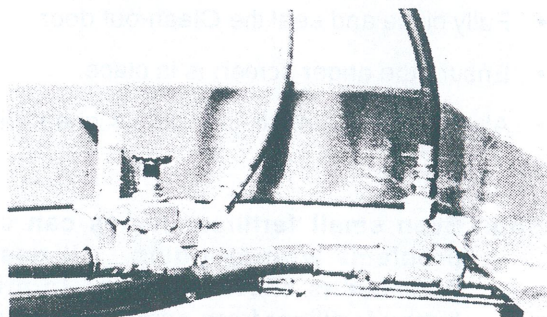
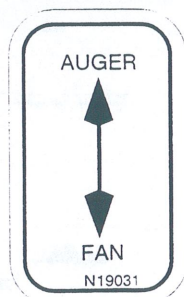
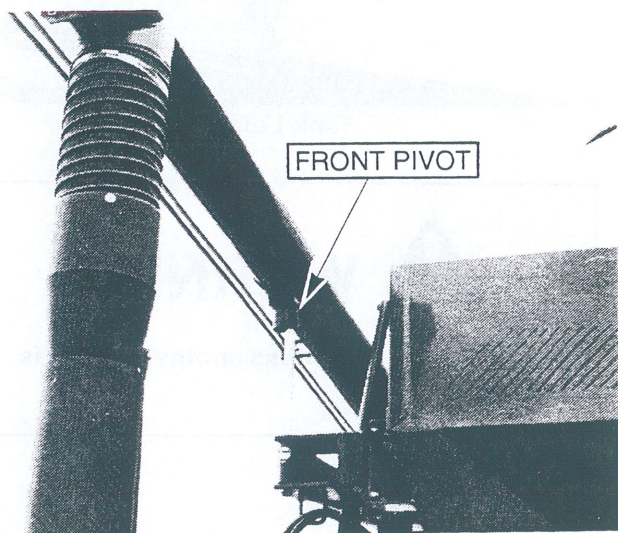
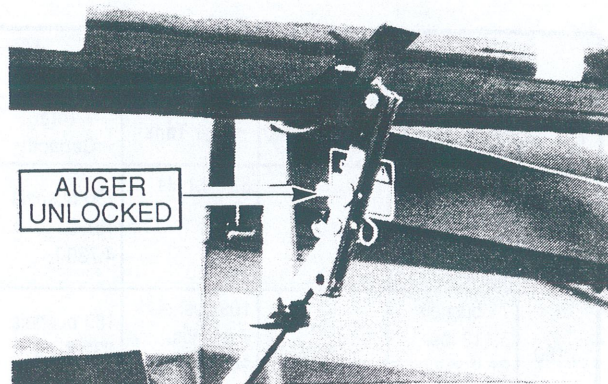


Inspect Metering Body

Operation

Filling Tank - Continued

- Position auger as described below, if so equipped.
- Unlatch the auger from its transport position.
- Swing out the auger making sure the motor end of the auger is still engaged at the arm pivot.
- Once the auger pivot is central to the Air Cart, tilt auger and swing into position with spout centrally located over the walkway.
- Position right hand access ladder in line with the tank walkway.
- Open lids on tank and insert spout.
- Back truck to the hopper and engage the hydraulic motor on the auger.
 1. If hydraulic fan drive then ensure selector valve is in correct position for auger operation and engage tractor hydraulics.
 2. If engine fan drive then engage tractor hydraulics to operate auger.



Filling Tank - Continued

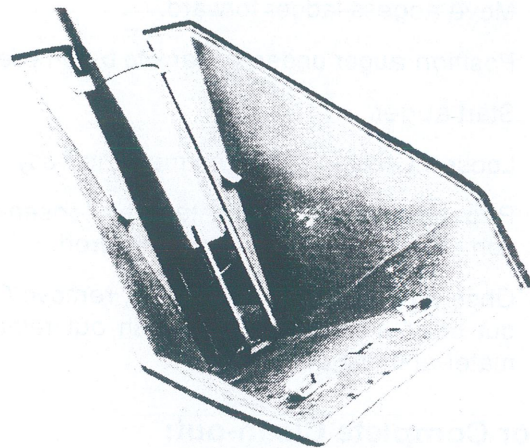
- Auger product into tank until product is visible in site glass.
- Stop the flow of product into the auger and allow auger to empty. The tank should be close to full.
- Clean lid seal and ensure lid seal is positioned correctly.
- Reverse the auger to clean out the hopper, screen maybe removed for easier cleanout.
- Reinstall auger screen.
- Secure auger in transport position.
- Remove the plastic bag covering fan.
- Check lid for air leaks with your hands once Air Cart fan is operational. See Section 7
- Check metering body for air leaks.

**DANGER**

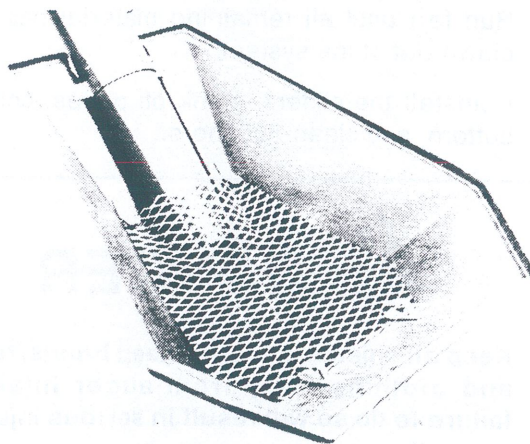


ROTATING FLIGHTING HAZARD
Keep away from auger intake.
Keep intake shield in place and in good working order. Do not modify.
**FAILURE TO HEED WILL RESULT IN
SERIOUS INJURY OR DEATH.**

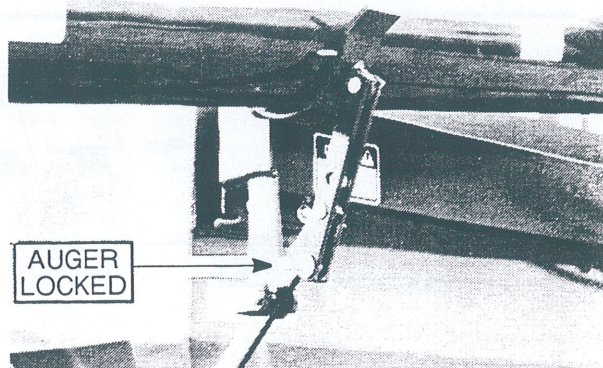
Note: Before seeding it is recommended that after a rain or dew that fan be run for a few minutes to eliminate moisture in the system.



Auger screen removed



Auger screen installed



Operation

Unloading Tanks

Emptying tanks is quick and easy to do.

- Move access ladder forward.
- Position auger under the tank to be emptied.
- Start auger.
- Loosen Clean-out door on metering body.
- Regulate flow from the tank by loosening or tightening Clean-out door as required.
- Once all material stops flowing, remove Clean-out door completely and brush out remaining material in the corners.

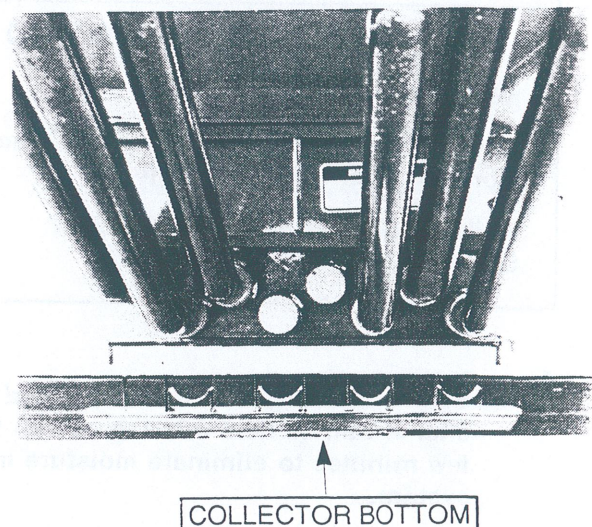
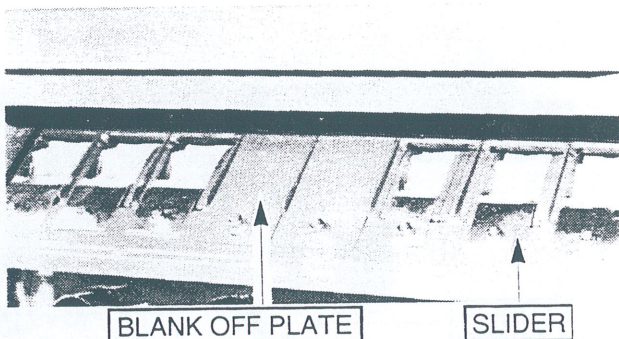
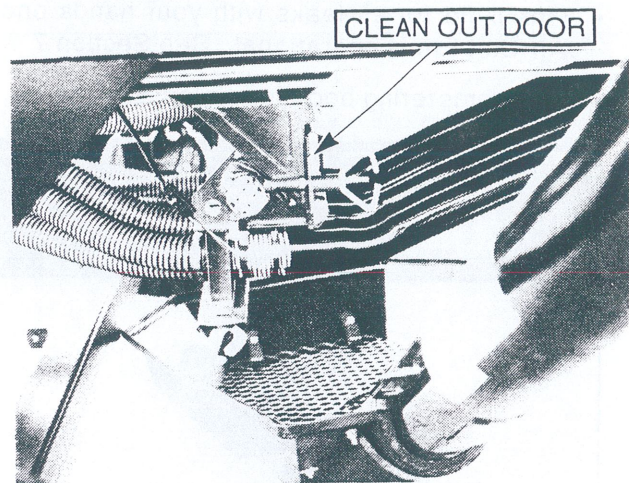
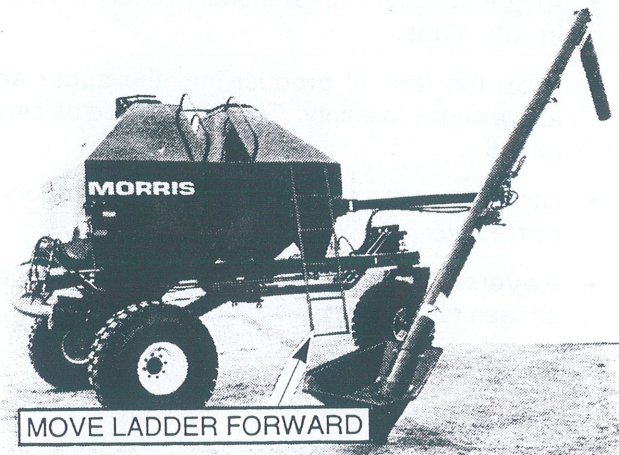
For Complete Clean-out:

- Remove all sliders and blank off plates.
- Remove the collector bottom.
- Run fan until all remaining material has been blown out of the system.
- Reinstall the sliders, blank off plates, collector bottom, and clean-out doors.



DANGER

Keep all shields in place. Keep hands, feet and clothing away from auger intake, failure to do so will result in serious injury or death.



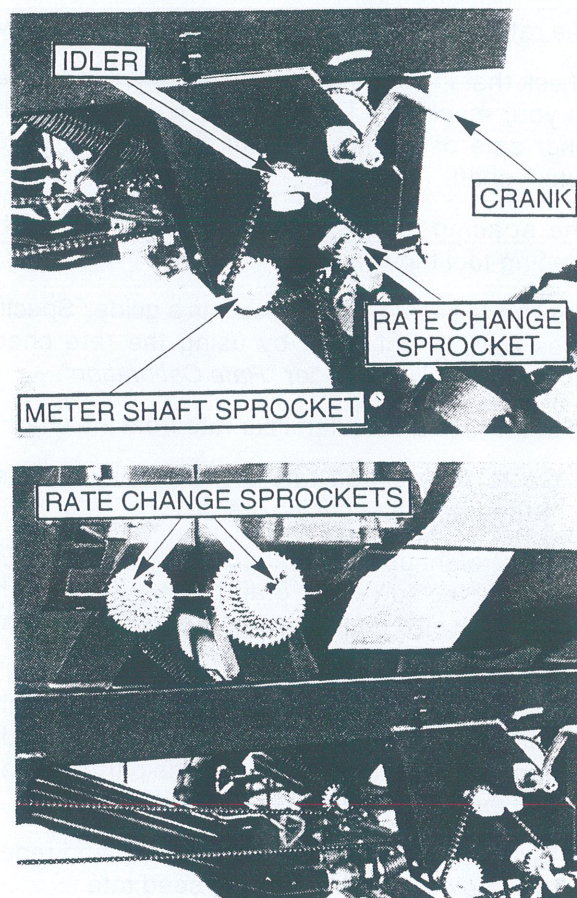
Metering Rate Adjustment

The metering rate adjustment for both tanks is done in the same manner. The rate varies with the speed of the metering wheels. A new rate is achieved by changing a sprocket on the Posi-Drive Transmission.

Refer to the rate charts for desired application rate and sprocket selection.

- Loosen metering chain on posi-drive transmission, by loosening the idler.
- Spin off wing nut and remove rate change sprocket.
- Install desired rate change sprocket and tighten wing nut.
- Tighten chain by adjusting idler.

Note: Do not over tighten chain, just take slack out of chain.



Acre Tally

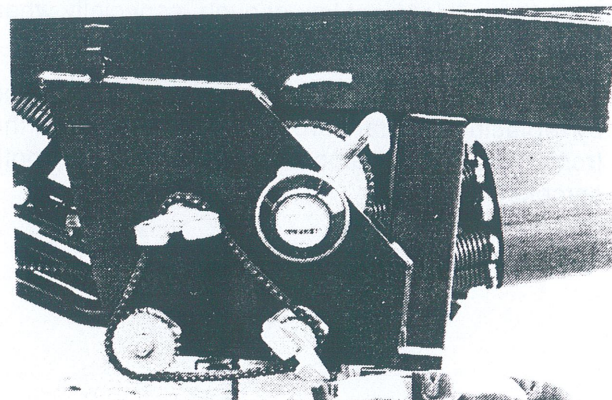
To convert the acre tally reading (T) into the actual acres seeded turn to page 22 to get the acre tally factor (F) for the Air Cart/Seeding Tool width being used. Take the acre tally reading (T) and multiply it by the acre tally factor (F) to get the actual acres seeded.

$$T \times F = \text{Actual Acres Seeded}$$

Example: A 7180 with a 41 foot seeding tool has an acre tally reading (T) of 100. The acre tally factor (F) on Page 22 is 4.94

$$T \times F = \text{Actual Acres Seeded}$$

$$100 \times 4.94 = 494 \text{ Acres}$$



Acre Tally

Operation

Rate Charts

The rate chart applies to all spacings listed below.

Check that the correct spacing sprocket is installed on your machine. This sprocket is located on the inner side of the rear transmission on the clutch output shaft.

The spacing sprocket must be matched to the seeding tool trip spacing.

The charts should only be used as a guide. Specific rates can be achieved by using the rate check method as outlined under "Rate Calibration".

To determine a seed/fertilizer rate from the chart:

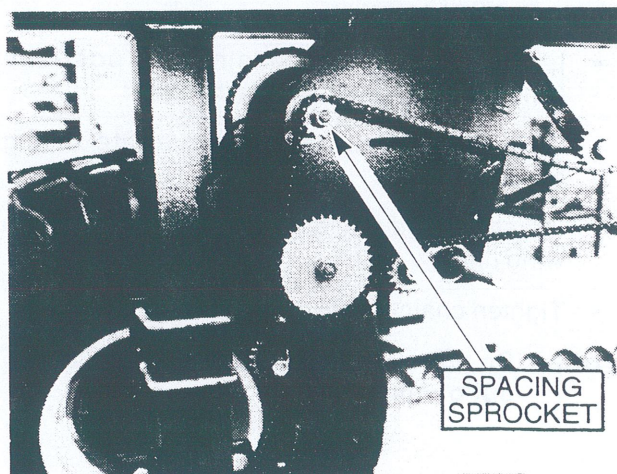
- Go to the desired rate along the line marked "Standard" of a specific graph.
- Go straight up from that point to where that line is intersected by the graph. This will give the sprocket size required to give the particular rate chosen.
- At this intersection go straight across to the vertical line of the graph. This will give the sprocket size required to give the particular rate chosen.
- Change the Quick Change Sprocket and repeat the rate check to confirm the seed rate.
- Repeat the above procedure for the other tank.
- For very low or very high rates, see below.

Extra Low Rates

Although the charts show a minimum rate of 35 lbs. per acre for fertilizer and 20 lbs. per acre for seed, sometimes this is not low enough, especially when product is being metered from both tanks.

Rates under the values mentioned can be achieved by replacing the standard 25 tooth sprocket on the front of the transmission with either a 35 or 40 tooth sprocket.

Note: Incorrect spacing sprocket will cause inaccurate application rates.



Spacing Sprocket

Spacing Sprocket	
Trip Spacing	Spacing Sprocket
7.2"	12 teeth
7.5"	12 teeth
8"	13 teeth
9"	15 teeth
10"	17 teeth
12"	20 teeth

Note: The rate charts should only be used as a guide. Variation in seed size, density, shape, tire pressure and wheel sinkage are all factors that can influence the seed rate.

Rate Charts - Continued

Extra Low Rates - continued

The rates obtained when using the 35 and 40 tooth sprocket are shown on the rate charts beside the respective size sprocket.

When both tanks are being used to meter the same product **without** the Banding Kit, then the 25 tooth sprocket on each transmission must be changed. Now both transmissions will have the same size **metershaft** sprocket.

If the **Banding Kit is installed**, then only the 25 tooth sprocket on the **front or rear** transmission needs to be changed.

The same metering chain can be used with these larger sprockets up to a certain size of quick change sprocket.

To determine a rate from the chart:

- Go to the desired rate along the line next to the size of metershaft sprocket used.
- Go straight up from that point to where that line is intersected by the graph line of the particular product being metered.
- At this intersection go straight across to the vertical line of the graph. This will give the sprocket size required to give the particular rate chosen.
- Change the quick change sprocket and repeat the rate check to confirm the seed rate.
- Repeat the above procedure for the other tank.

Rate	Metershaft Sprocket Size	Maximum Size of Quick Change Sprocket	Minimum Size of Quick Change Sprocket
Standard	25 Tooth	45 Tooth	12 Tooth
Low Rate (1)	35 Tooth	33 Tooth	12 Tooth
Low Rate (2)	40 Tooth	26 Tooth	12 Tooth
High Rate	15 Tooth	45 Tooth	18 Tooth

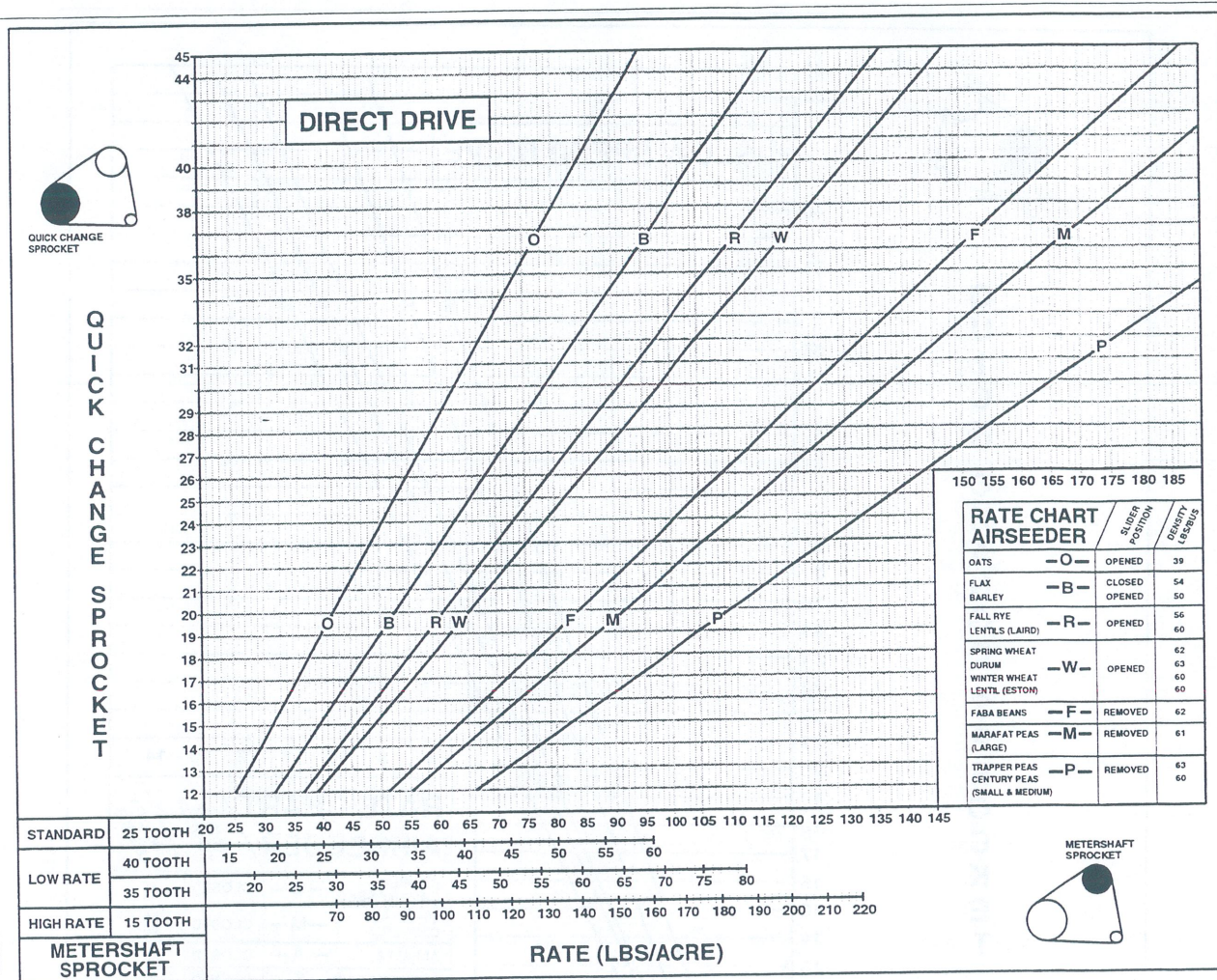
Extra High Rates

In areas where higher rates of product are required the metershaft sprocket is changed from the standard 25 tooth to a 15 tooth.

Use the method described under EXTRA LOW RATES to determine the required metering rate.

Rate Charts - Continued

Seed Rate Chart: (Front Transmission)



NOTE: 1) RATE CHART APPLIES TO 7-1/2", 8", 9", 10" & 12" SPACINGS.

- 1) RATE CHART APPLIES TO 7/12, 7/8, 9/16, 1/2 SPACING
- 2) CLUTCH OUTPUT SPROCKETS FOR:
- | | |
|---------------|------------|
| 7-12" SPACING | = 12 TOOTH |
| 8" SPACING | = 13 TOOTH |
| 9" SPACING | = 15 TOOTH |
| 10" SPACING | = 17 TOOTH |
| 12" SPACING | = 20 TOOTH |
- 3) THIS RATE CHART SHOULD ONLY BE TAKEN AS A GUIDE FOR FINDING THE APPROXIMATE SPROCKET. RATE WILL VARY WITH DIFFERENT MATERIAL DENSITIES AND SEED SIZES.
- SEE PROCEDURE DESCRIBED IN THE OPERATORS MANUAL TO OBTAIN A PRECISE RATE.

4) THIS RATE CHART IS NOT INDICATIVE OF THE MAXIMUM AMOUNT OF PRODUCT THAT CAN BE APPLIED. CAPACITY WILL VARY WITH GROUND SPEED AND CULTIVATOR WIDTH.

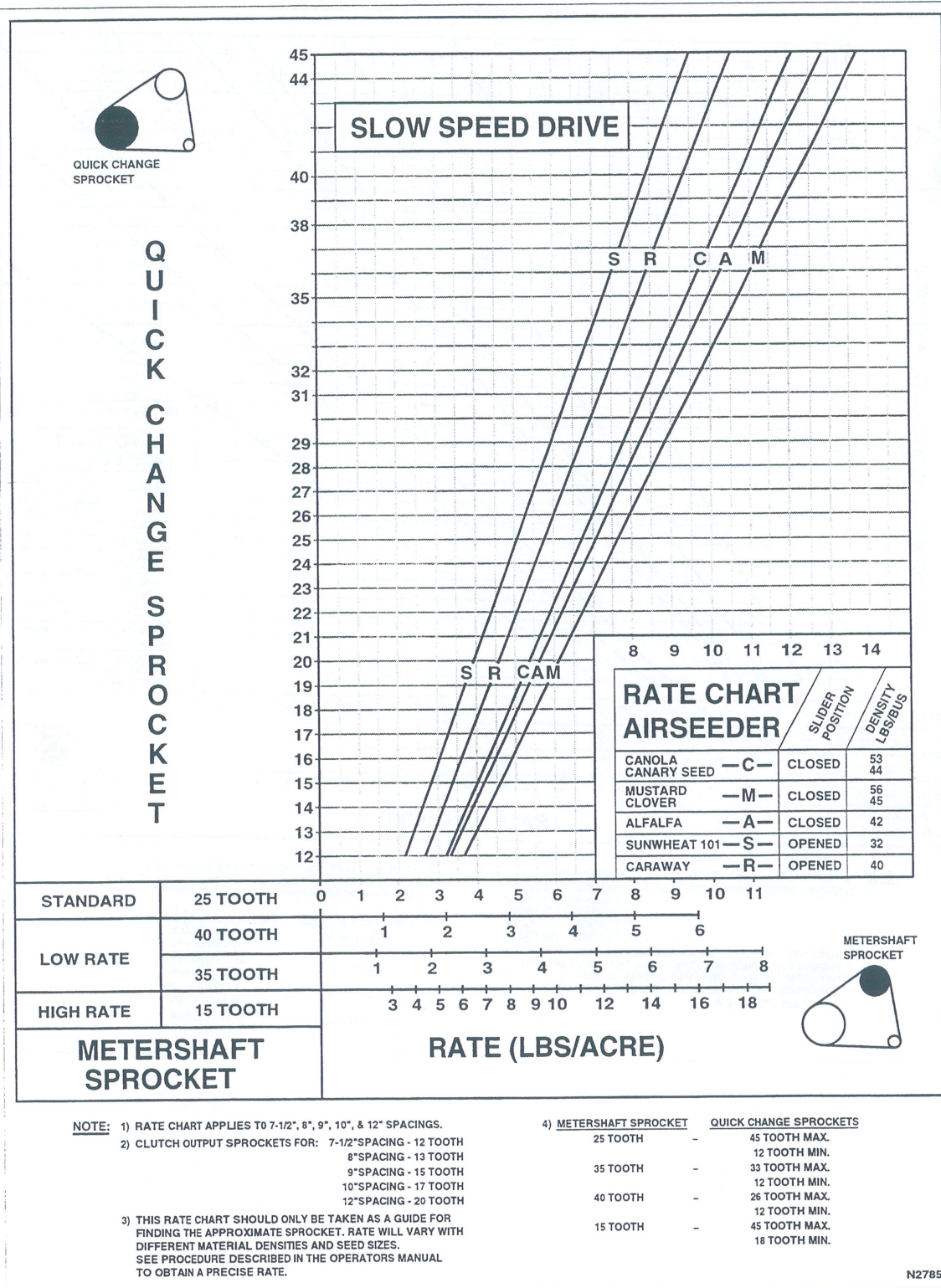
- | 5) METERSHAFT SPROCKET | | QUICK CHANGE SPROCKETS |
|------------------------|---|--------------------------------|
| 25 TOOTH | - | 45 TOOTH MAX.
12 TOOTH MIN. |
| 35 TOOTH | - | 33 TOOTH MAX.
12 TOOTH MIN. |
| 40 TOOTH | - | 26 TOOTH MAX.
12 TOOTH MIN. |
| 15 TOOTH | - | 45 TOOTH MAX.
18 TOOTH MIN. |

N27852

Operation

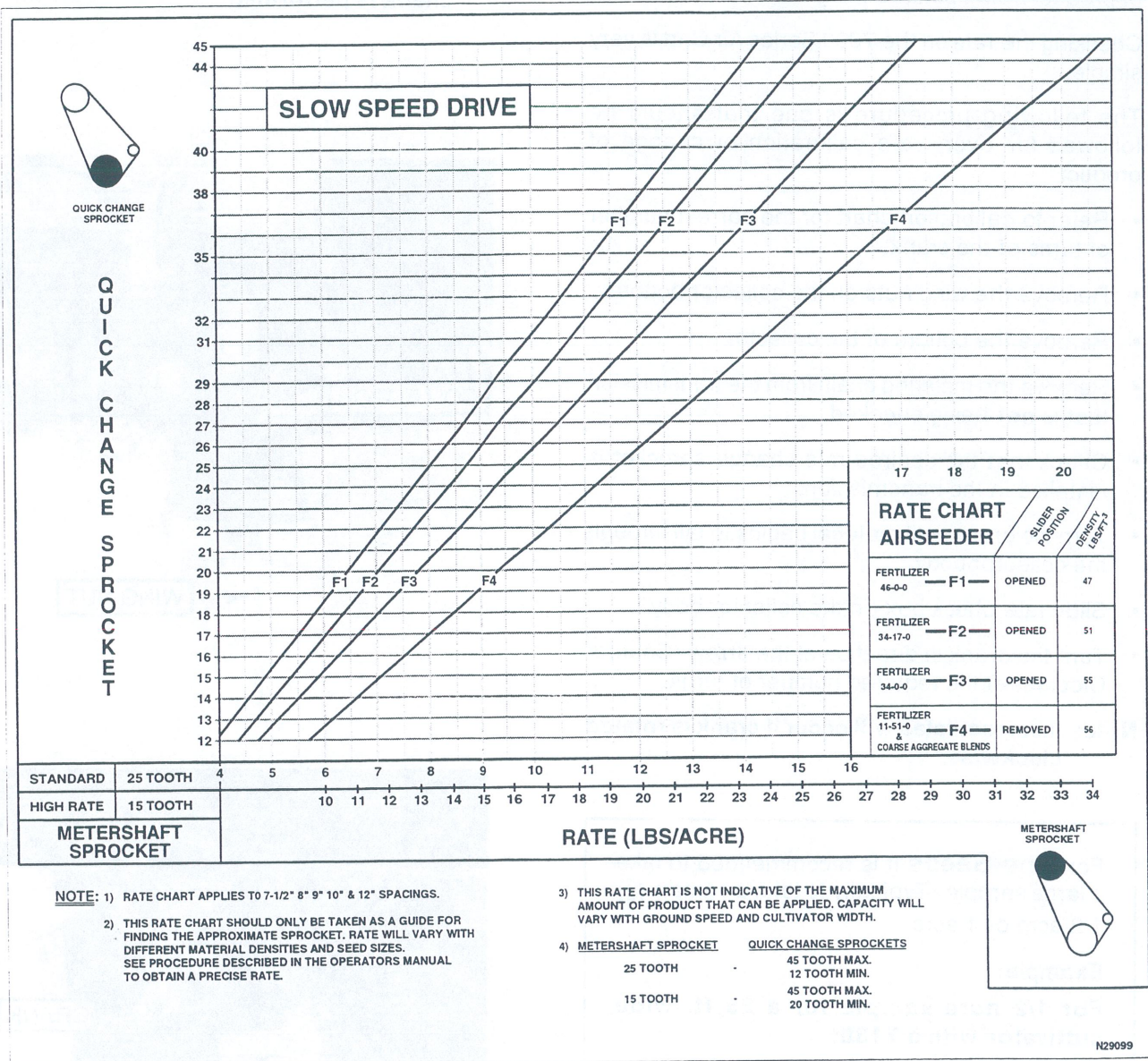
Rate Charts - Continued

Seed Rate Chart: (Front Transmission)



Rate Charts - Continued

Fertilizer Rate Chart: (Located on Front Tank of 7252 Only)



Operation

Rate Calibration

The practice of doing a rate calibration is strongly recommended as it will confirm the **actual** amounts of product being put into the ground.

Checking the rate on the 7000 Series Air Cart is very simple.

The following procedure is one that should be followed for every rate calibration or change of product.

- Refer to calibration chart for the correct number of turns of the crank.
- Remove the wing nuts on the collector bottom.
- Remove the bottom of the collector.
- Remove the metering chain from the transmission that is **not** being checked.
- Check that the desired rate change sprocket is installed in the transmission.
- Turn the crank until material begins to fall through the collector body.
- Slide rate check box on the collector body.
- Turn the crank in direction of the arrow (Counter Clockwise) the required number of turns.

Note: Incorrect rates will occur if crank is rotated clockwise.

For **Fine Seeds** it is recommended to take a large sample. Typically to take a sample for 1/2 acre or 1 acre.

Example:

For 1/2 acre sample for a 25 ft. wide cultivator with a 7130:

The number of crank turns required for a 1/2 acre is the number of turns required for 1/10 acre for a specific machine width x 5.

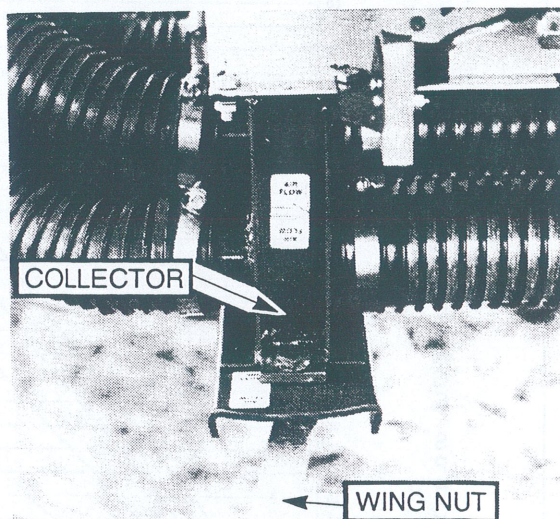
From the Calibration Chart.

Turns required for 1/10 acre = 21.08

Turns required for 1/2 acre = 21.08 x 5 = 105.4

Rate = lbs/acre
= 1/2 acre sample weight (lbs.) x 2

Note: The fan must not be running when a rate check is performed.



Rate Calibration - continued

- Weigh the sample by using tarp straps to hook rate check box to spring scale.

Note: Remember to subtract the weight of the rate check box from the total sample weight.

- Check this rate against rate required.

For 1/10 acre sample:

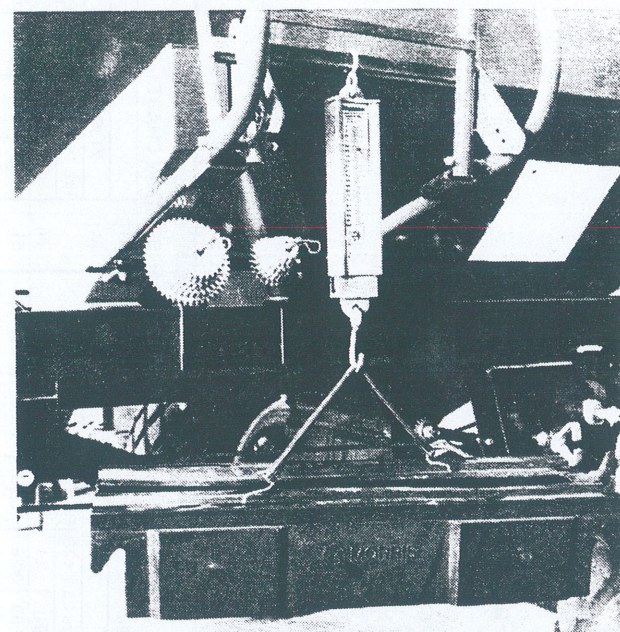
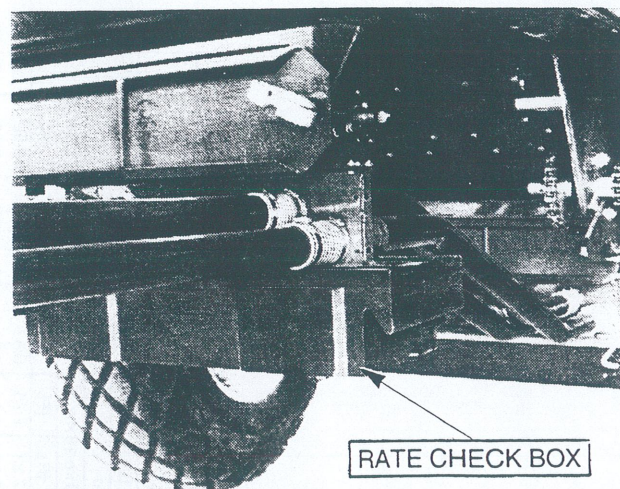
$$\text{Rate} = \text{lbs/acre} = \text{Sample Weight (lbs)} \times 10$$

- If a different rate is required then increase or decrease the size of the rate change sprocket. Increasing the sprocket size will increase the rate and vice versa.

- Replace the bottom of the collector.

Note: Arrow directions on the collector bottom must point in the same direction as the ones on the collector body.

- Follow the above procedure to check the rate of the other tank.

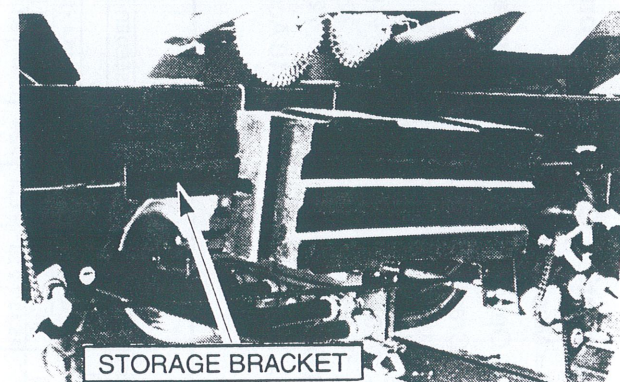


Alternative Rate Calibration

An alternate rate calibration method takes into account wheel sinkage and variations in tire circumference.

See "Application Rate" in the Monitor Section. Instead of turning the calibration crank, the metering drive clutch is engaged and the seeder is pulled through a distance that equals at least 1/10 of an acre.

Note: Fan should not be running for either rate check method.



Seeding Fine Seeds (Canola, Mustard, etc.)

When seeding fine seeds such as canola or mustard, the slow speed transmission has to be engaged to ensure the low rates required for these products.

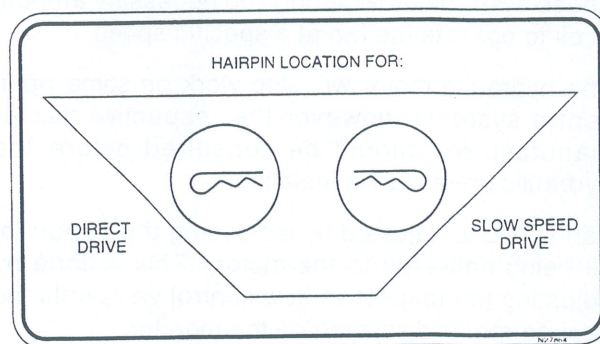
The slow speed transmission is incorporated in the **FRONT** Posi-Drive Transmission.

- To engage the slow speed, remove the large hairpin from the front shaft and install through the sleeve and shaft located at the rear of the transmission.

Note: Shaft will have to be rotated to align holes for pin insertion.

- To disengage the slow speed, reverse the above procedure.
- Rate checks can be performed the same way as for other seeds.
- Usually it is necessary to reduce the fan rpm when seeding fine seeds. See page 25 for specific fan speeds.

Note: Seed must be placed in the front tank.



Seeding Legumes (Peas, Beans, etc.)

When inoculant is applied at the time of seeding, then once the Air Cart has been filled, the fill-lids should be left open and the fan run for 5-10 minutes at full rpm to dry the seed.

Calibration must be done after the seed is dried, otherwise the calibration will be incorrect.

Note: If the seed is not dried then the seed will have a tendency to bridge and not meter into the air stream.

Operation

Fan Speed Setting

Hydraulic Fan Drive

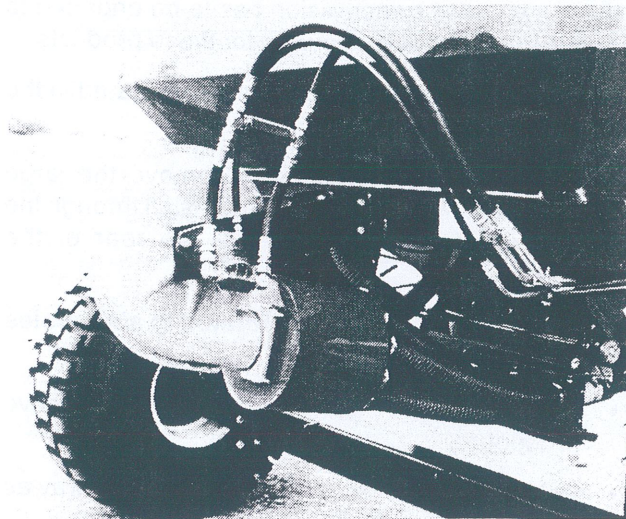
The hydraulic motor used on the 7000 Series Air Cart requires a load sensing or closed centre hydraulic system with flow control.

These systems provide only the necessary amount of oil to operate the fan at a specific speed.

The hydraulic motor will also work on some open centre systems, however the respective tractor manufacturer should be consulted before the hydraulic driven fan is installed.

Fan speed is adjusted by increasing the amount of oil being delivered to the motor. This is done by adjusting the respective flow control valve until the desired rpm is displayed on the monitor.

Note: There is a one-way check valve installed in the hydraulic circuit. If the fan does not rotate, then move hydraulic lever in the opposite direction; this will engage the fan. This valve prevents damage to the hydraulic systems when the fan is shut OFF, by allowing the fan to freewheel.



Hydraulic Drive

IMPORTANT

Run hydraulic fan drive at lowest rpm possible (1,000-2,000) for 5-10 minutes before operating at set rpm. This is required to warm up the hydraulic fluid. Cold hydraulic fluid will cause pressure spikes in the system that will damage the case drain seal in the orbit motor.

Engine Driven Fan

The engine drives the fan through a set of belts and pulleys.

To increase or decrease the fan speed is a simple matter of increasing or decreasing the engine speed until desired fan speed is indicated on the monitor. So as not to overload the engine, the minimum fan speed is 3000 rpm.

Note: Maximum engine operation rpm. Do not adjust governor to increase engine speed above this set point.

Fan Speeds

Adequate air volume is necessary at all times to carry the product in the air stream. Air volume can be controlled by adjusting hydraulic oil flow on hydraulic fan drives or adjusting engine speed on engine fan drive models.

Air volume hence fan speed requirements will vary with:

- (a) Ground speed
- (b) Metering rate
- (c) Number of primary runs
- (d) Width of machine
- (e) Density and size of material

Excessive fan speed can cause seed damage, seed bouncing and premature wear of the system.

Generally fan speed is adequate if product flows through the hoses without surging and the hoses empty quickly and evenly when the system shuts down.

The table lists *suggested minimum fan speeds* for certain products. **The table should be used only as a guide.** If plugging or surging occurs increase the fan speed to eliminate the problem.

Note: It is recommended that after a rain or dew the fan be run two to three minutes to expel any moisture in the system.

IMPORTANT

Keep fan impeller blades clean at all times.

Note: Once fan speed is properly set, be sure to adjust the monitor fan alarm setting accordingly. See Monitor Section "Monitor Programing".

Suggested <i>Minimum</i> Fan RPM				
Product	Application Rate		Fan Speed Setting	
	Seed	Fertilizer	Single Shoot	Double Shoot
Fine Seeds	All Rates	All Rates	3000 RPM	3000 RPM
Lentils	All Rates	All Rates	3800 RPM	3800 RPM
Coarse Grains	90 lbs/acre	50 lbs/acre	4300 RPM	3800 RPM
	90 lbs/acre	100 lbs/acre	4500 RPM	3800 RPM
	90 lbs/acre	>150 lbs/acre	4800 RPM	4000 RPM
Large Seeds	180 lbs/acre	40 lbs/acre	4400 RPM	4000 RPM
Fertilizer Light	*****	<100 lbs/acre	4000 RPM	*****
Fertilizer Heavy	*****	>100 lbs/acre	4500 RPM	*****
Note: Fan Speeds given are when applying product. It is normal for fan speed to drop when not applying product.				

Operation

Double Shoot Settings

Double Shooting is done with a few simple adjustments as follows:

1. Plenum Setting
2. Diverter Setting
3. Quick Coupler Position (Tow Behind Only)

Plenum Damper Settings

Adequate air volume is necessary at all times to carry the product in the air stream. Air volume can be controlled by adjusting the plenum damper settings.

The table below lists initial plenum damper settings for certain products.

Note: The settings in table should be used only as a guide.

- If **fertilizer** plugging or surging occurs **decrease** the seed damper setting to eliminate the problem.
- If **seed** plugging or surging occurs **increase** the seed damper setting to eliminate the problem.

Diverter Settings

Located between the metering bodies in each primary line are two diverter valves. The diverters must be correctly set in order for product to flow correctly as outlined on page 27 and 28.

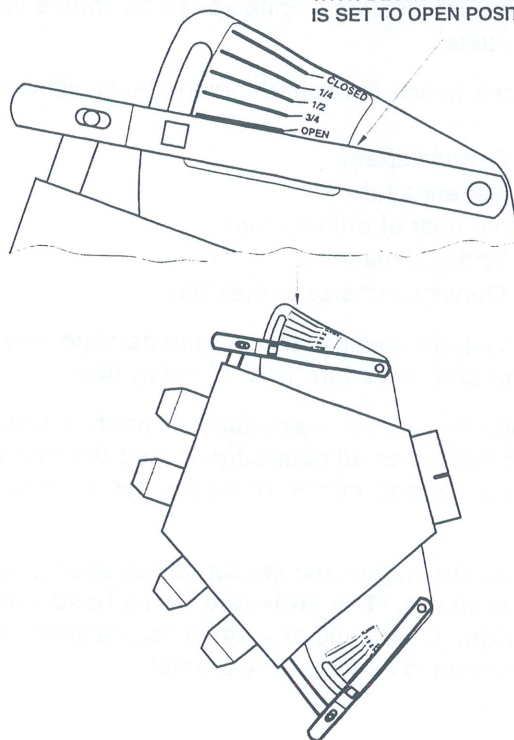
1. Double Shoot - Handles in Double Shoot Position.
2. Single Shoot - Handles in Single Shoot Position.

Quick Coupler (Tow Behind Only)

The Quick Coupler located on the rear of the seeding tool has two positions. In order to maintain correct product flow the coupler must be set in correct position as outlined on page 27 and 28.

1. Double Shoot - Top Position
2. Single Shoot - Lower Position

SET PLENUM DAMPER SO THAT TOP EDGE OF STRAP ALIGNS WITH DECAL LINE. THIS DAMPER IS SET TO OPEN POSITION.



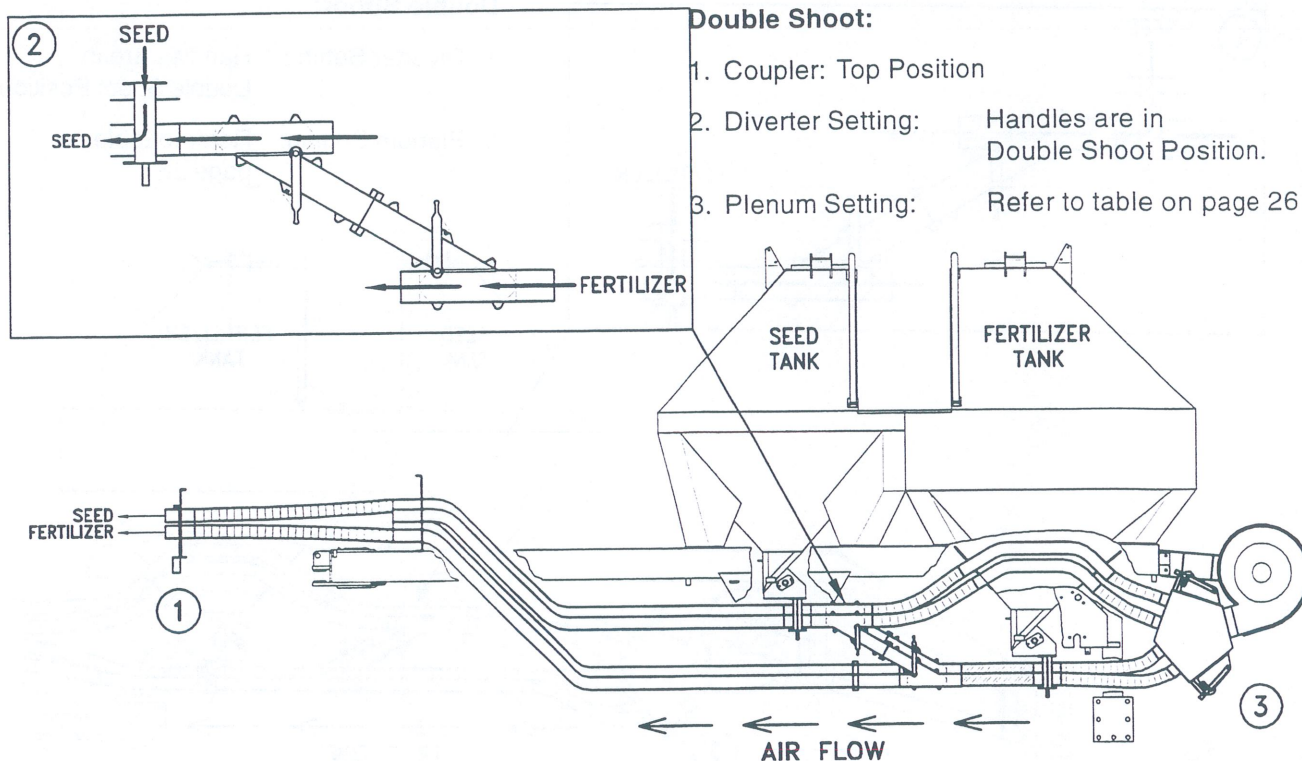
Suggested Plenum Settings for Average Rates

Product	Seed		Fertilizer	
	Rate lb/acre	Damper Setting	Rate lb/acre	Damper Setting
Fine Seeds	All Rates	1/4	All Rates	Open
Coarse Grains	90 lb	Open	50 lb	1/2
	90 lb	Open	100 lb	Open
	90 lb	1/4	150 + lb	Open
Large Seeds	180 lb	Open	40 lb	1/4
Single Shoot	Tow - Top Damper Closed Behind - Bottom Damper Open			
	Tow - Top Damper Open Between - Bottom Damper Closed			

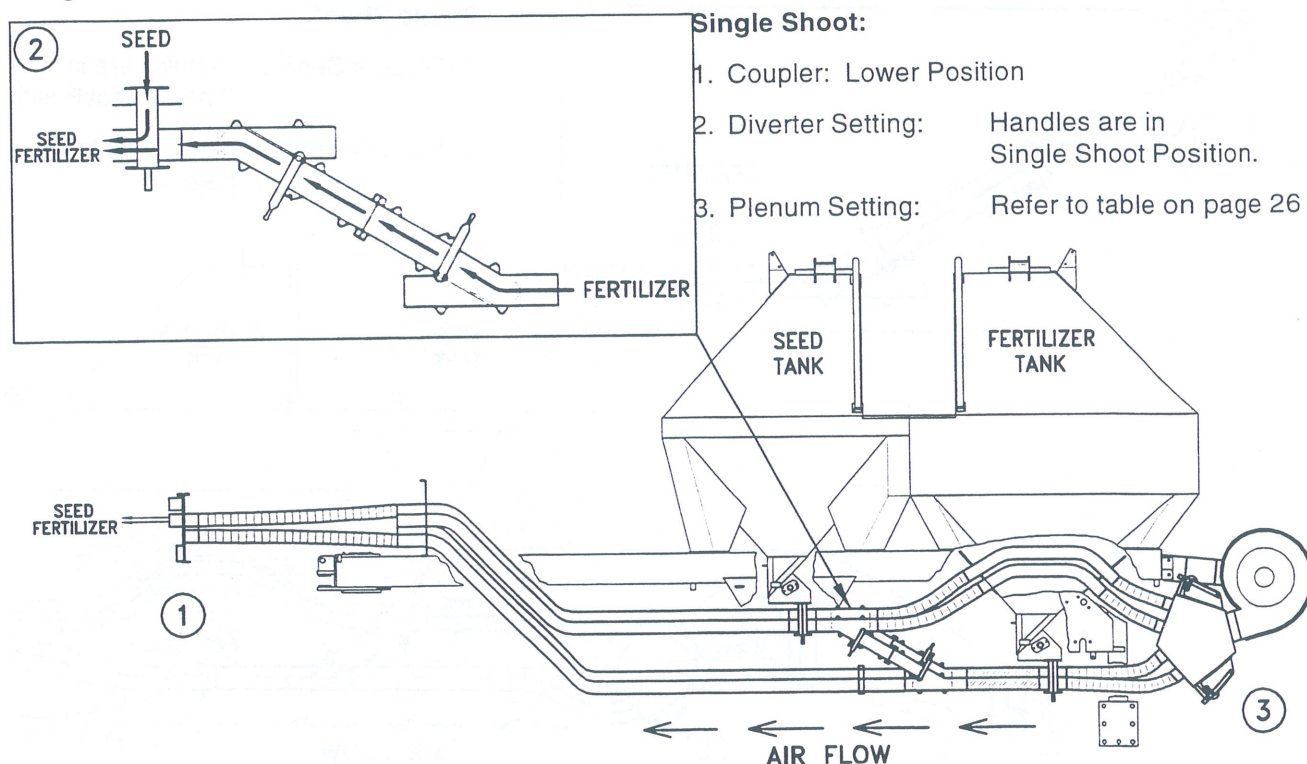
Note: See "Fan Speeds" for Fan RPM.

Double Shoot Settings - Continued

Double Shoot Tow Behind:



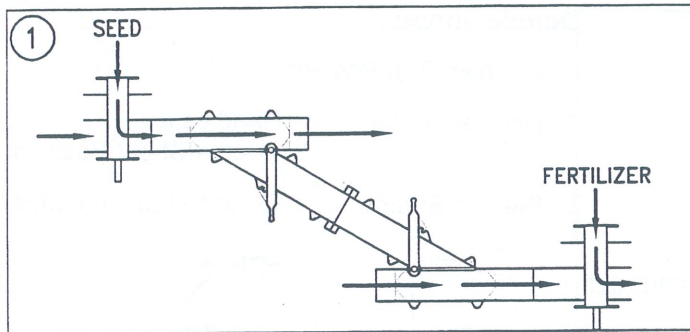
Single Shoot Tow Behind:



Operation

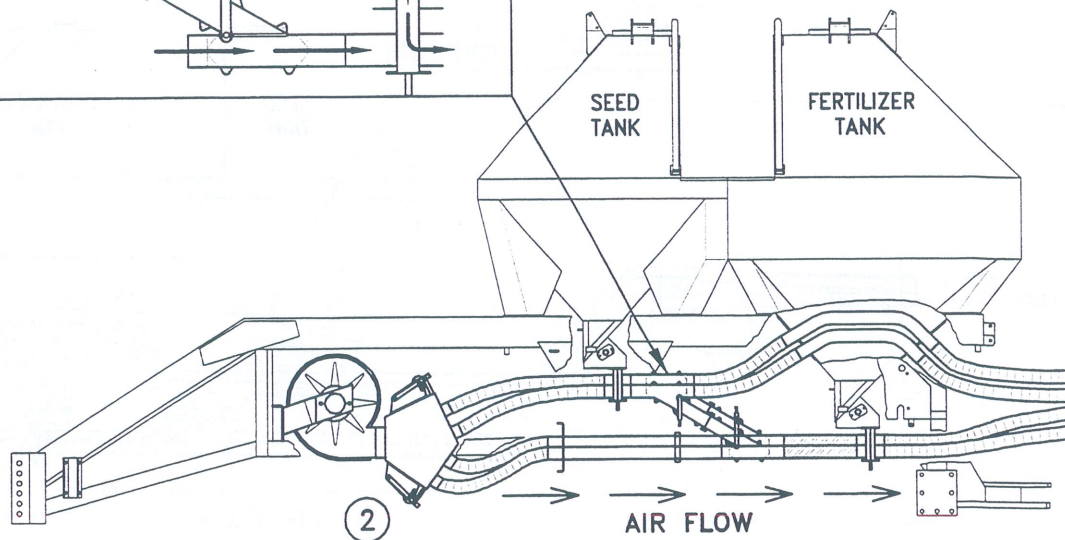
Double Shoot Settings - Continued

Double Shoot Tow Between:

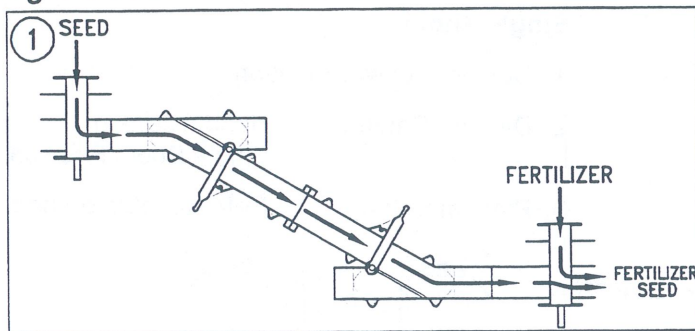


Double Shoot:

1. Diverter Setting: Handles are in Double Shoot Position.
2. Plenum Setting: Refer to table on page 26.

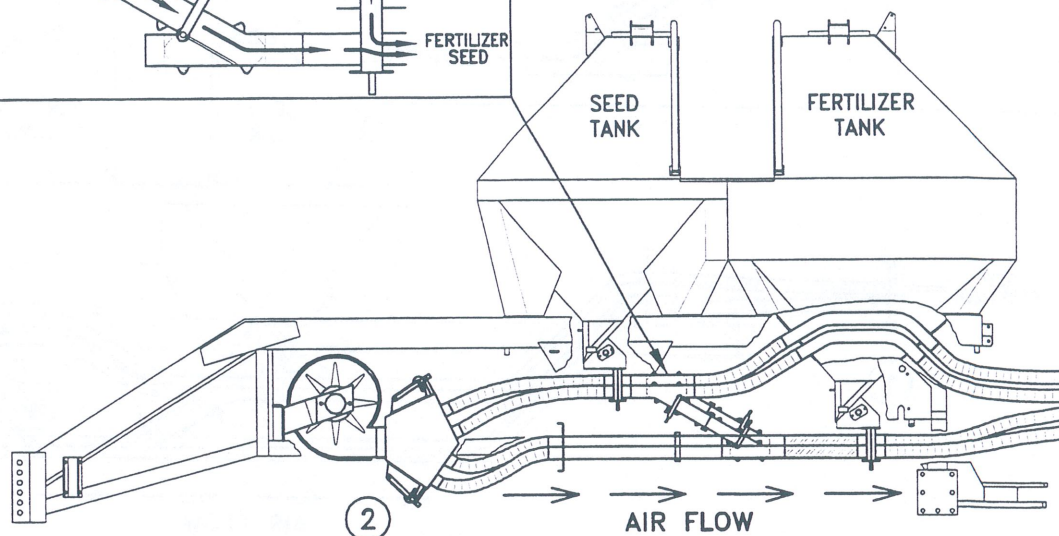


Single Shoot Tow Between:



Single Shoot:

1. Diverter Setting: Handles are in Single Shoot Position.
2. Plenum Setting: Refer to table on page 26.



Fertilizer Banding Kit

The fertilizer banding kit joins the two transmissions together, so only the front or rear transmission needs to be set for different rates.

The product is then metered at a 40:60 split in the rate. The **front tank meters 40%** of the desired rate and the **rear tank meters 60%** of the desired rate.

To determine the rate sprocket and calibration of Air Cart use the following procedure:

Using Rear Transmission

The amount collected from the rear tank is **60%** the **total** amount being metered into the air stream.

- Multiply the desired rate (**DR**) by 60% to determine the rate being metered from the rear tank (**RR**). $DR \times .6 = RR$
- Use the rear tank rate (**RR**) to determine the rate change sprocket to use. See *Rate Charts* Section
- Remove the chain joining the two transmissions before taking rate calibration samples from **rear tank only**. See *Rate Calibration* Section.

This will prevent material from being deposited into the front collector body that is not being checked and avoid a possible plugging of the hoses.

- The sample taken from the tank should be 60% of the desired rate as determined above (**RR**).

Using Front Transmission

The amount collected from the front tank is **40%** the **total** amount being metered into the air stream.

- Multiply the desired rate (**DR**) by 40% to determine the rate being metered from the front tank (**RF**). $DR \times .4 = RF$
- Use the front tank rate (**RF**) to determine the rate change sprocket to use. See *Rate Charts* Section
- Remove the chain joining the two transmissions before taking rate calibration samples from **front tank only**. See *Rate Calibration* Section.

This will prevent material from being deposited into the rear collector body that is not being checked and avoid a possible plugging of the hoses.

- The sample taken from the tank should be 40% of the desired rate as determined above (**RF**).

IMPORTANT

Remove the meter drive chain from the transmission not in use. Severe damage to drive components will result otherwise.

Note: Supplied in section "*Fertilizer Banding Kit*" (at rear of book) are rate charts which are based on the 60/40 split for easy rate sprocket selection.

Rear Transmission

Example:

For a **desired rate (DR)** of 100 lbs. per acre:

Determine **Rear Tank Rate (RR)**

$$DR \times .6 = RR$$

$$100 \text{ lbs/acre} \times .6 = 60 \text{ lbs/acre}$$

Determine sprocket size required to apply 60 lbs/acre from Rate Chart on Air Cart.

Front Transmission

Example:

For a **desired rate (DR)** of 100 lbs. per acre:

Determine **Front Tank Rate (RF)**

$$DR \times .4 = RF$$

$$100 \text{ lbs/acre} \times .4 = 40 \text{ lbs/acre}$$

Determine sprocket size required to apply 40 lbs/acre from Rate Chart on Air Cart.

Operation

Operating Engine

Before Starting Engine:

- Check oil level, add if low.
- Check fuel level, add if low.
- Check to make sure all guards are in place.
- Clean pre-cleaner and inspect air cleaner (primary filter) and check to make sure that all air cleaner parts are connected correctly.
- Check that gas tank vented filler cap is clear.
- Clear any straw or debris from the cooling fins.

Refer to engine manual for more detail.

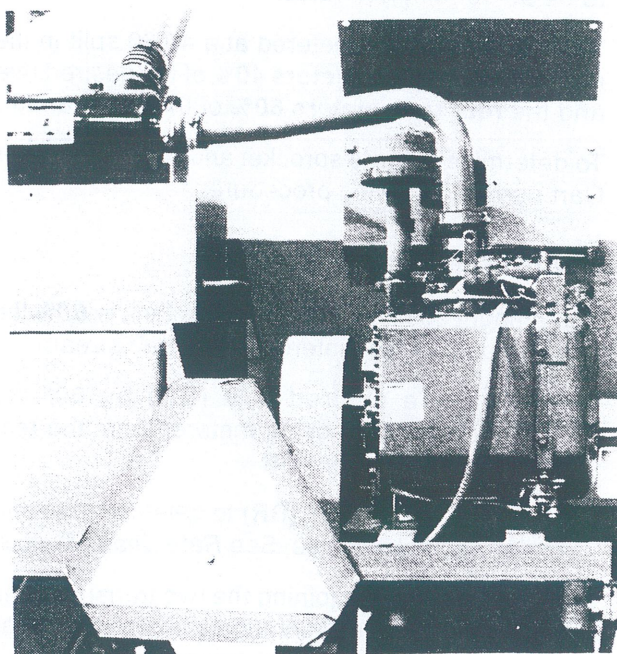
Starting engine:

- Set throttle between slow and fast positions.
- Pull choke control out.
- Activate starter switch to start engine.

Note: Do not crank engine for more than 10 seconds. If engine does not start, allow 60 seconds cool down period between starting attempts. Failure to do so may cause starter motor failure.

- As engine warms up gradually return choke to off position.

Note: The engine is protected against overheating and low oil pressure by an automatic shutdown system. This is to help prevent damage to the engine should either or both occur.



Engine Drive

Hydraulic Fan Drive

The orbit motor on the fan requires tractor to have either a load sensing hydraulic system or a closed centre hydraulic system with flow control.

Maximum flow required is 13 U.S. g.p.m. minimum pressure of 2000 p.s.i. However smaller flows can be used depending on the product being metered.

For correct operation of the fan the hydraulic motor must be coupled to the priority valve (if tractor is so equipped) in the hydraulic valve bank.

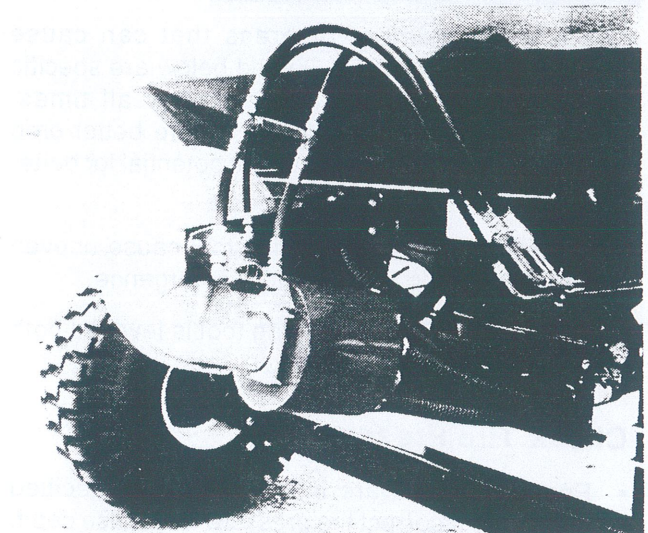
Check with the tractor manual or manufacturer to determine if or which spool is a "priority valve".

Speed fluctuations will result if the fan is not connected to the priority valve if hydraulic system is equipped with a priority valve.

Ensure couplers are free of dirt and are clean when connecting the fan hydraulics to the tractor.

The fan has a one way check valve that only allows oil to flow in one direction. It may be necessary to reverse the hydraulic hoses at the couplers to obtain the correct operation.

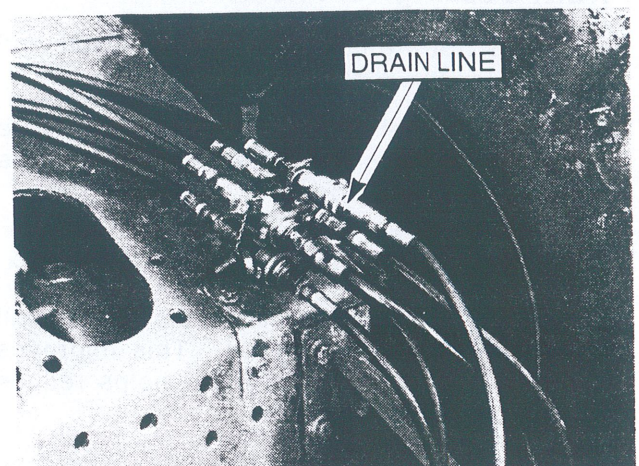
A piston motor creates leakage past the internal components for lubrication. This oil needs to go back to the oil reservoir, the lowest pressure possible. The motor has a 3/8" diameter drain line. This line must be connected directly into the tractor hydraulic reservoir to ensure that there is zero back pressure in the drainline, otherwise damage will result to the motor.



Orbit Motor Drive

IMPORTANT

Typical shaft seal failures occur when the case drain quick coupler is not attached properly or if the Air Cart is started in cold weather - cold weather makes the hydraulic oil very viscous - any time the *Air Cart* is started in cold weather the tractor hydraulics should be allowed to warm up first and then the fan should be started and run at the slowest speed possible for 5-10 minutes before going to full speed.



Hydraulic Coupling

Operation

Operating Guidelines

There are a number of areas that can cause problems when seeding. Listed below are specific points that should be addressed at all times. Following these guidelines will ensure better crop emergence and consequently the potential for better yields.

An improperly levelled seeding tool cause uneven depth which could result in poor emergence.

It is important that the seeding tool is levelled both side to side and front to back.

Check Tire Pressures:

- Ensure all tires are inflated to their specified pressure. Incorrect tire pressure can cause depth variations.

Level Seeding Tool Side to Side:

- Check the depth of each shovel on the back row.
- Adjust the individual depth control mechanisms on each frame as necessary to level the machine.

Level Seeding Tool Front to Rear:

- Poor front to rear levelling causes ridging as shown.
- Check the depth of two adjacent shanks normally one on the front row and one on the rear row.
- Adjust level as necessary. See seeding tool manual for more details.

Worn Seeding Tool Parts:

- Shanks that are bent cause uneven depth and they should be repaired or replaced.
- Trip mechanisms that are worn can also cause poor depth control and any worn parts should be repaired or replaced.

Packing:

- Packing and harrowing behind the seeding unit is strongly recommended. This improves germination, kills weeds and helps reduce moisture loss and erosion.
- In wet conditions the head land should be done last to prevent over packing.

Turning:

- Avoid sharp turns. Backing up of the outer wings with the seeding tool in the ground has a tendency to plug the seed boot with soil.
- Raise seed boots fully before making sharp turns or backing machine.

Seed Rate Settings:

- Remove any caked-on material from sliders and metering wheels.
- Ensure all sliders are properly set.
- Check seed rates carefully.

Fertilizer Application:

- Avoid using fertilizers that absorb moisture readily, especially during periods of high humidity.
- Also avoid fertilizers that contain a high percentage of fine dust, as these materials can plug metering wheels and coat the inside of seed distribution system.

Fan Setting:

- Run fan at recommended speed. If plugging or surging occurs increase the fan speed to eliminate the problem.
- Allow tractor hydraulic oil to warm-up thoroughly prior to seeding. Cold oil will cause slower fan speeds (Hydraulic driven fan).

Operating Guidelines - Continued

Adjustments and Operational Checks:

- When changing fields and periodically throughout the day the seeding tool should be checked for level and depth and the seed boots for blockage.

Checking Seed Flow:

The following procedure should be implemented throughout the day typically at each fill of the Air Cart:

- Raise the seeding tool out of the ground.
- With the fan running turn the crank on the rear transmission 4 or 5 turns.
- Seed and/or fertilizer should appear at each outlet on the ground.
- If no seed or fertilizer appears on the ground at any of the openers check for hose blockage in both the 1" diameter secondary and the 2 1/2" diameter primary hose, as well as in the flat fan divider.
- See Trouble Shooting Section for possible causes of the blockage.

Moisture Alert:

- Whenever Air Cart has been standing for an hour or more during period of high humidity or damp, rainy days, or after sitting overnight, run fan at recommended rpm, with machine stationary for 5 minutes.

Note : Check Seed Flow as described above, after running fan for 5 minutes.

Air Leaks:

It is imperative that no air leaks occur in the Air Cart tank as even the smallest air leak from the lid will lead to material bridging in the tank thereby causing misses in the field.

Check the following areas for air leaks:

- Tank clean-out door
- Metering body assembly seals
- Collector assembly seals
- Tank lid

Product Application:

- Control product application with the clutch switch in tractor.

Note: Do not attempt to meter product when fan is not running. Damage to the metering wheels may occur.

- Have machine moving forward before lowering seed boots to avoid plugging.
- To prevent skipping, allow 15 feet of forward travel to ensure air system has delivered product to seed boots.

Tank Low in Product:

- Refill tank before metering wheels are exposed.
- The metering wheels must be completely covered to avoid unseeded strips.

Monitor:

- Ensure all monitor "settings" are correctly set for the Air Cart/Seeding Tool combination.
- Recognize and correct alarm conditions as indicated on the machine.

Operation

General Field Operation

- Follow guidelines outlined in "Operating Guidelines".
- Switch monitor on.
- Start Fan.

Note: Load sensing hydraulic systems require "warming up" before they function smoothly. See "Hydraulic Fan Drive" for more details.

- Move forward with seeding tool.
- Engage metering system clutch (MAIN).
- Lower seeding tool into ground.
- Turning at headland: Switch metering system clutch off (MAIN), immediately raise seeding tool fully rephasing hydraulics (see seeding tool manual).
- Once turned engage metering system clutch (MAIN) and lower seeding tool into ground.

Note: Do not attempt to meter product when fan is not running. Damage to the metering wheels may occur.

Note: It takes approximately 15 feet of forward travel @6 M.P.H. before product reaches the seed openers.

Clutch Switches

Main

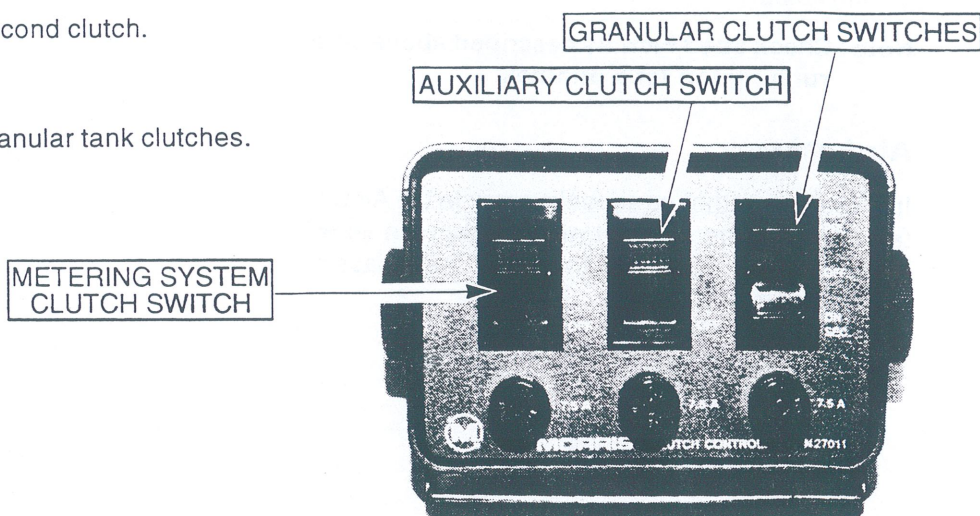
- Controls the main clutch which engages and disengages the ground drive.

Auxiliary

- Controls the optional second clutch.

Granular

- Controls the optional granular tank clutches.



Clutch Switch Console

Daily Maintenance

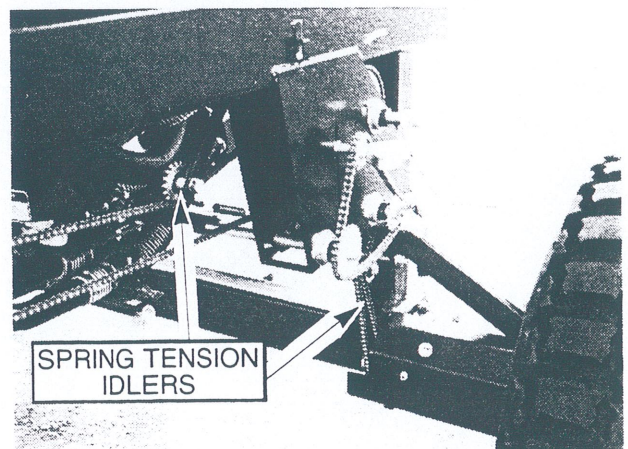
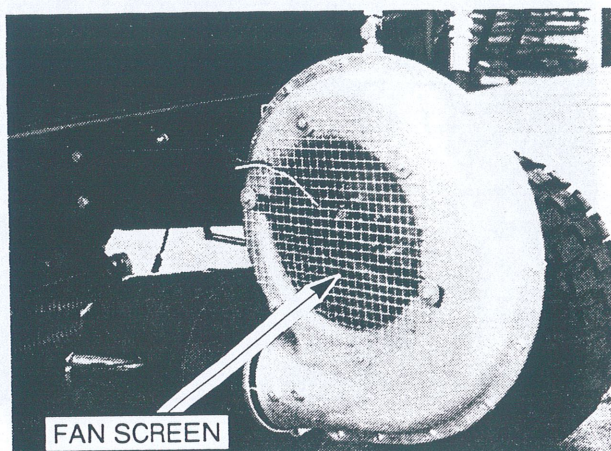
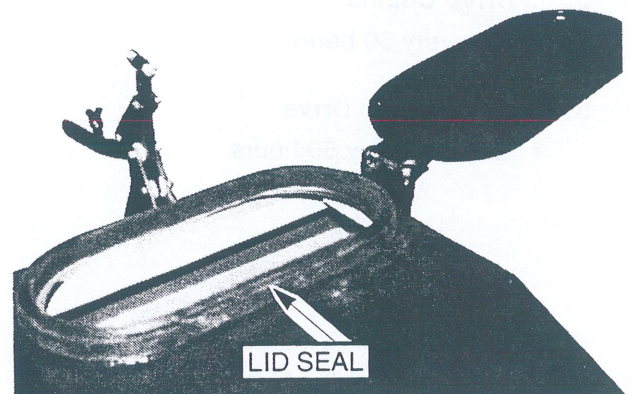
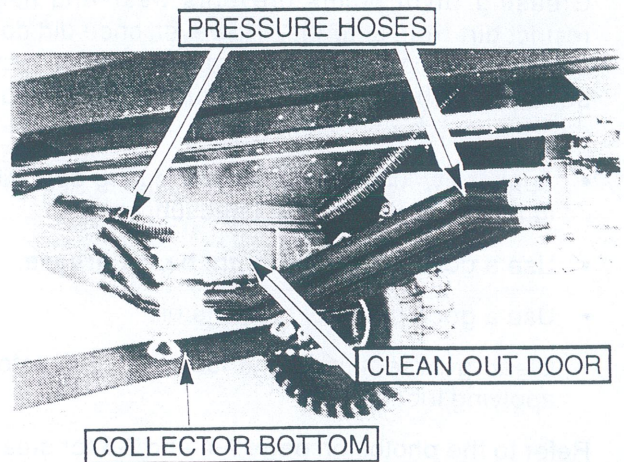
- Check for and remove any water in primary collectors after rainy weather. Remove both front and rear clean-out doors and collector bottom to drain water from the tanks and collectors.
- Reinstall collector bottoms and clean-out doors.

Important: Care must be taken when reinstalling collector bottoms to prevent damage to the inside of the collector.

- Assure fan screen is clear of debris.

Note: Start fan and run for 3 - 5 minutes prior to loading machine to get rid of accumulated moisture.

- Check lid seals for damage, and that they are sitting properly on steel ring.
- Check tank pressure hoses for leaks, cracks or plugging.
- Check metering body for leaks.
- Check that clean-out doors are sealed.
- Check monitor wiring that all sensor wires are properly routed and retained.
- Check for plugged hoses.
- Check for free movement of spring loaded chain tension idlers.
- Assure drive chains are cleared of debris.
- Inspect wheel bolts for looseness.
- Service engine, see engine maintenance.



Maintenance

Lubrication

Greasing pivot points prevents wear and helps restrict dirt from entering. However, once dirt does enter a bearing, it combines with the lubricant and becomes an abrasive grinding paste, more destructive than grit alone.

- Apply new lubricant frequently during operation to flush out old contaminated lubricant.
- Use a good grade of **lithium based grease**.
- Use a good grade of machine oil.
- Clean grease fittings and lubricator gun before applying lubricant.

Refer to the photos on **page 7-4** and **7-5** for grease fitting locations.

1. Drive shaft bearings

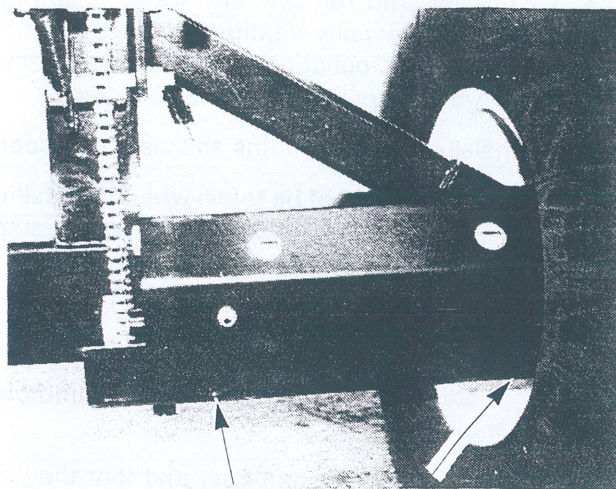
- Grease every 50 hours.

2. Drive Chains

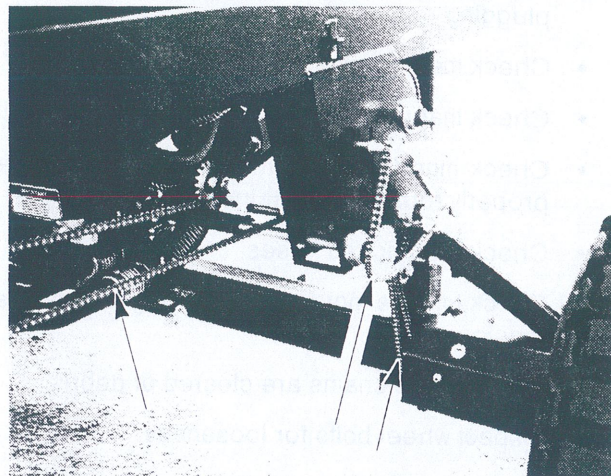
- Oil every 50 hours.

3. Slow Speed Drive

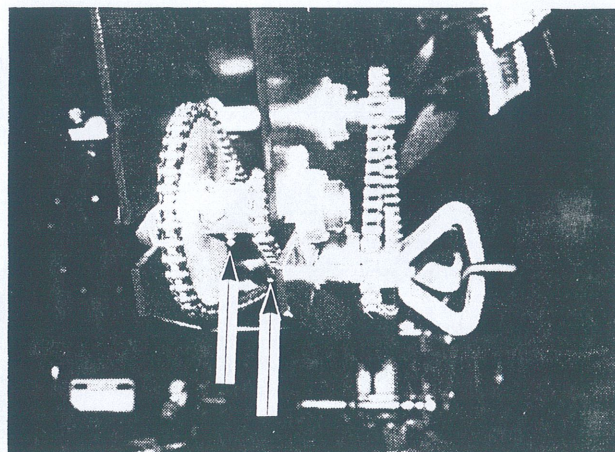
- Grease every 50 hours.



1. Drive Shaft Bearings



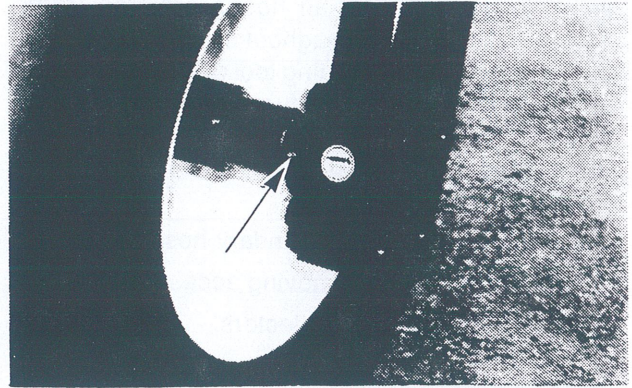
2. Drive Chains



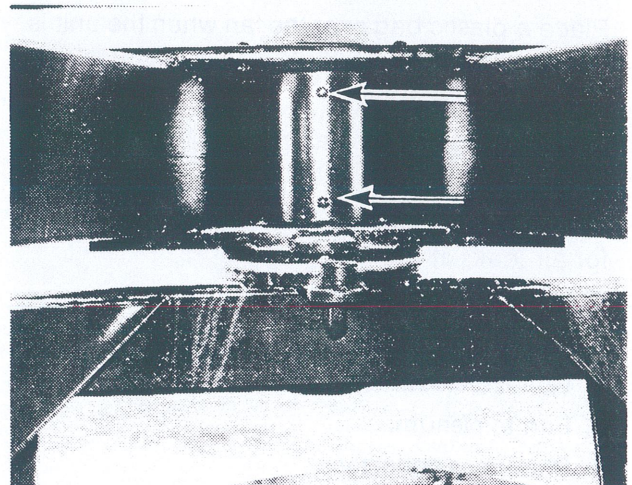
3. Slow Speed Drive

Lubrication - continued

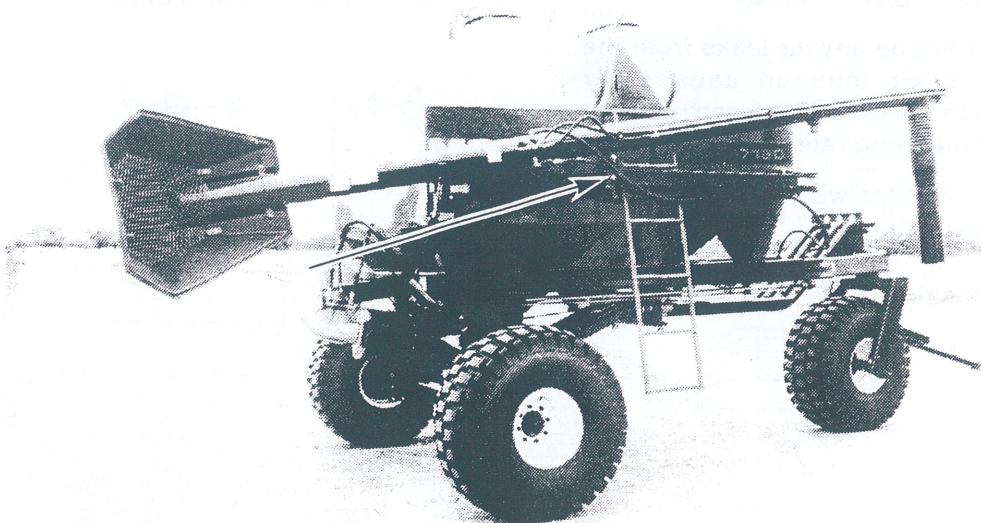
4. **Front Castor Wheel bearings**
 - Grease every 50 hours.
5. **Castor Fork Pivot (7130 and 7180 only)**
 - Grease every 50 hours.
6. **Auger pivots**
 - Grease every 100 hours.



4. Front Castor Wheel bearings



5. Castor Fork Pivot (7130 and 7180 only)



6. Auger Pivots

Maintenance

Air System Maintenance

- Regularly check that all hoses are free from kinks or blockages throughout the day. To check for blockages raise seeding tool out of the ground and with the fan running turn crank a couple of turns. Equal amounts of material should be deposited under each boot if not check the following for blockage:
 1. Seed openers and secondary hoses.
 2. Divider heads by removing access doors.
 3. Primary hoses and collectors.
 4. Metering wheels for damage to key-way and the flutes of the wheel.
- Keep fan inlet screen clear and free from debris.
- Place a plastic bag over the fan when the unit is not in use. This helps prevent moisture from entering the system.
- Check periodically and at the end of each season for air leaks at hose connections.
- Check periodically and at the end of each season for air leaks at the following:
 1. Lid Seals.
 2. Metering body to tank interface.
 3. Collector to metering body interface.
 4. Fan to plenum.
 5. Plenum to collector.
 6. Clean-out doors.
 7. Couplers between seeder and cultivator.
 8. Access Doors on Divider Heads.

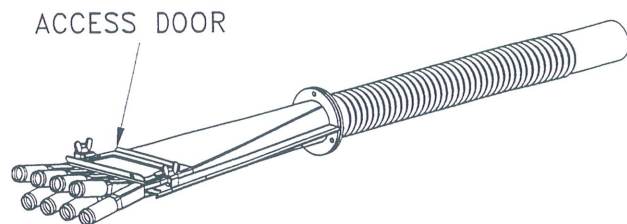
Note: There must not be any air leaks from the tank. This air leakage causes air turbulence in the tank which can result in inaccurate metering rates.

- Once a year check for wear of primary and secondary hoses.

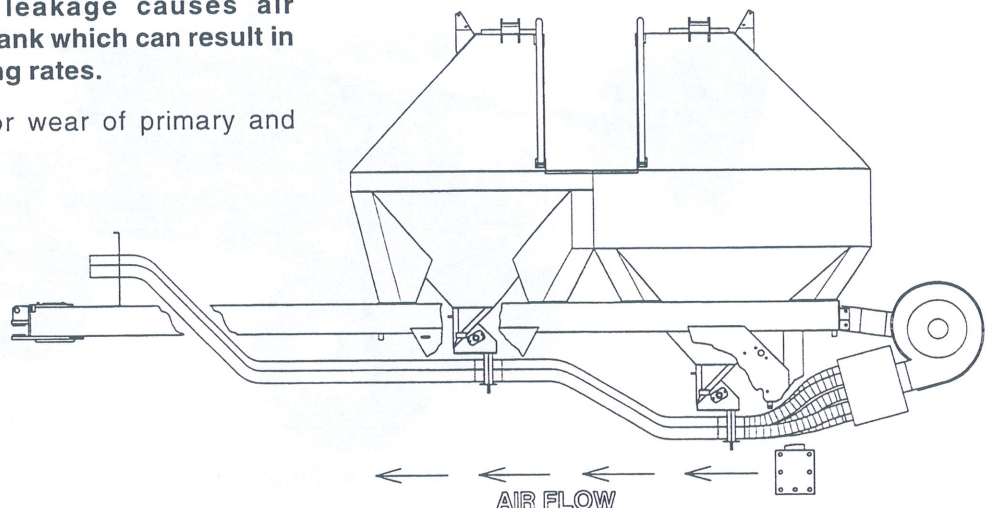


CAUTION

Care should be taken when working near the Air Cart while the fan is running. Product blowing out of the system could cause personal injury.



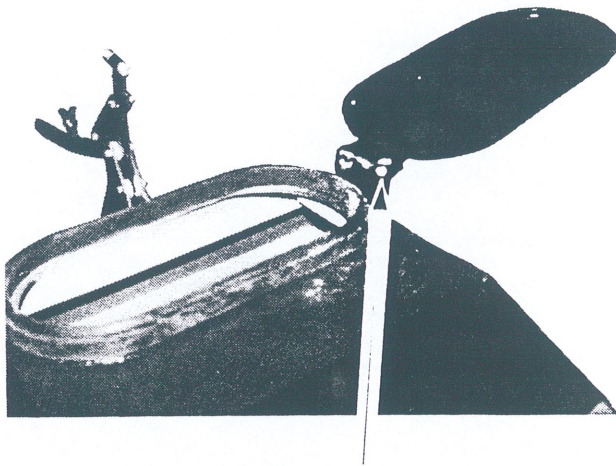
Note: Extended life can be obtained if the hoses are rotated 1/4 turn once a year.



Tank Lid Adjustment

If the lid seal is leaking the following adjustments must be made to prevent this from occurring:

- Check seal for cuts, abrasions and any material embedded in the seal.
- Clean out foreign material.
- If seal is cut or severely worn, then replace seal.
- Ensure that seal is positioned properly on steel rim around tank opening.
- Close lids, run fan at maximum rpm and check for leaks.
- If lids are still leaking, use the spring scale provided with the machine to check the tank lid opening force. With the lid closed place one end of the scale one inch from the end of the tank lid lever. Pull straight up on the scale and note the maximum force it takes to open the lid. The force needed to open the lid **must be greater than 65 lbs.** Adjust the lid latch adjusting bolt as necessary. The lid latch should close with a **snap**. This will ensure that the lid is sufficiently tight and prevent any leaks.
- Re-check for leaks. If lids still leak turn down bolt one or two more turns. Re-check for leaks.

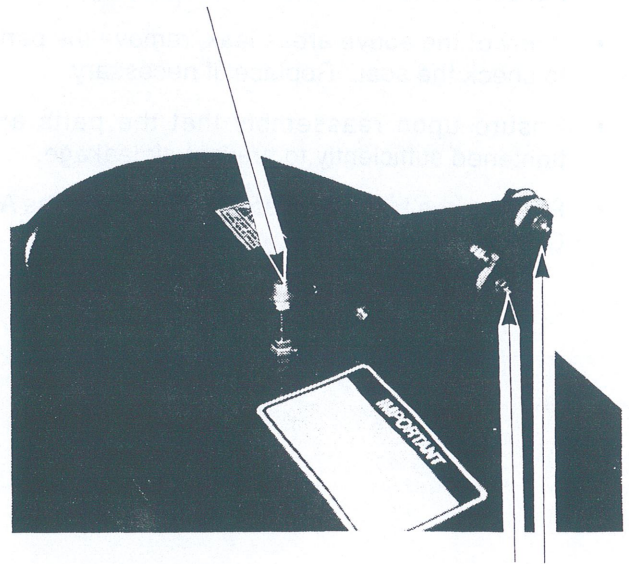


Note: This bolt should be loose enough to allow lid to float in the slot.

IMPORTANT

It is imperative that no air leaks occur in the Air Cart tank as even the smallest air leak from the lid will lead to material bridging in the tank thereby causing misses in the field.

Note: Adjust the lid latch adjusting bolt to obtain a force *greater than 65 lbs* to open the lid.



Note: These bolts and lock nuts must be tightened to maintain a friction fit so the lid latch stays stationary when in open position.

Maintenance

Air Leaks on Air Cart

It is **imperative that no air leaks occur** in the Air Cart tank as even the smallest air leak from the lid will lead to material bridging in the tank thereby causing misses in the field.

To prevent this from occurring, it is strongly recommended that a pressure test be conducted prior to seeding time. This can be performed very easily and simply by completing the following steps:

- Disconnect the 2 1/2" diameter primary hoses from the rear of the cultivator at the primary hose coupler(s) by loosening the four 3/8" bolts.
- Install the blank off plate that is supplied with the Air Cart at each coupler and retighten the 3/8" bolts. If the blank off plates are not readily at hand a piece of cardboard can be used in its place.
- Once the blank off plates have been installed, start the fan and run at maximum speed.
- **Check the following areas for air leaks:**
 - Tank clean-out door
 - Metering body assembly seals
 - Collector assembly seals
 - Tank lid

For correct tank lid adjustment see page 7-7.

- If any of the above areas leak, remove the parts to check the seal. Replace, if necessary.
- Ensure upon reassembly that the parts are tightened sufficiently to prevent air leakage.
- Remove the blank off plates before using the Air Cart.

IMPORTANT

It is imperative that no air leaks occur in the Air Cart tank as even the smallest air leak from the lid will lead to material bridging in the tank thereby causing misses in the field.

Fan Maintenance

- Assure fan screen is clear of debris. (Check periodically through the day)

The fan blades may become plugged under high humidity/dusty conditions/high insect counts. The build up of material on the fan blades will reduce the output of the fan which will cause the following:

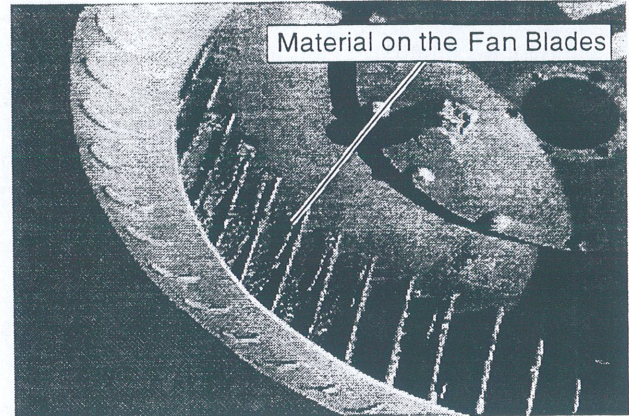
- Fan rpm will increase without increasing oil flow to orbit motor.
- Air Cart distribution system plugging from a lack of air flow (Increasing fan rpm has little or no effect).

Under severe conditions the fan blades should be inspected daily and cleaned as required.

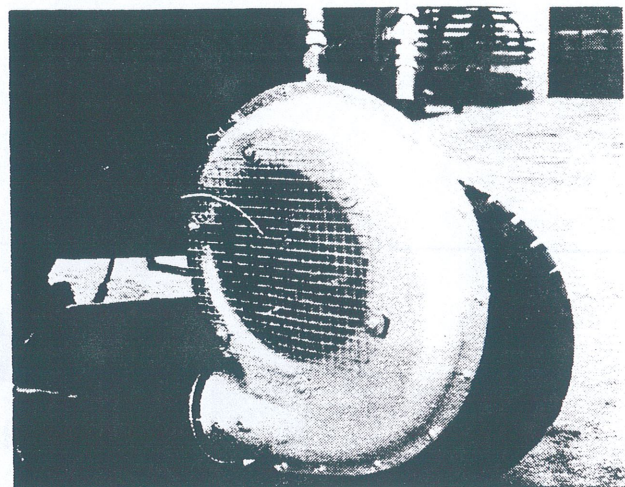
Under normal conditions the fan should be inspected and cleaned at least once a season.

To prevent water entering the air system, cover the fan intake with a plastic bag, whenever the seeder is not in use.

Note: Be sure to remove fan cover prior to starting fan. Serious damage could result to the fan.



Note: Material build up on the fan blades could cause the fan to be out of balance. The added vibration of the out of balance impeller will reduce the life of the fan components.



Maintenance

Hydraulics

Refer to Section 1 regarding hydraulic safety.

- Inspect hydraulic system for leaks, damaged hoses and loose fittings.
- Damaged Hoses and hydraulic tubing can only be repaired by replacement. **DO NOT ATTEMPT REPAIRS WITH TAPE OR CEMENTS.** High pressure will burst such repairs and cause system failure and possible injury.
- Leaking cylinders - install a new seal kit.
- Fittings - use Teflon seal tape on all NPT hydraulic joints. **Do not use Teflon tape on JIC ends.**
- Hydraulic Hose Connections - when connecting the hoses to the cylinders, tubing, etc. always use one wrench to keep the hose from twisting and another wrench to tighten the union. Excessive twisting will shorten hose life.
- Keep fittings and couplers clean.
- Check the Tractor Manual for proper filter replacement schedule.

Refer to the Trouble Shooting Section

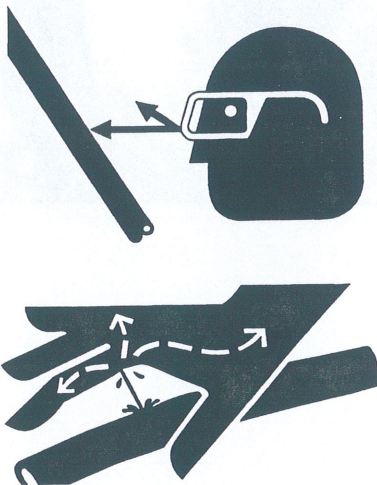


Contact your nearest Dealer for genuine repair parts. Dealers carry ample stocks and are backed by the manufacture and regional associations.



Dirt in the hydraulic system could damage O-rings, causing leakage, pressure loss and total system failure.

Note: Extreme care must be taken to maintain a clean hydraulic system. Use only new hydraulic fluid when filling reservoir.



WARNING

HIGH-PRESSURE FLUID HAZARD

To prevent serious injury or death:

- Relieve pressure on hydraulic system before servicing or disconnecting hoses.
- Wear proper hand and eye protection when searching for leaks. Use wood or cardboard instead of hands.
- Keep all components in good repair.

Hydraulic Orbit Motor

The motor requires no maintenance itself.

It does, however, require clean oil so the tractor hydraulic filters must be replaced regularly.

Repair/Replacement

- Remove orbit motor from the fan.

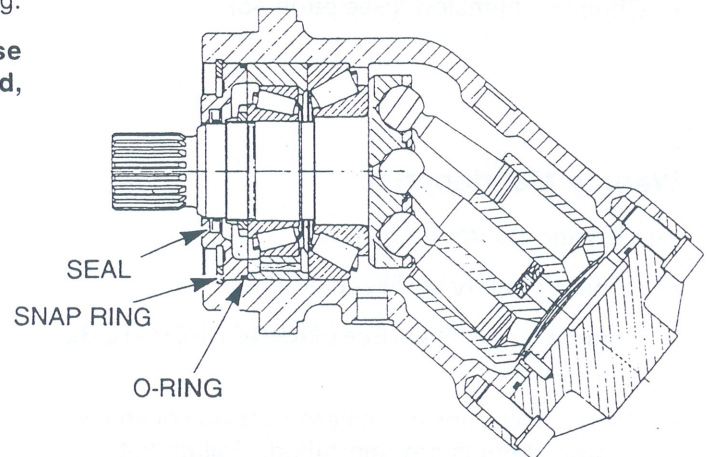
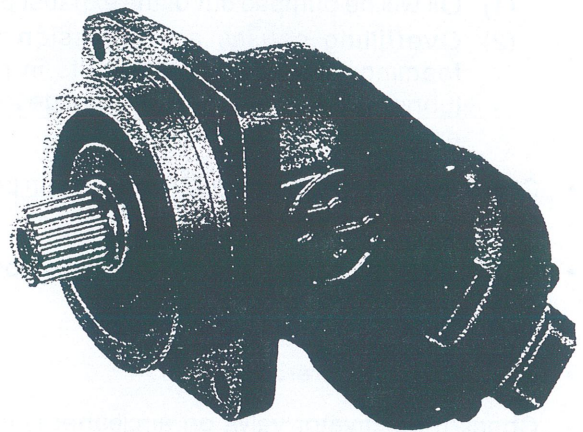
Note: The shaft should never be hammered on or forced in as this will result in motor damage upon startup.

- Remove the snap ring and front cover.
- Push out the old shaft seal and press in the new one.

Note: The bearings should never be removed from the shaft as they are pretensioned to the shaft with the motor spinning.

- Replace the O ring.
- Both the O ring and shaft seal should be greased with a "very clean" grease.
- Care must be taken when the front cover is installed so the shaft seal is not damaged.
- Reinstall the snap ring.
- Fill the motor case with "clean" oil before running.

Note: Any time a motor is replaced the case must be filled with oil before it is started, if not, a bearing failure could occur.



Maintenance

Engine Maintenance

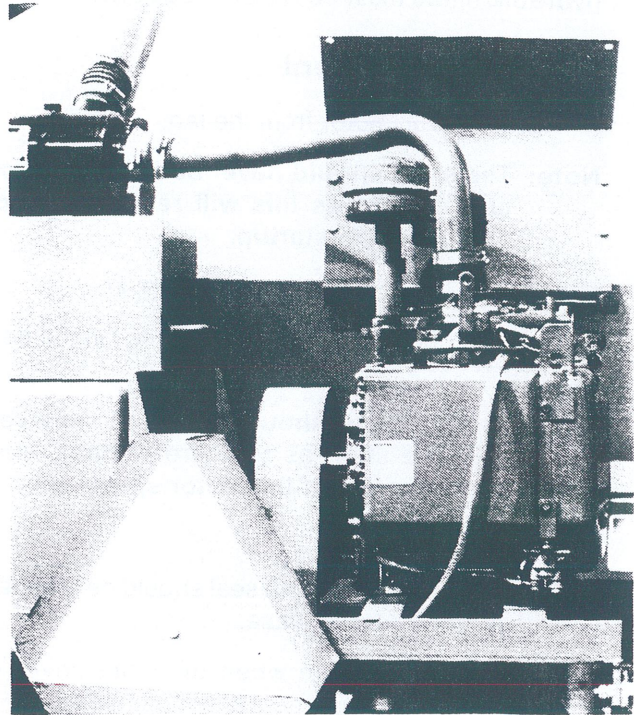
Daily Maintenance:

See Engine Operators Manual.

- Check oil level. It is very important the engine is not overfilled with oil. Normal oil consumption for the 2 cylinder Kohler engine is up to 1 pint of oil per day. Taking a day to be 8 working hours.

If the engine is overfilled with oil, the following will happen:

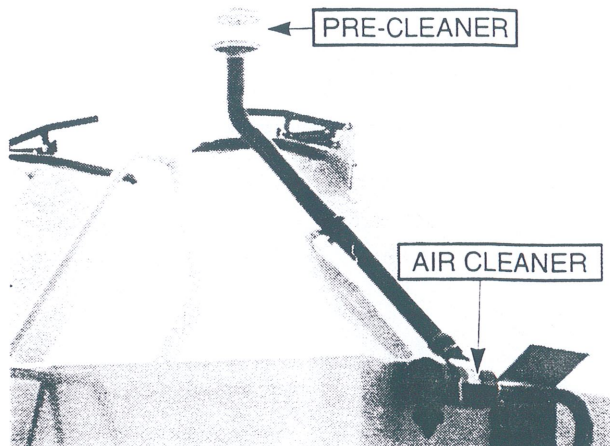
- (1) Oil will be pumped out of the exhaust pipe.
 - (2) Overfilling causes air ingression and foaming of the oil which results in poor lubrication and subsequent damage to the engine.
- Check all air-intake hoses and clamps are in place and tight.
 - Check engine cooling fins are free from debris.
 - Clean flywheel screen of any debris.
 - CLEAN cyclone pre-cleaner.
 - Check the activator valve on aircleaner is clear of debris. (See page 45)
 - Check vent in fuel cap is clear.
 - Check belt tension. (See page 45)



Weekly Maintenance:

See Engine Operators Manual.

- Service primary air filter element.
- Change oil and filter (See ENGINE OPERATORS MANUAL).
- Clean cooling fins and external surface of engine. Ensure shrouds are reinstalled. Failure to do so will result in damage to the engine due to overheating.



Engine Maintenance - Continued

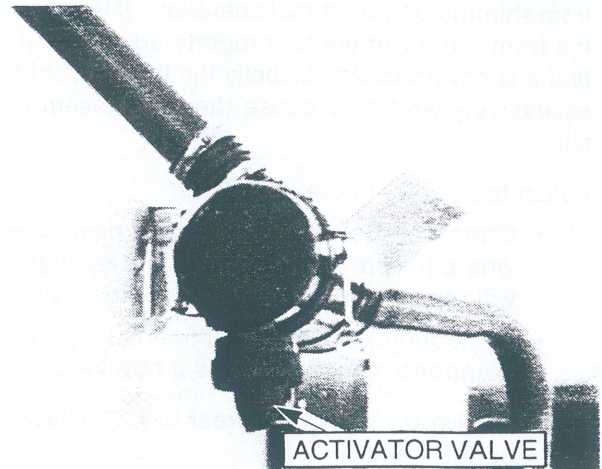
Air Cleaner Maintenance:

The air cleaner system on the 7000 Series Air Cart consists of 3 stages:

- A cyclone pre-cleaner that should be cleaned daily.
- A primary paper element that should be cleaned weekly. Release the dirt and dust by hitting the element against your hand.

Never strike against a hard surface or use compressed air when cleaning the element.

- Check element for pinholes using a trouble light. If there are any pin holes then replace element immediately.
- A safety element is located inside the primary element. This element should be inspected and cleaned the same as the primary element. If the safety element is dirty, there is a problem with the primary element and both the primary element and the safety element should be replaced.
- When reassembling the air filter, ensure unit is assembled correctly and is sealed completely.
- Check activator valve is clear of debris.



Important

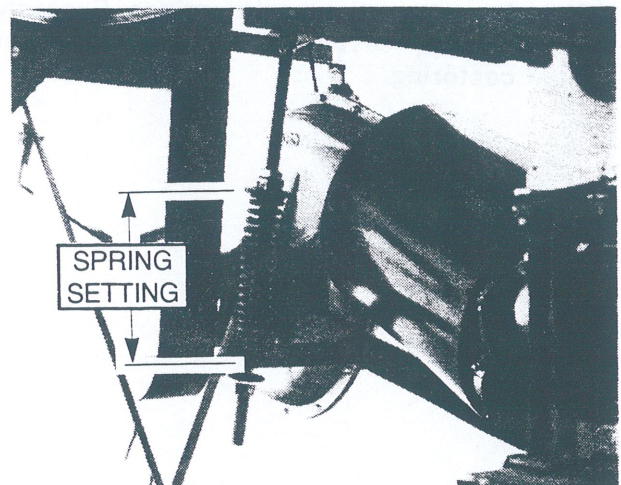
Damaged or loose components will allow unfiltered air into the engine causing premature engine wear and failure.

Engine drive:

- Check belt tension on engine driven fan weekly. Spring length should be 8 to 8 5/8" long.
- If spring length is incorrect, loosen jam nut and adjust the 3/4" nut down until the correct spring length is obtained.
- If there is no adjustment left then replace belt.

General Engine Maintenance:

- Check and/or replace spark plugs every 100 hours.
- Replace fuel filters on engine and on fuel intake line below tank every 100 hours.
- Have engine serviced at a respective Engine Service Dealer every 500 hours.



Maintenance

Front Castor Brake Adjustment

The 7240 and 7300 Air Cart Dual Axle Front Castor is equipped with a brake which prevents the tires from shimmy under normal operation. It is important the front castor brake be properly adjusted. If the brake is not adjusted correctly the tires will shimmy excessively and may cause the axle assembly to fail.

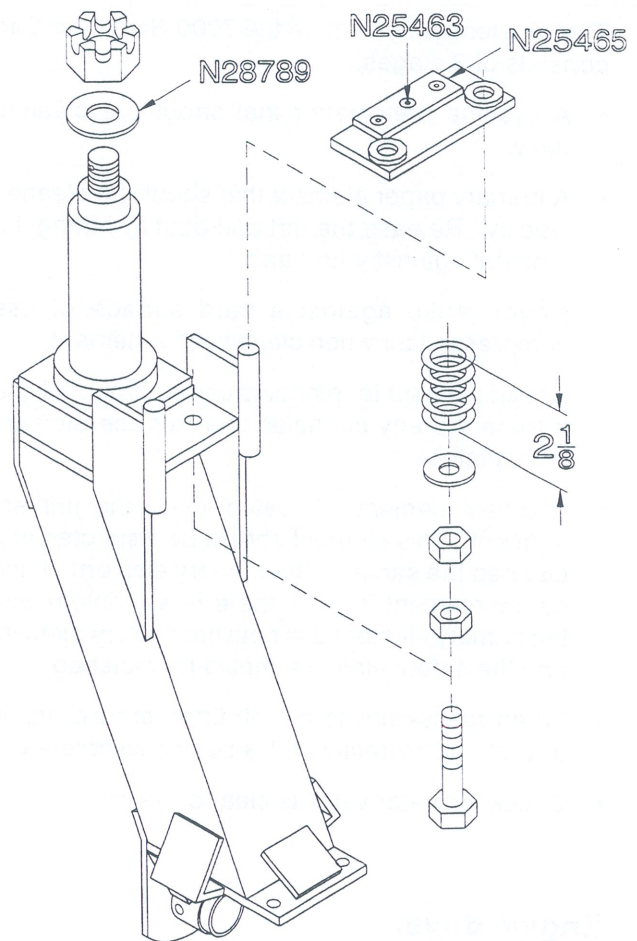
Adjust the castor brake as follows:

- Check and ensure there is no paint/grease where the brake pad rides, as the paint/grease will reduce the effectiveness of the brake.
- Inspect brake pad (N25465) ensuring it is not damaged or worn, replace if required.

Note: Maximum allowable wear is 1/8". (New pad is 3/8" thick)

- Check and ensure the hex socket brake pad mounting screws (N25463) are securely tightened.
- Check preload on castor fork top pivot bearings (with brake pad assembled loosely). Tighten as required using wheel bearing tightening procedure (springs will compress to a length of approximately 2 3/8").
- Adjust the jam nuts until the spring length is 2 1/8". See Below.
- Increase the spring pressure on the brake to stop the castor wheels from shimmying in the field or on the road.

Note: Do not overtighten the springs. Excessive spring pressure will prevent wheels from castoring.



Note: Tighten jam nuts until the spring length is 2 1/8"

IMPORTANT

Dual wheel brake will provide sufficient pressure to stabilize castor at all travel speeds up to 18 m.p.h. Avoid setting more pressure on brake pad than required to maintain stability. Tow only with all tanks empty, if a unit must be towed loaded over a short distance the *speed must be reduced* to 10 m.p.h. or slower.

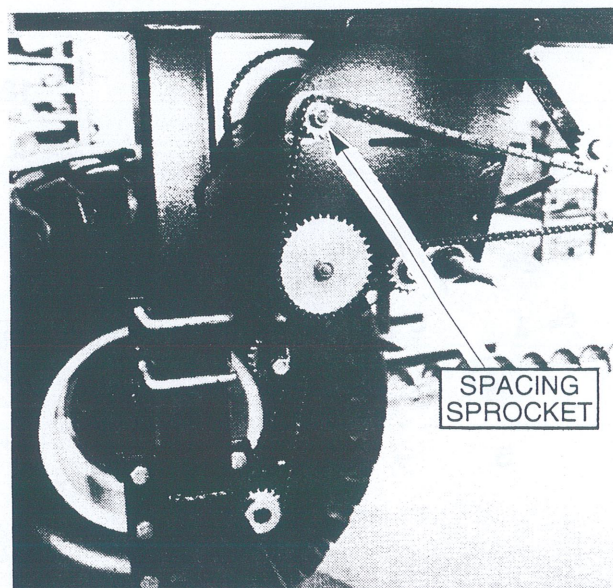
Spacing Sprocket

Located on the inner side of the rear transmission is a "spacing sprocket".

The spacing sprocket must be matched to the seeding tool trip spacing.

Note: Incorrect spacing sprocket will cause inaccurate application rates.

Spacing Sprocket	
Trip Spacing	Spacing Sprocket
7.2"	12 teeth
7.5"	12 teeth
8"	13 teeth
9"	15 teeth
10"	17 teeth
12"	20 teeth



Metering Wheels

The metering wheels come in 4 different sizes. Each wheel matches to a specific distribution head mounted on the Seeding Tool.

If the metering wheel and distribution head are not matched correctly, the distribution accuracy will be adversely affected.

Spacer plates are used to take up the extra space in each metering cup. These spacer plates vary in size according to the size of the metering wheel.

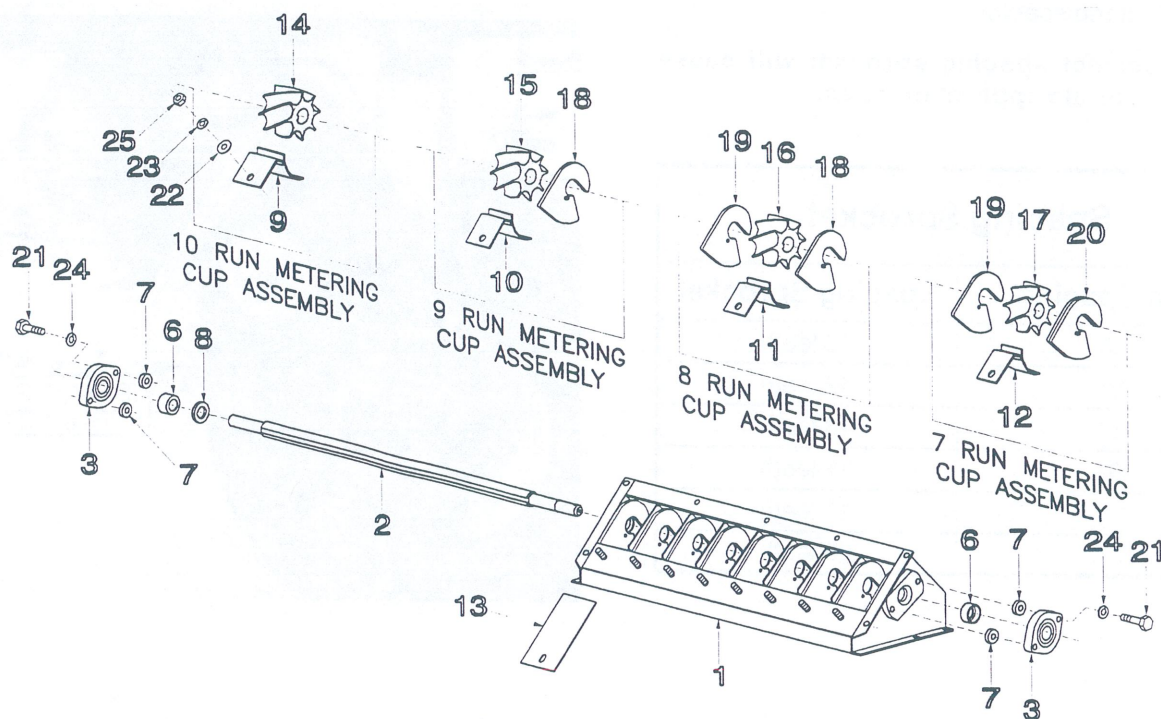
Table 1				
Divider Head	Metering Wheel		Spacer	
Outlets	Number	Width	Number	Width
7	7	1 3/4"	2	1/2" & 1/4"
8	8	2"	2	1/4" & 1/4"
9	9	2 1/4"	1	1/4"
10	10	2 1/2"	-	-

Metering

Metering Wheels - continued

Standard Metering Body

Note: The metering wheels can be installed with the metering body mounted to the Air Cart.

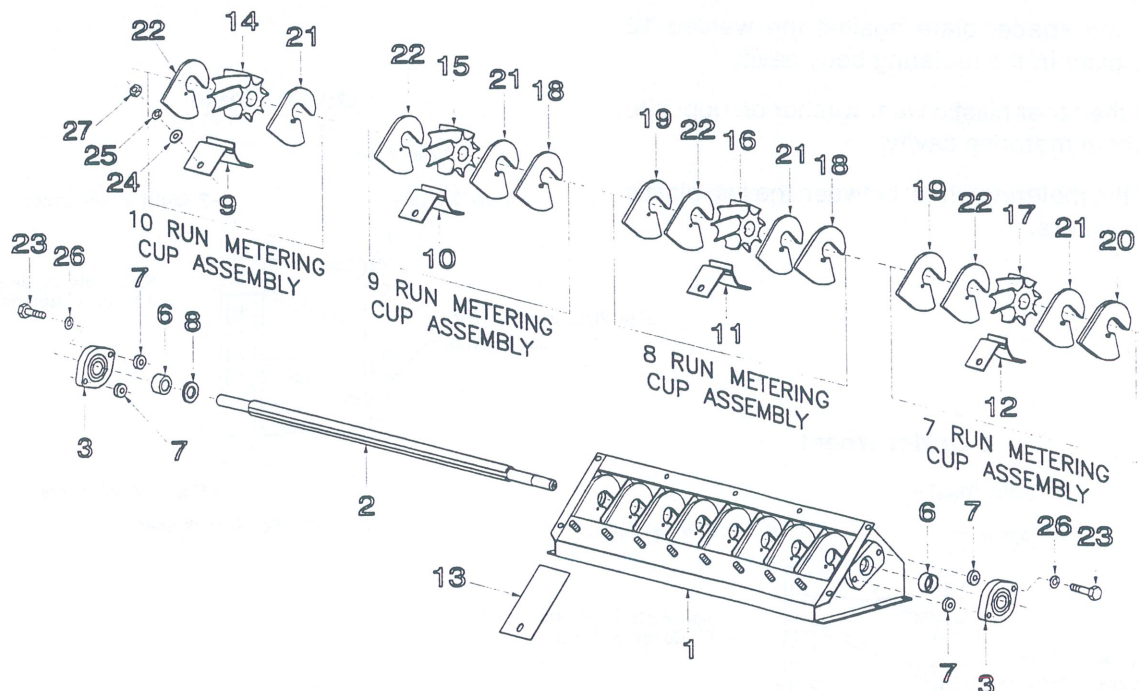


Item	Part No.	Description	No. Used
1	N27100	Metering Body	1
2	N19687	Metering Shaft - 8 Outlet	1
3	N19269	Bearing Assembly - NTN - 2 Bolt Flange	2
6	N21659	Seal	2
7	N21602	Spacer	4
8	N21612	Backing Washer	1
9	N27090	Slider - #10 Wheel	As req'd
10	N27089	Slider - #9 Wheel	As req'd
11	N27088	Slider - #8 Wheel	As req'd
12	N27087	Slider - #7 Wheel	As req'd
13	N27605	Cover - Blank Off	As req'd
14	N19526	Wheel - #10 Metering (Cream Colored)	As req'd
15	N19527	Wheel - #9 Metering (Cream Colored)	As req'd
16	N19528	Wheel - #8 Metering (Cream Colored)	As req'd
17	N19529	Wheel - #7 Metering (Cream Colored)	As req'd
18	N27099	Spacer Plate - #9 Wheel (Single - Left)	As req'd
19	N27098	Spacer Plate - #8 Wheel (Single - Right)	As req'd
20	N27097	Spacer Plate - #7 Wheel (Double - Left)	As req'd
21	W-477	Hex Bolt - 3/8 x 1 1/2 Lg	4
22	D-5488	Flatwasher - 5/16	8
23	W-522	Lockwasher - 5/16	8
24	W-523	Lockwasher - 3/8	4
25	N15114	Hex Nut - 5/16 Stainless Steel	8

Metering Wheels - continued

Coated Metering Body

Note: The metering wheels can be installed with the metering body mounted to the Air Cart.



Item	Part No.	Description	No. Used
1	N28928	Metering Body	1
2	N19687	Metering Shaft - 8 Outlet	1
3	N19269	Bearing Assembly - NTN - 2 Bolt Flange	2
6	N21659	Seal	2
7	N21602	Spacer	4
8	N21612	Backing Washer	1
9	N27090	Slider - #10 Wheel	As req'd
10	N27089	Slider - #9 Wheel	As req'd
11	N27088	Slider - #8 Wheel	As req'd
12	N27087	Slider - #7 Wheel	As req'd
13	N27605	Cover - Blank Off	As req'd
14	N19526	Wheel - #10 Metering (Cream Colored)	As req'd
15	N19527	Wheel - #9 Metering (Cream Colored)	As req'd
16	N19528	Wheel - #8 Metering (Cream Colored)	As req'd
17	N19529	Wheel - #7 Metering (Cream Colored)	As req'd
18	N27099	Spacer Plate - #9 Wheel (Single - Left)	As req'd
19	N27098	Spacer Plate - #8 Wheel (Single - Right)	As req'd
20	N27097	Spacer Plate - #7 Wheel (Double - Left)	As req'd
21	N28927	Plastic Spacer - Wheel (Left)	8
22	N28929	Plastic Spacer - Wheel (Right)	8
23	W-477	Hex Bolt - 3/8 x 1 1/2 Lg	4
24	D-5488	Flatwasher - 5/16	8
25	W-522	Lockwasher - 5/16	8
26	W-523	Lockwasher - 3/8	4
27	N15114	Hex Nut - 5/16 Stainless Steel	8

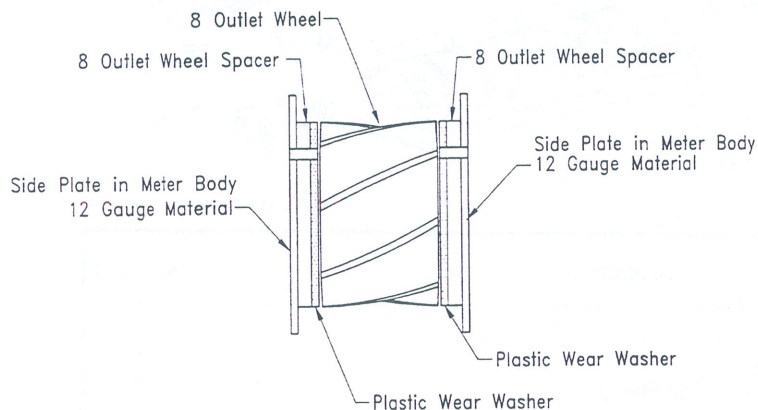
Metering

Metering Wheels - continued

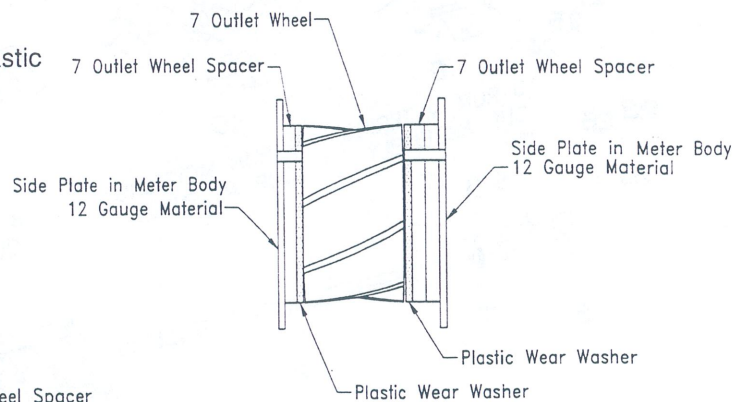
Coated Metering Body - continued

- Refer to Charts for Roll Pin specifications.
- Install the spacer plate against the welded 12 gauge plate in the metering body cavity.
- Install the other plastic wear washer on opposite side of the metering cavity.
- Install the metering wheel between the two plastic wear washers.

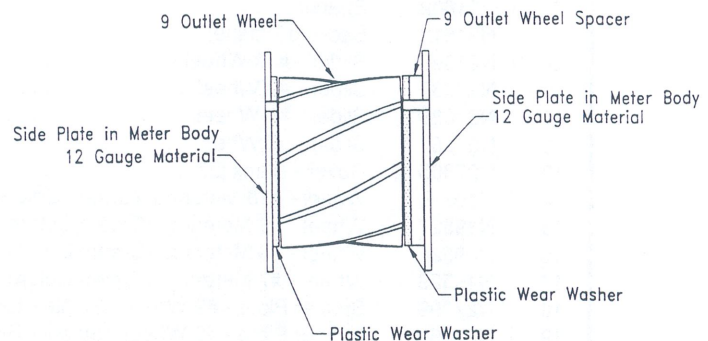
8 Outlet Wheel



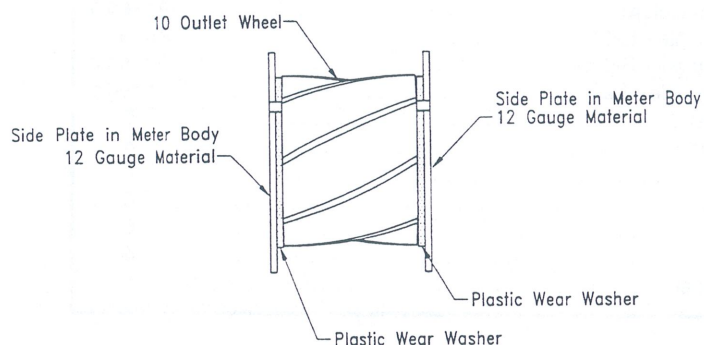
7 Outlet Wheel



9 Outlet Wheel



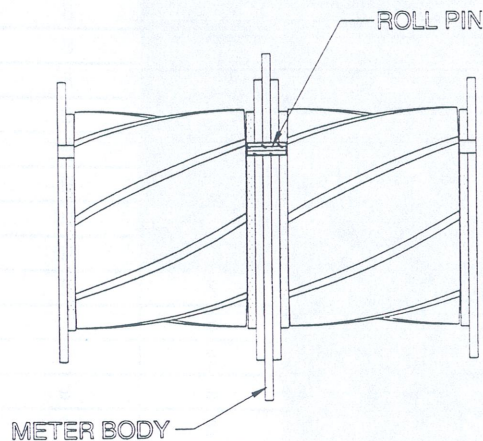
10 Outlet Wheel



Metering Wheels - continued

Coated Metering Body - continued

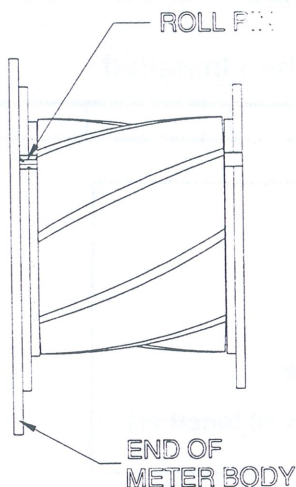
Inside Metering Body



Metering Body Roll Pin Configuration for Outlet Wheels

Left to Right	Roll Pin(s) Required
10 - Open Space	3/8" Roll Pin
Open Space - 10	3/8" Roll Pin
10 - 10	9/16" Roll Pin
10 - 9	9/16" Roll Pin
9 - 10	3/8" Roll Pin & 9/16" Roll Pin ground to 7/16"
9 - Open Space	9/16" Roll Pin
Open Space - 9	3/8" Roll Pin
9 - 9	3/8" Roll Pin & 9/16" Roll Pin ground to 7/16"
9 - 8	3/8" Roll Pin & 9/16" Roll Pin
8 - 9	3/8" Roll Pin & 9/16" Roll Pin ground to 7/16"
8 - Open Space	9/16" Roll Pin
Open Space - 8	9/16" Roll Pin
8 - 8	3/8" Roll Pin & 9/16" Roll Pin
8 - 7	3/8" Roll Pin & 9/16" Roll Pin
7 - 8	2 - 3/8" Roll Pins & 1 - 9/16" Roll Pin
7 - Open Space	3/8" Roll Pin & 9/16" Roll Pin
Open Space - 7	9/16" Roll Pin
7 - 7	2 - 3/8" Roll Pins & 1 - 9/16" Roll Pin

End of Metering Body



Roll Pin Configurations For Outlet Wheels

End of Metering Body	Roll Pin(s) Required
10 Left Side	3/8" Roll Pin ground to 3/16"
10 Right Side	3/8" Roll Pin ground to 3/16"
9 Left Side	3/8" Roll Pin ground to 3/16"
9 Right Side	3/8" Roll Pin & 9/16" Roll Pin ground to 7/16"
8 Left Side	3/8" Roll Pin & 9/16" Roll Pin ground to 7/16"
8 Right Side	3/8" Roll Pin & 9/16" Roll Pin ground to 7/16"
7 Left Side	3/8" Roll Pin & 9/16" Roll Pin ground to 5/16"
7 Right Side	7/16" Roll Pin

Metering Wheels - continued

* * For 49' Maxim Air Drill with 12" spacing: 6 head kit is recommended. * *

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(i.e. use only 7 and 8 together, 8 and 9 together, 9 and 10 together)

Metering Wheels - continued

# Runs	Meter Wheel Size For Both Front & Rear Meter Bodies							
51	9	9	8	Blank Off	Blank Off	8	8	9
52	9	9	8	Blank Off	Blank Off	8	9	9
53	9	9	8	Blank Off	Blank Off	9	9	9
54	9	9	9	Blank Off	Blank Off	9	9	9
55	10	9	9	Blank Off	Blank Off	9	9	9
56	10	9	9	Blank Off	Blank Off	9	9	10
57	10	9	9	Blank Off	Blank Off	9	10	10
58	10	10	9	Blank Off	Blank Off	9	10	10
59	10	10	9	Blank Off	Blank Off	10	10	10
60	10	10	10	Blank Off	Blank Off	10	10	10
61	9	9	9	Blank Off	8	8	9	9
62	9	9	9	Blank Off	8	9	9	9
63	9	9	9	Blank Off	9	9	9	9
64	10	9	9	Blank Off	9	9	9	9
65	10	9	9	Blank Off	9	9	9	10
66	10	10	9	Blank Off	9	9	9	10
67	10	10	9	Blank Off	9	9	10	10
68	10	10	9	Blank Off	9	10	10	10
69	10	10	10	Blank Off	9	10	10	10
70	10	10	10	Blank Off	10	10	10	10
71	9	9	9	8	9	9	9	9
72	9	9	9	9	9	9	9	9
73	10	9	9	9	9	9	9	9
74	10	9	9	9	9	9	9	10
75	10	10	9	9	9	9	9	10
76	10	10	9	9	9	9	10	10
77	10	10	10	9	9	9	10	10
78	10	10	10	9	9	10	10	10
79	10	10	10	10	9	10	10	10
80	10	10	10	10	10	10	10	10

Metering Body Looking From The Front When Installed

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IMPORTANT

Ensure distribution system is balanced.

It is very important that head outlets only vary by one.

(i.e. use only 7 and 8 together, 8 and 9 together, 9 and 10 together)

Metering

Metering Wheels - continued

- Remove the monitor donut from the Right Hand Side of the metering body.
- Loosen the locking collars on the meter shaft bearings.
- Remove the bolts holding the meter shaft bearings and remove both bearings.
- Remove the meter shaft from the Right Hand Side.
- The number of primary runs will determine the specific locations of the metering wheels and blank off plates in the metering body.

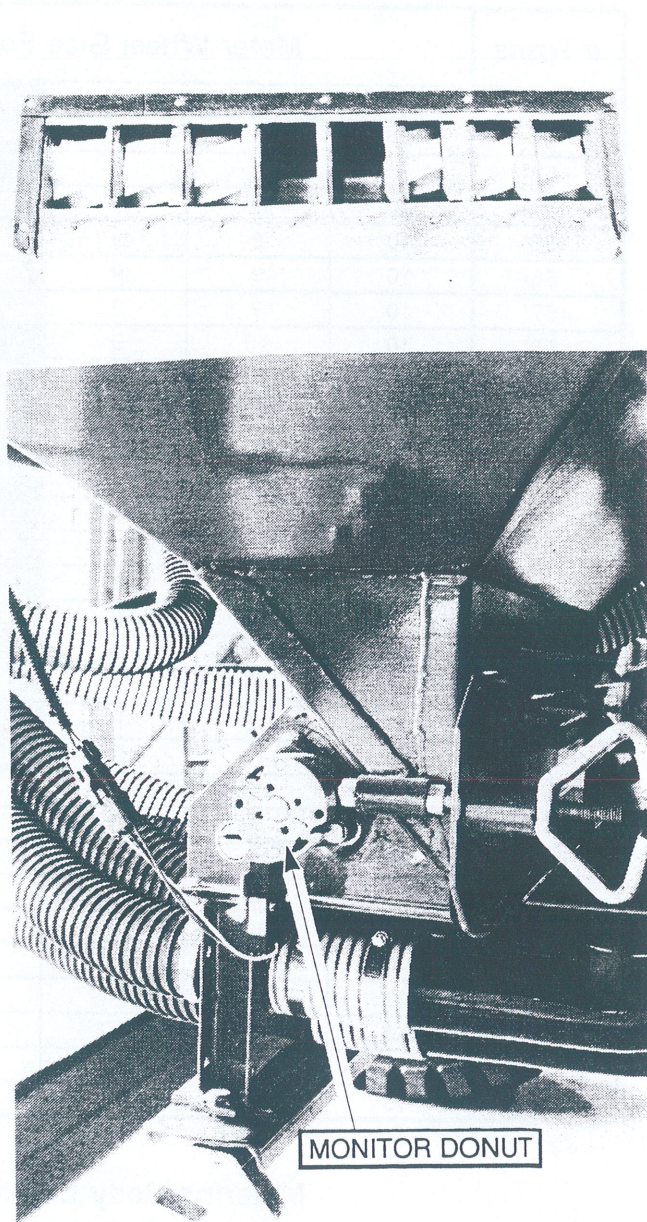
The location of each primary run must be the same for both metering bodies. See charts on page 10-8 and 10-9 for metering wheel size and location.

Assembly Hint: Mark the metering wheels on the outside of the rib that is next to the key.

- Smear an *extremely thin layer* of silicone on the pin side of the spacer plates for the 7, 8 and 9 metering cups.

The side with the silicone must be installed against the metering body.

- Place all metering wheels and spacers for the particular number of runs required into the metering body. See charts on page 10-8 and 10-9 for the location and size of each wheel for any size of unit.



Metering Wheels - continued

Assembly Hint: Mark metering wheel size on the metering body. This will help in connecting the main distribution hose and secondary divider heads.

- Align the shaft keyway with the marks on the metering wheels. Slide the metering shaft through the metering wheels.

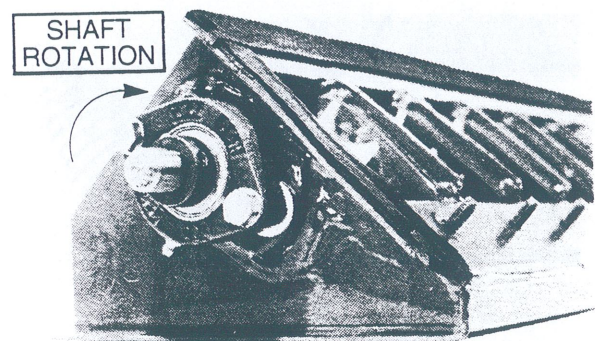
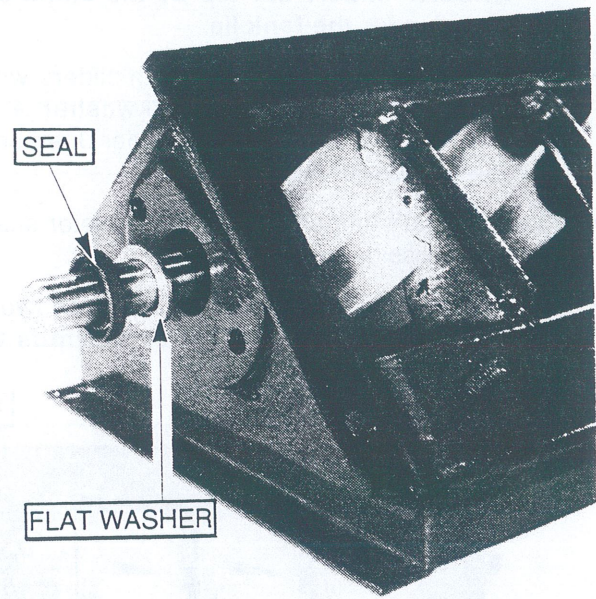
Note: Care must be taken that the key ways are aligned, otherwise damage to the key in the wheels may occur.

- The metering shaft must be pushed through until the shoulder on the shaft hits the side of the metering body.
- Install the washer on the shaft and into the housing on the Right Hand Side of the metering body.

Important: The seal must be installed as shown, with open side of the seal to the outside. Care must be taken when installing the seal. It is recommended that a brass drift be used to minimize any damage to the seal.

Note: The Left Hand Side seal is installed at the factory.

- Reinstall both meter shaft bearings and spacers with the grease fitting towards the rear of the machine.
- Tighten locking collars by turning the collars in the direction of the shaft rotation. Lock the collar by tapping the collar with a punch in the direction of rotation of the shaft.
- Reinstall monitor donut on shaft. Ensure donut is centred to the pick-up. The gap between the pick-up and the donut must not exceed 1/8".



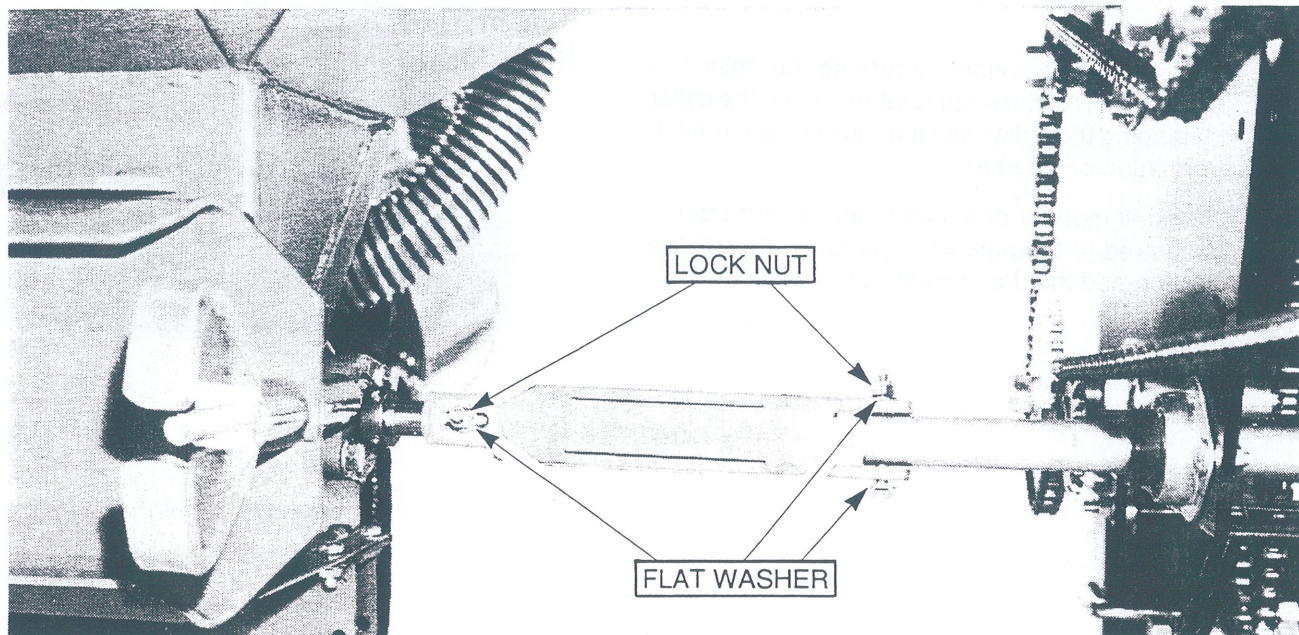
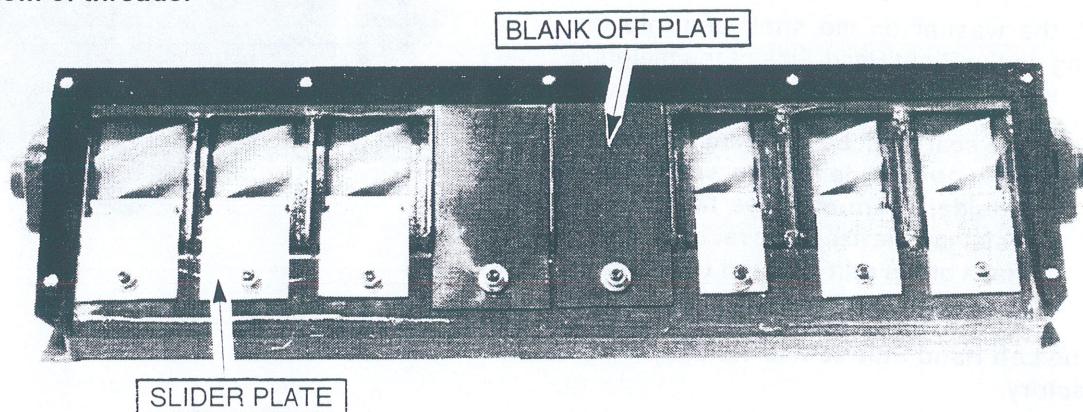
Metering

Metering Wheels - continued

- Install the slider plates to all cups with metering wheels.

Note: Install blank-off covers on cups without wheels. Insert the top of the blank-off plate under the tank lip.

- Set sliders to top of slot. Tighten sliders with 5/16" stainless steel nut, lockwasher and flatwasher. (See "Slider Setting" under Operation Section for correct procedure)
- Attach meter shaft coupler over the meter shaft and transmission drive shaft.
- Install the 1/4" x 2 1/4" Special bolt with two - flatwashers and locknut. **Tighten locknuts to bottom of threads.**



Single Shoot

General:

The air plenum is supplied with the metering system.

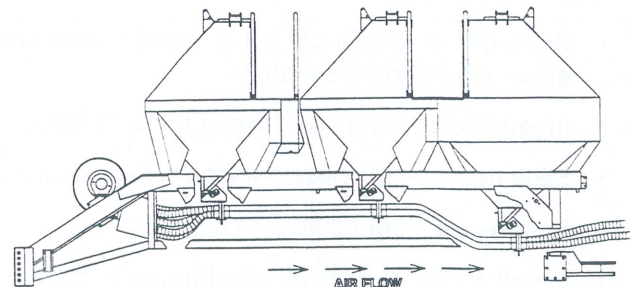
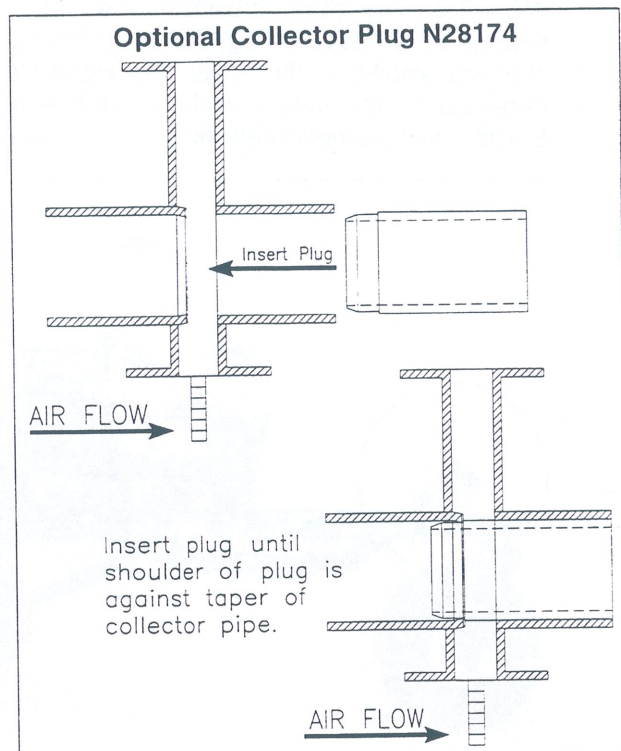
- Attach the air plenum to the fan using the 6" diameter hose clamp.
- Mount the collector to the bottom of the meter body.

Important: Ensure the "Air Flow" decal on the collector is pointing in the correct direction.

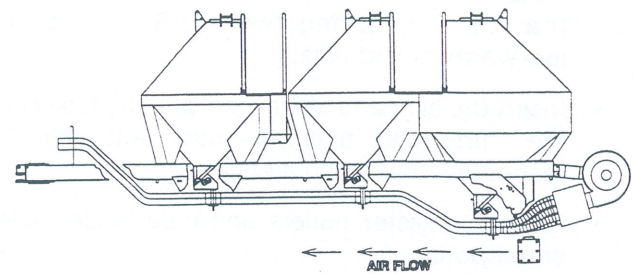
- Assemble the collector bottom to the collector using the large wing nuts.

Important: Care must be taken when installing the collector bottoms not to damage the inside of the collector.

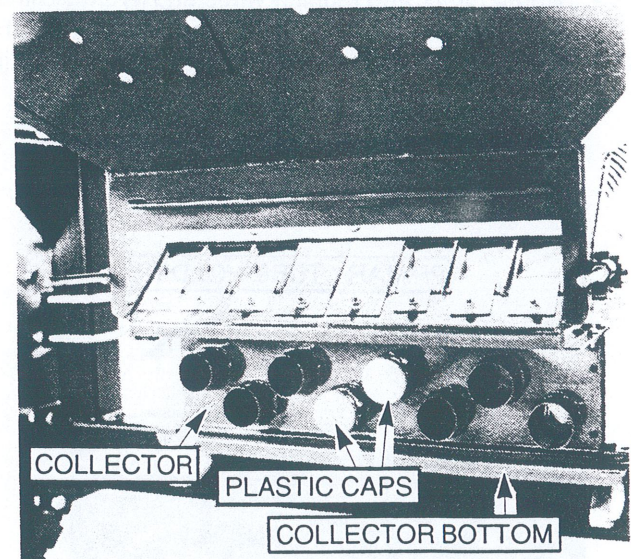
- Cut 2 1/2" diameter primary hose to the required length to connect the plenum to the collector.
- Connection of hoses from the plenum to the collector will depend on the number of primary runs used.
- All unused ports must be blanked off using a plastic cap and hose clamp with or without the optional collector plug N28174 shown below.



Air Flow Diagram Tow Between



Air Flow Diagram Tow Behind



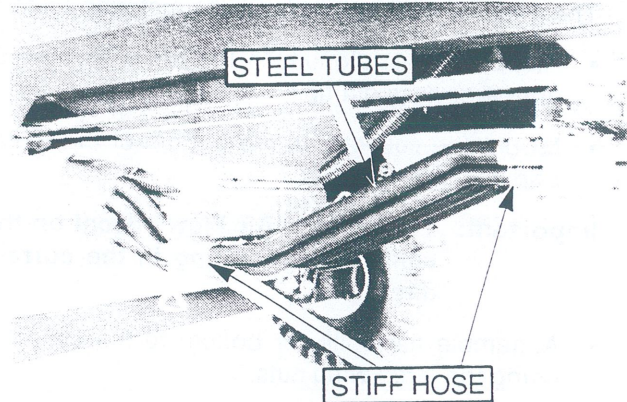
Note: Arrow directions on the collector bottom must point in the same direction as the ones on the collector body.

Metering

Single Shoot - Continued

Tow Behind:

- Slide the 4" length of 2 1/2" plastic hose onto either end of the steel tubes.
- Insert the steel tubes between the collectors.
- Slide the 4" length hose onto the collector outlets.
- Secure the steel tubes with hose clamps.
- Install the front primary steel tubes to the front collector outlets with 4" length hose.
- Secure the steel tubes with hose clamps.
- Install the primary tube holder onto the front of the Air Cart, using two - 3/8" x 1" bolts, lockwashers and nuts.
- Insert the bare end of the steel primary tubes into the holder and install the other end onto the respective collector outlets.
- Ensure collector outlets and tube holder holes correspond.
- Install the hose holder onto the front of the Air Cart, using two - 3/8" x 2 1/2" bolts, flatwashers, lockwashers and nuts.
- Route clutch and monitor wires and hydraulic lines through hose holder retaining chain with the secondary hose over the bottom half of the chain.

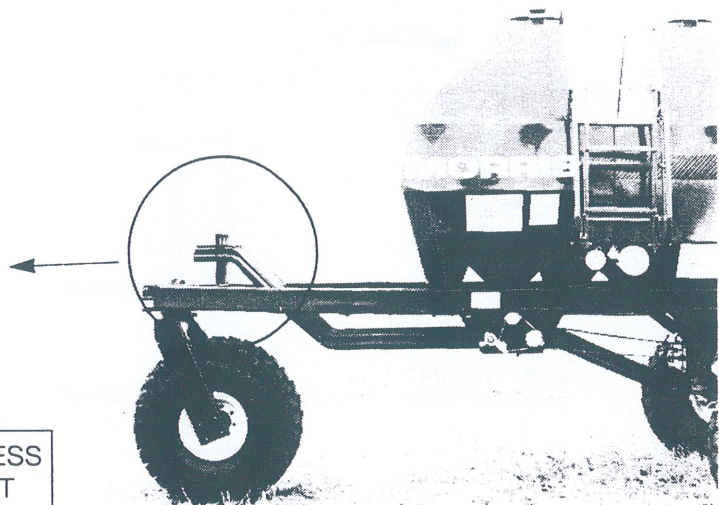
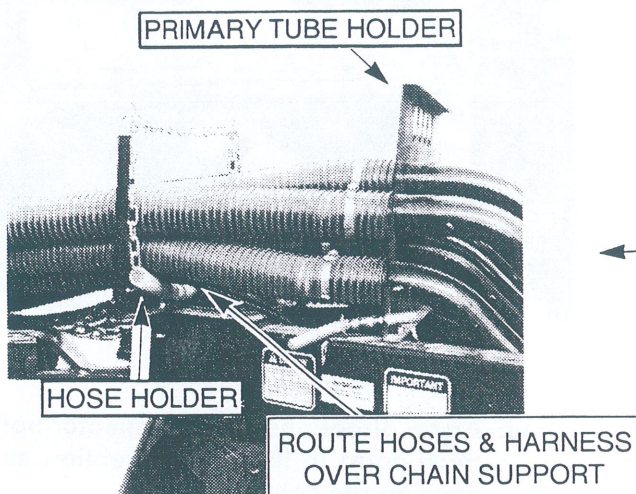


Note: Ensure there is a 1" gap between the collector body outlets and the steel tubes.

IMPORTANT

Hot water is the only acceptable lubricant for the installation of the 2 1/2" Black Coupler Hose.

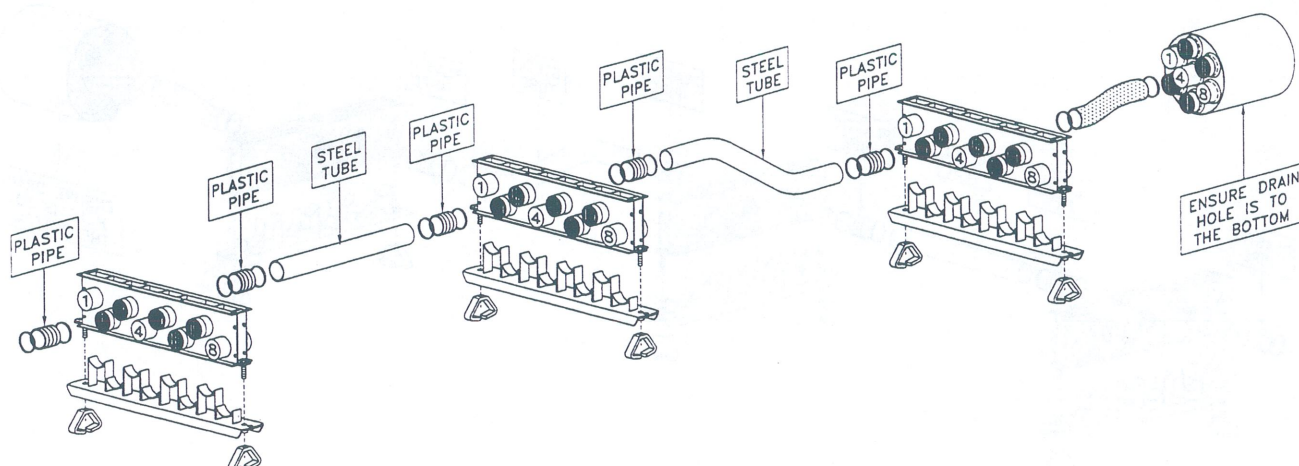
WD-40 or any other lubricant (i.e. liquid detergent) will have a negative effect on the chemical stability of the hose, resulting in the degradation and failure of the hose due to Environmental Stress Cracking.



Single Shoot - Continued

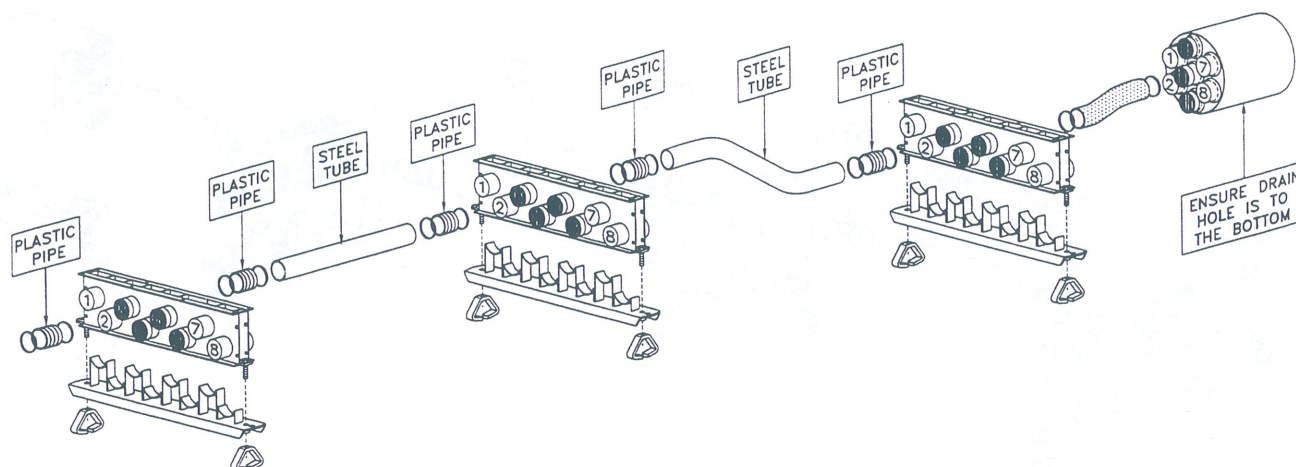
Units using 3 primaries up to 30 runs: Tow Behind

7252 Air Cart Shown



Units using 4 primaries, up to 40 runs: Tow Behind

7252 Air Cart Shown

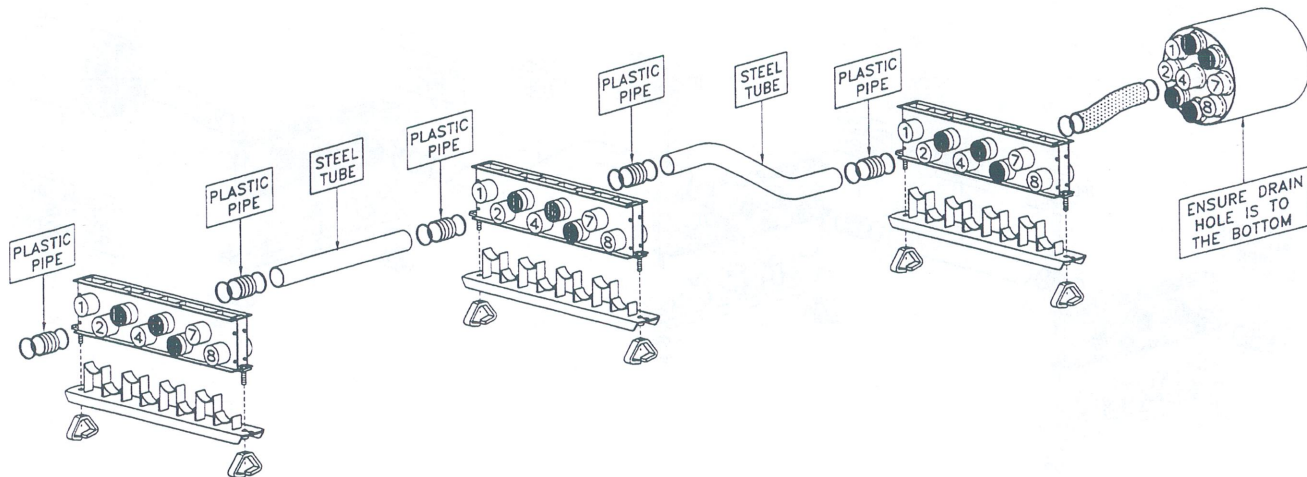


Metering

Single Shoot - Continued

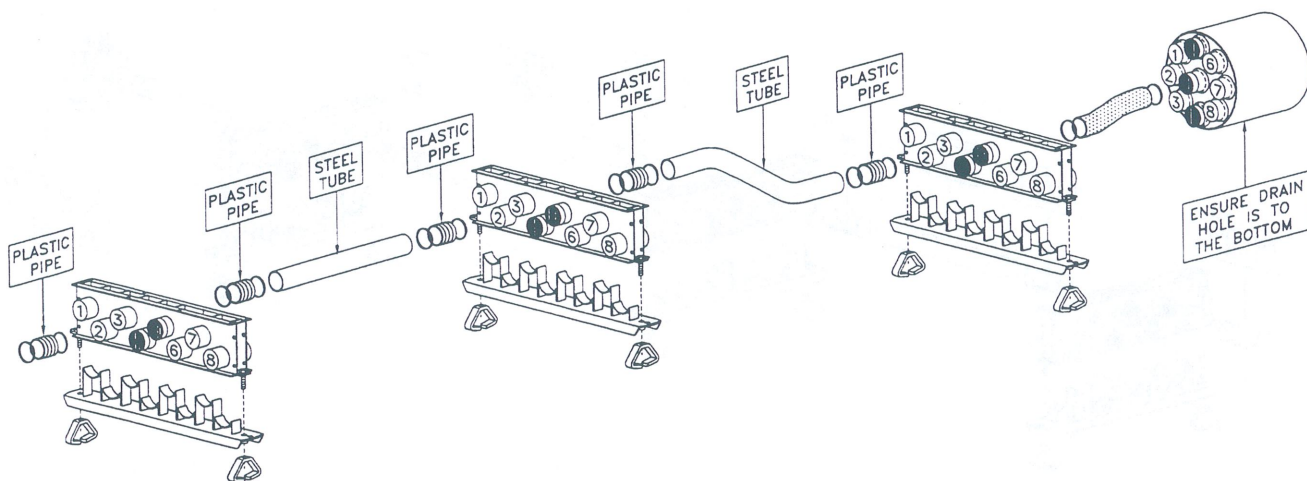
Units using 5 primaries, up to 50 runs: Tow Behind

7252 Air Cart Shown



Units using 6 primaries, up to 60 runs: Tow Behind

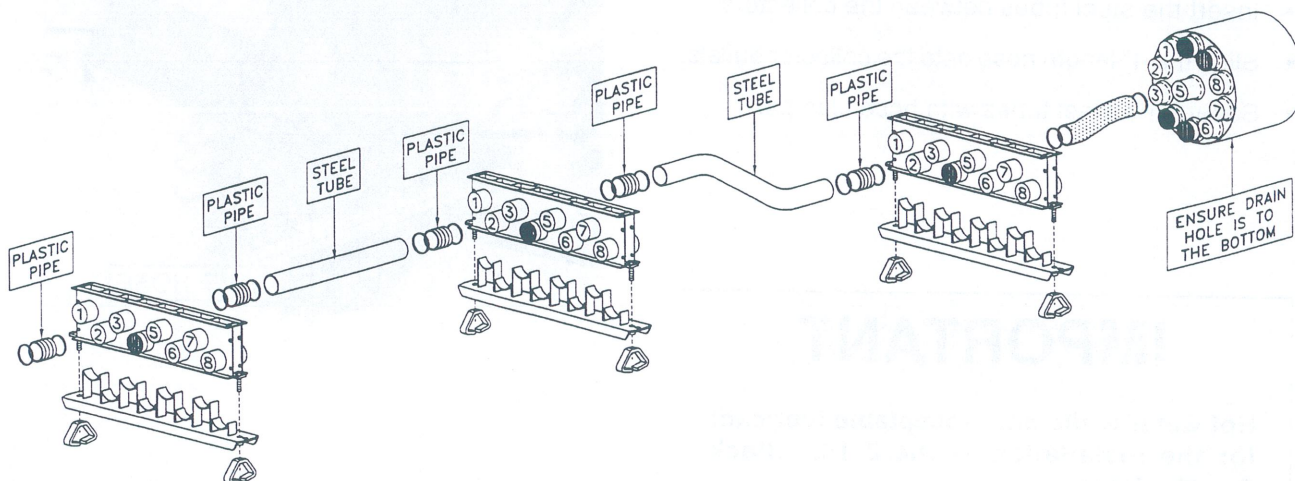
7252 Air Cart Shown



Single Shoot - Continued

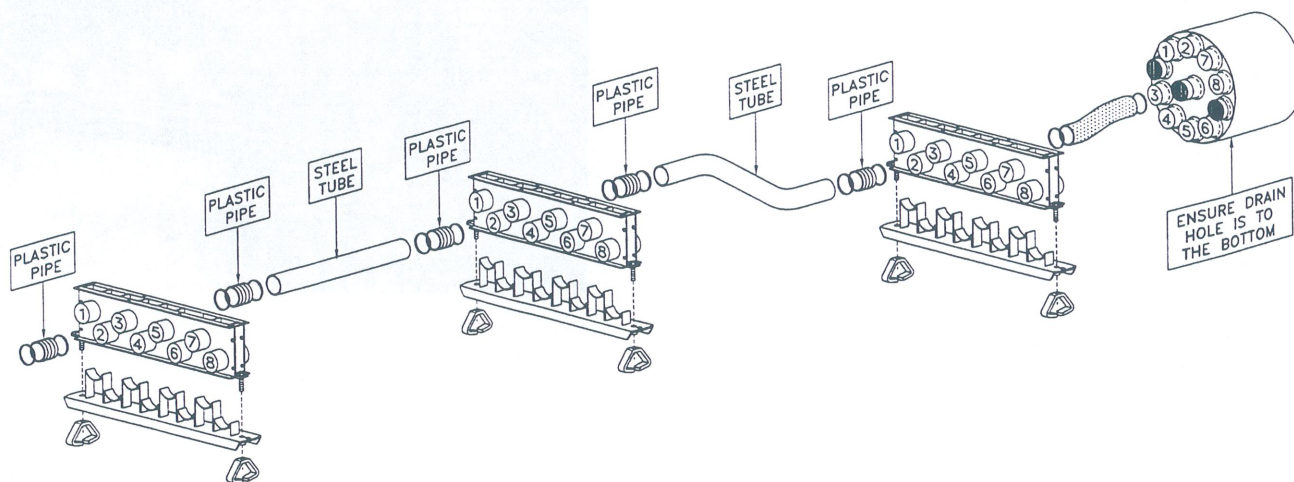
Units using 7 primaries, up to 70 runs: Tow Behind

7252 Air Cart Shown



Units using 8 primaries, up to 80 runs: Tow Behind

7252 Air Cart Shown



Metering

Single Shoot - Continued

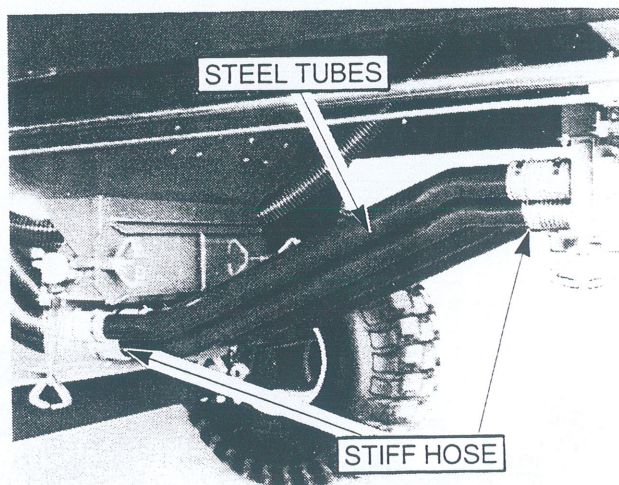
Tow Between:

- Slide the 4" length of 2 1/2" plastic hose onto either end of the steel tubes.
- Insert the steel tubes between the collectors.
- Slide the 4" length hose onto the collector outlets.
- Secure the steel tubes with hose clamps.

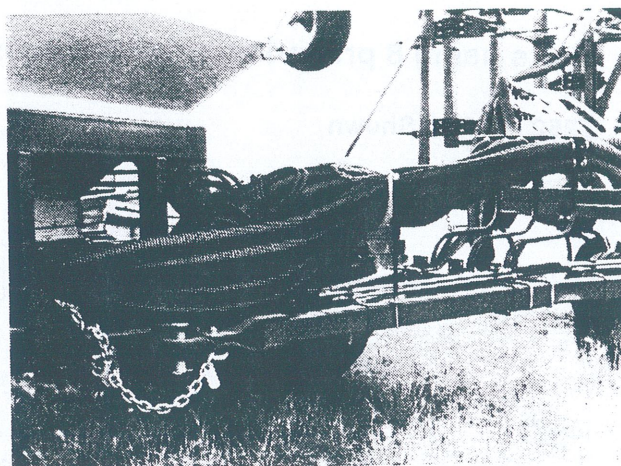
IMPORTANT

Hot water is the only acceptable lubricant for the installation of the 2 1/2" Black Coupler Hose.

WD-40 or any other lubricant (i.e. liquid detergent) will have a negative effect on the chemical stability of the hose, resulting in the degradation and failure of the hose due to Environmental Stress Cracking.



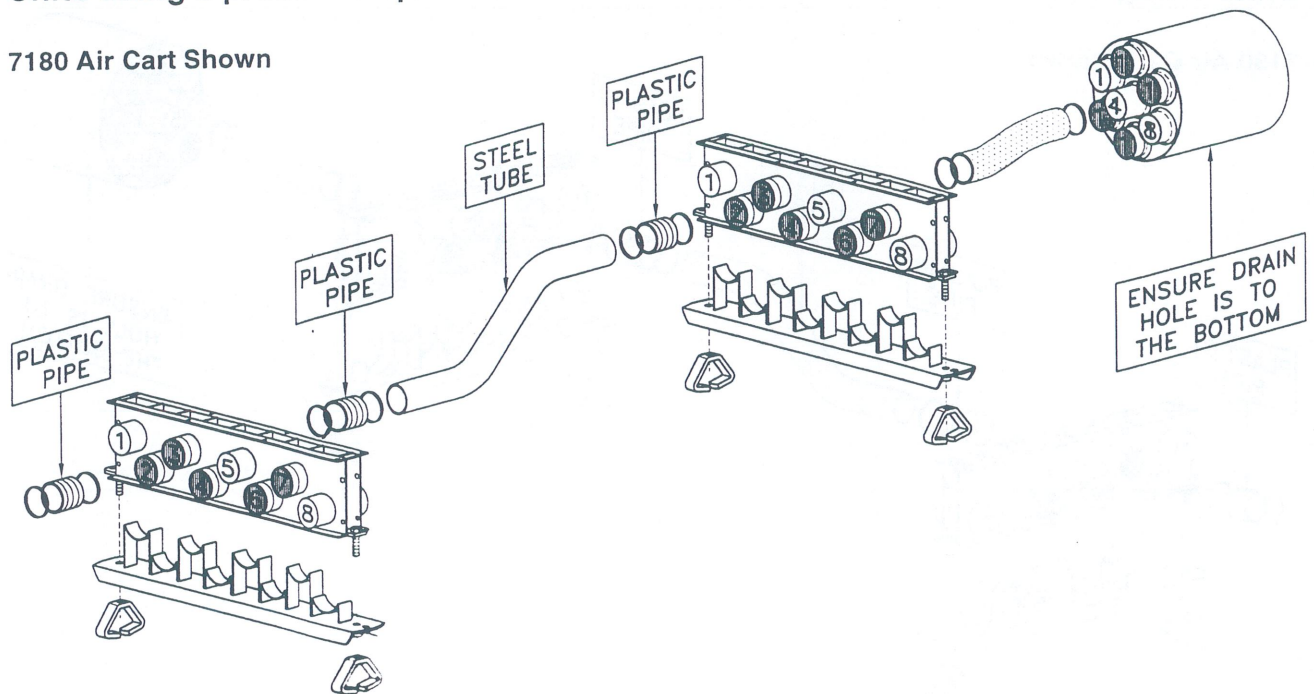
Note: Ensure there is a 1" gap between the collector body outlets and the steel tubes.



Single Shoot - Continued

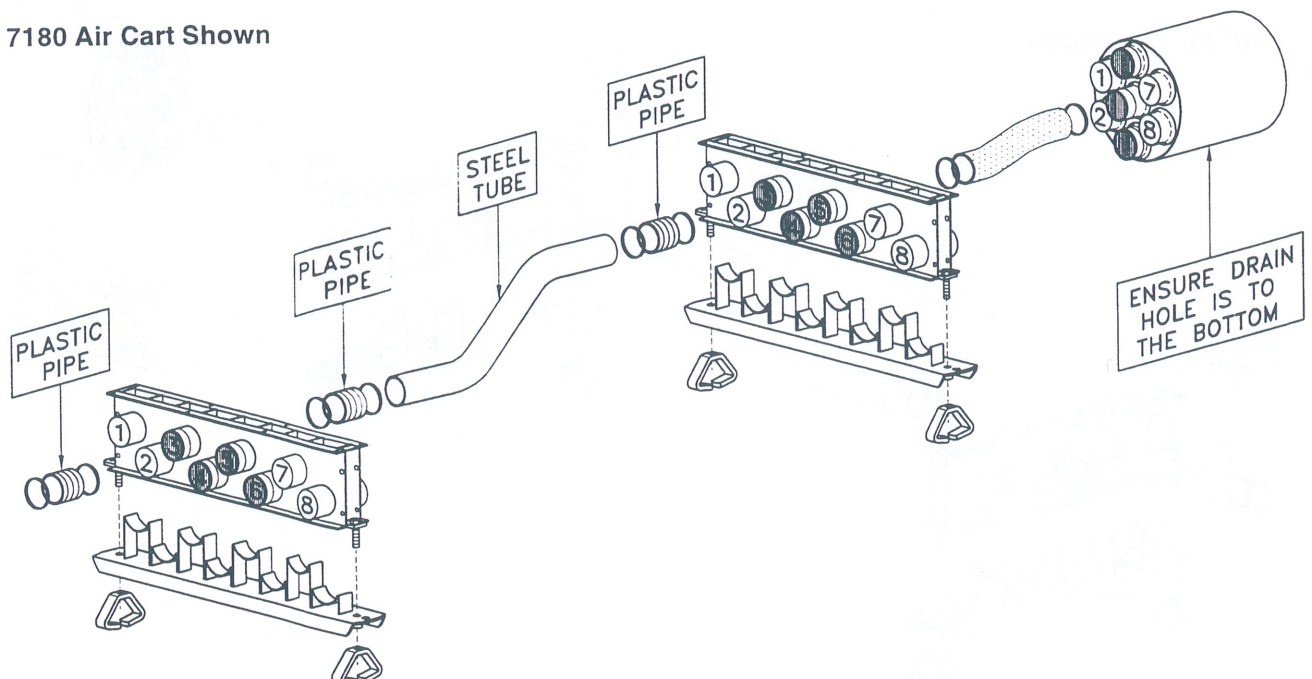
Units using 3 primaries up to 30 runs: Tow Between

7180 Air Cart Shown



Units using 4 primaries, up to 40 runs: Tow Between

7180 Air Cart Shown

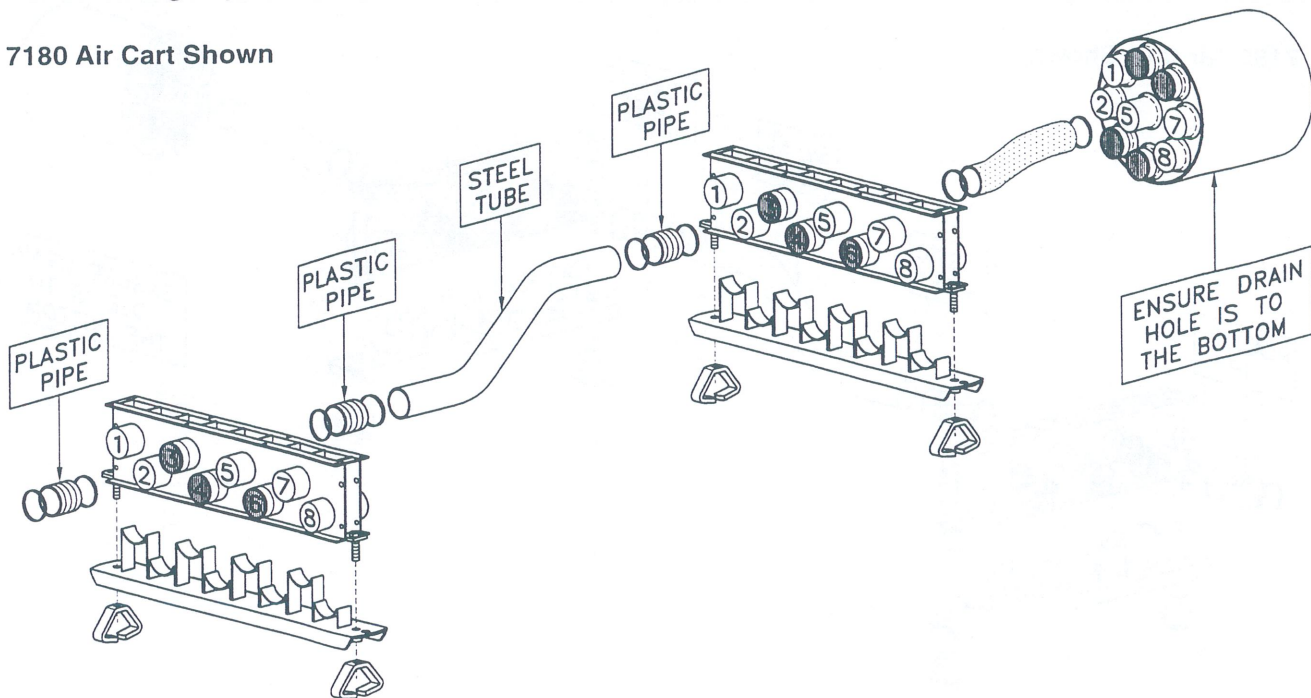


Metering

Single Shoot - Continued

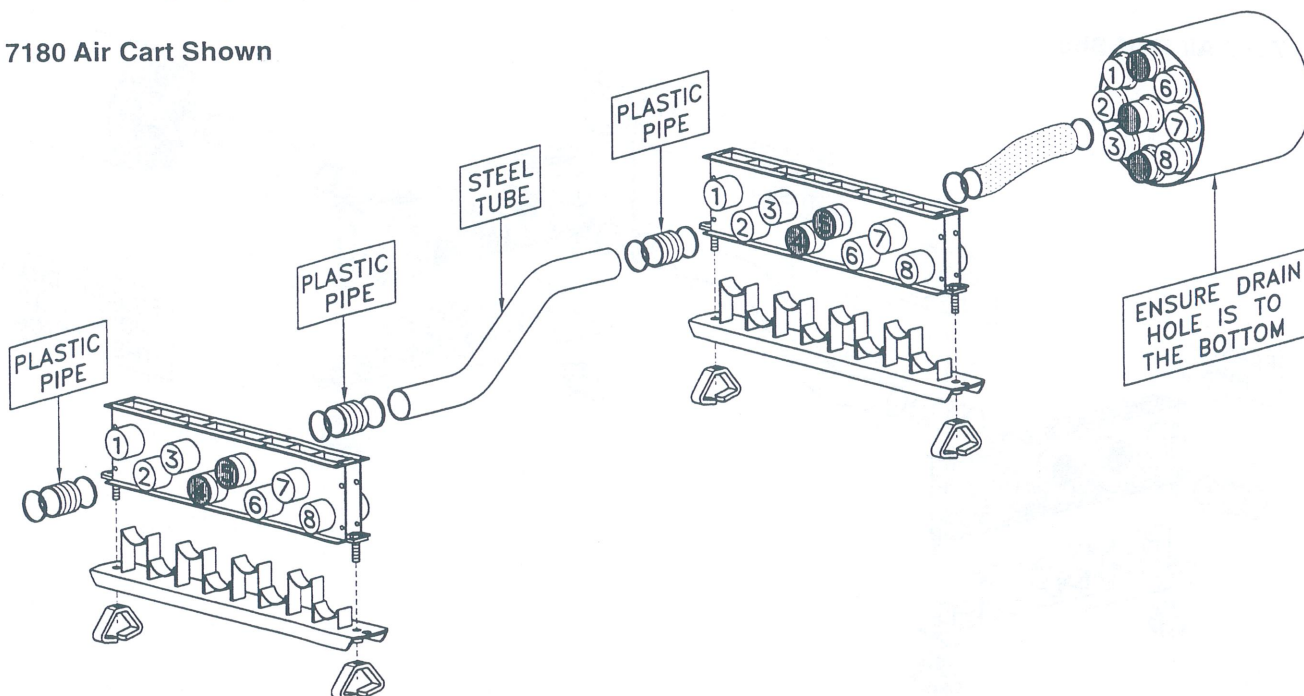
Units using 5 primaries, up to 50 runs: Tow Between

7180 Air Cart Shown



Units using 6 primaries, up to 60 runs: Tow Between

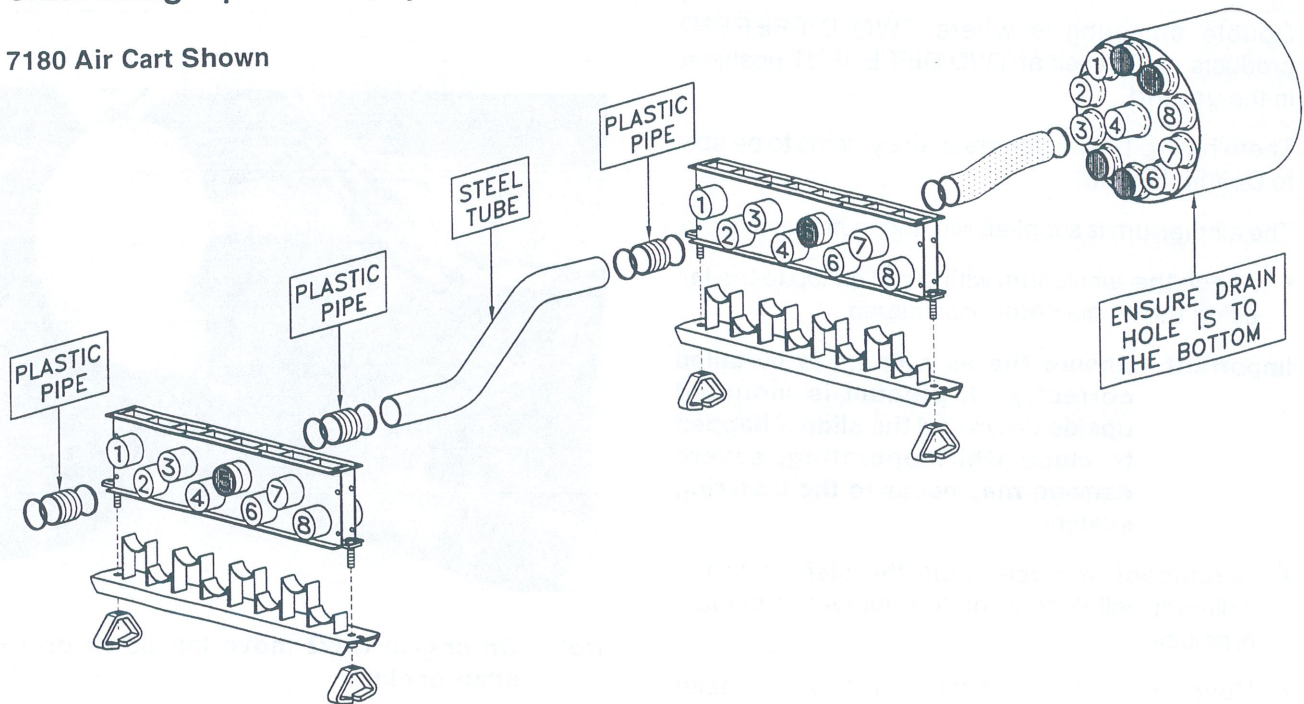
7180 Air Cart Shown



Single Shoot - Continued

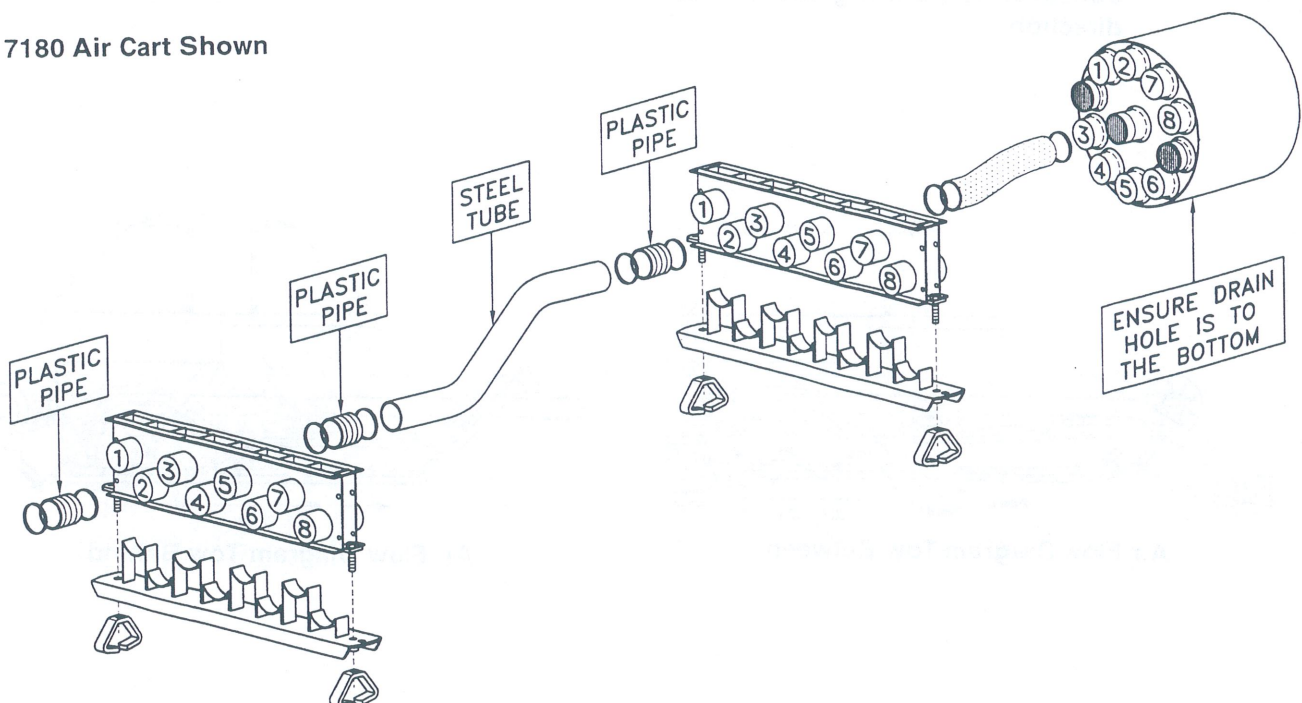
Units using 7 primaries, up to 70 runs: Tow Between

7180 Air Cart Shown



Units using 8 primaries, up to 80 runs: Tow Between

7180 Air Cart Shown



Metering

Double Shoot

General:

Double shooting is where TWO DIFFERENT products are placed at TWO DIFFERENT positions in the ground.

There has to be two separate air systems to be able to Double Shoot.

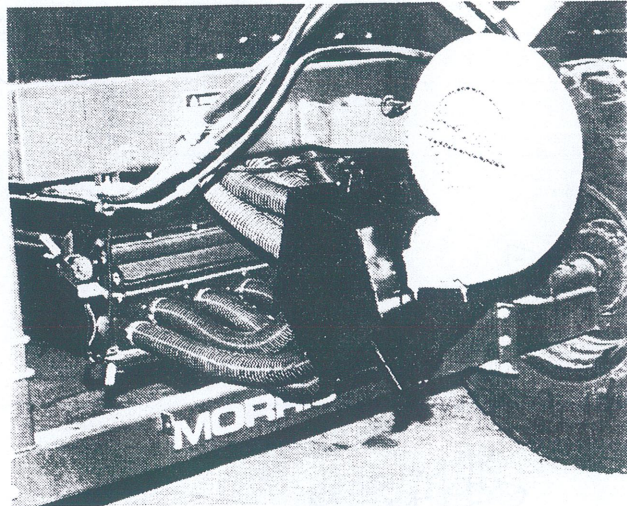
The air plenum is supplied with the metering system.

- Attach the air plenum with decal on top to the fan using the 6" diameter hose clamp.

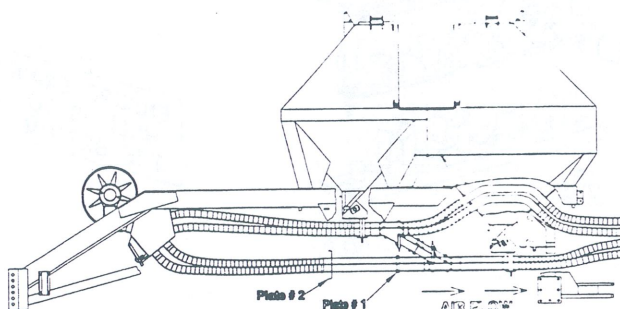
Important: Ensure the air plenum is installed correctly. If plenum is mounted upside down and the sliders happen to close while operating, severe damage may occur to the metering system.

- Connection of hoses from the plenum to the collector will depend on the number of primary runs used.
- Mount the collector to the bottom of the meter body.

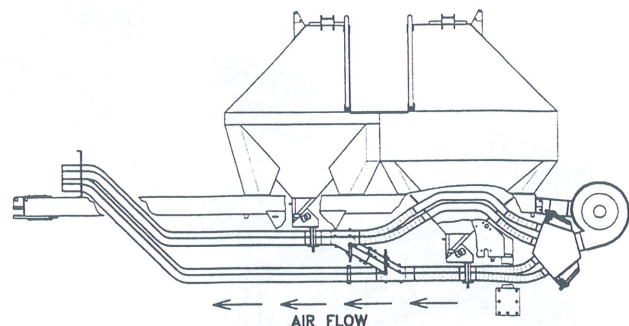
Important: Ensure the "Air Flow" decal on the collector is pointing the correct direction.



Note: On engine drive move fan down on the adaptor plate.



Air Flow Diagram Tow Between



Air Flow Diagram Tow Behind

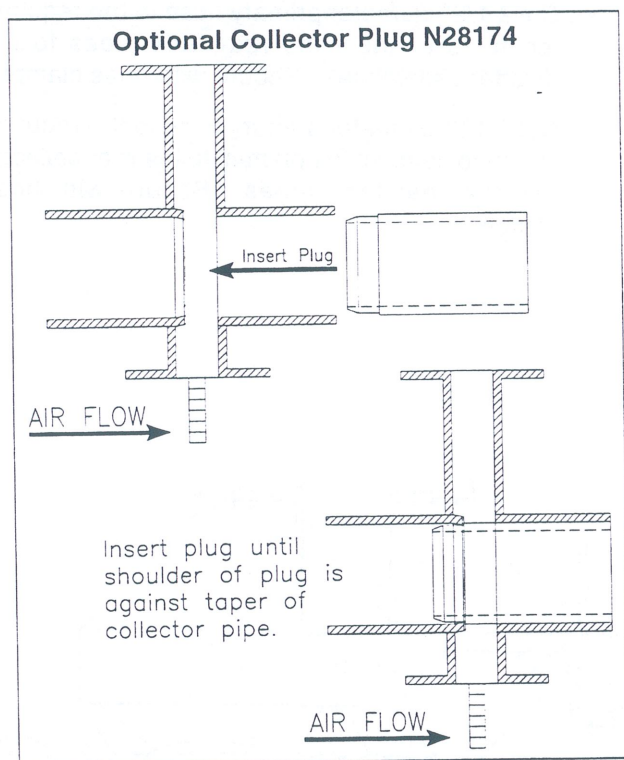
Double Shoot - Continued

General - continued:

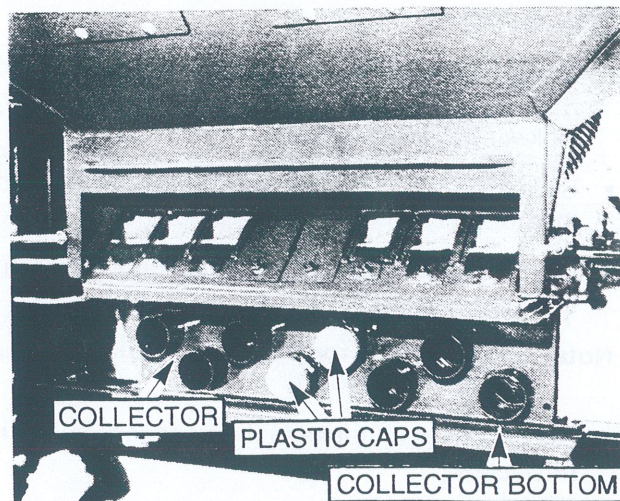
- Assemble the collector bottom to the collector using the large wing nuts.

Important: Care must be taken when installing the collector bottoms not to damage the inside of the collector.

- Remove the cover plates on rear tank.
- Attach seal strip to the **inside** mounting surface of the rear tank, over the mounting holes.
- Punch a hole through seal strip at each mounting hole, allowing easy bolt insertion.
- Install the **Double shoot tubes** in the rear tank with the 5/16" x 3/4" carriage bolts and serrated locknuts.
- All unused ports must be blanked off using a plastic cap and hose clamp with or without the optional collector plug N28174 shown below.



Note: On the 7130 & 7180, there is a front and rear mounting surface on the Double Shoot Tubes identified by decals. the 7240 & 7300 tubes are semetrical.

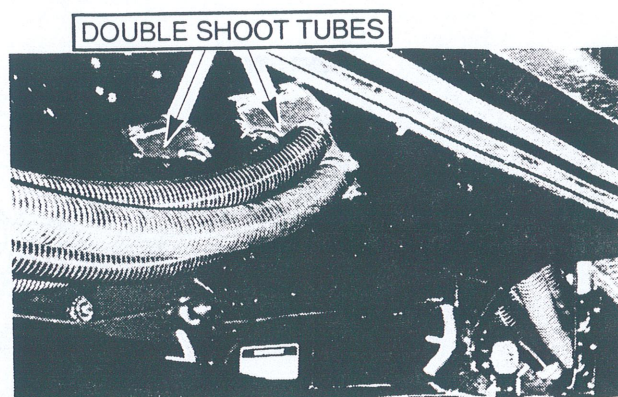


Note: Arrow directions on the collector bottom must point in the same direction as the ones on the collector body.

IMPORTANT

Hot water is the only acceptable lubricant for the installation of the 2 1/2" Black Coupler Hose.

WD-40 or any other lubricant (i.e. liquid detergent) will have a negative effect on the chemical stability of the hose, resulting in the degradation and failure of the hose due to Environmental Stress Cracking.



Metering

Double Shoot - Continued

Tow Behind:

- Install the primary tube holder onto the front of the Air Cart, using two - 3/8" x 1" bolts, lockwashers and nuts.
- Slide the 4" length of the 2 1/2" plastic pipe onto the front side of the front collector.
- Insert the top steel tubes between the front collector and the primary tube holder.

Note: Ensure collector outlets and tube holder holes correspond.

- Secure the steel tubes to the front collector with hose clamps.
- Mount straps to the bottom of the rear leg retaining bolts of the front tank.

Note: Ensure that the locknut engages properly, however the tank mounting bolts must remain loose.

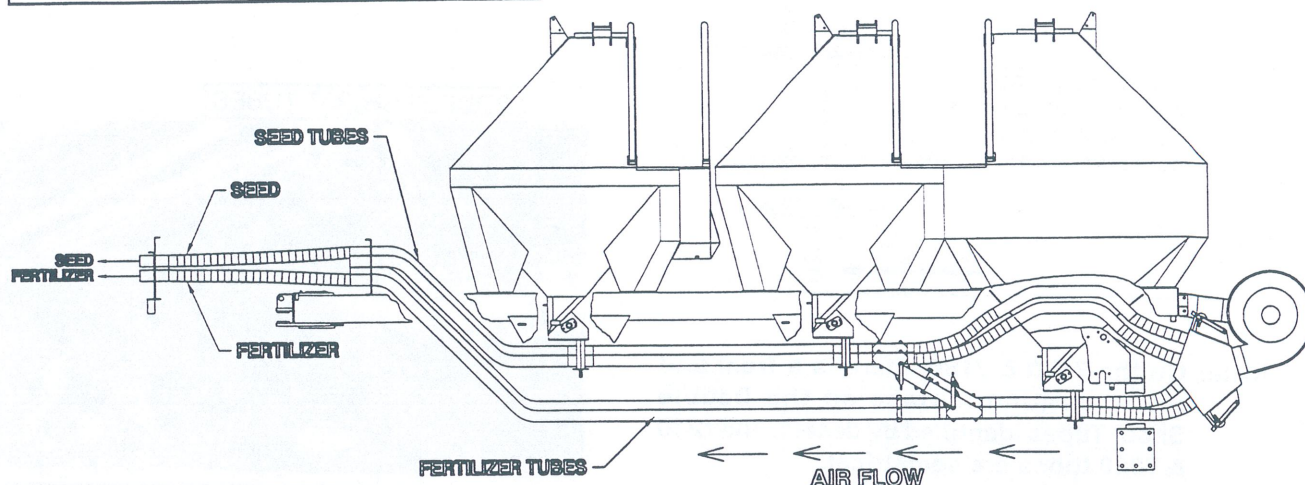
- Attach the mount plate to the straps with four 3/8" x 3/4" bolts and serrated lock nuts.

Note: 7130/7180 - Use bottom two holes of mount plate, i.e. upper position; 7240/7300 - Use top two holes of mount plate, i.e. lower position.

- Insert the bottom steel tubes between the primary tube holder and the mount plate.
- Slide the 4" length of the 2 1/2" plastic pipe onto the end of the bottom pipe and the rear side of the front collector.
- Slide the long 2 1/2" plastic pipe (7130/7180 - 16 1/8" Lg; 7240/7300 - 28" Lg) onto the front side of the rear collector.
- Apply silicone sealant to the mounting flange of one diverter sub assembly.
- Assemble the two diverter sub-assemblies together with four 1/4" x 1 1/4" bolts and nylon insert locknuts.
- Install the diverter assembly using the two 4" lengths and long 2 1/2" plastic pipe. Secure with hose clamps.
- Cut 2 1/2" diameter primary hose to the required length to connect the rear tank tubes to the diverter assemblies. Secure with hose clamps.
- Cut 2 1/2" diameter primary hose to the required length to connect the plenum to the rear collector and the rear tank tubes. Secure with hose clamps.

IMPORTANT

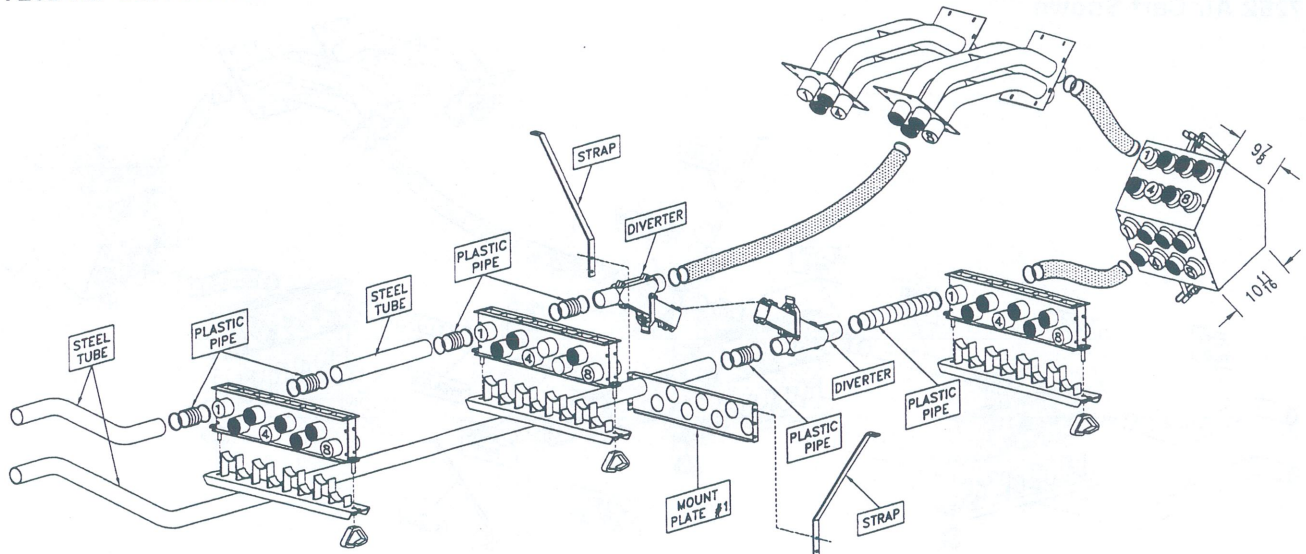
Ensure the top heads are connected to the seed hoses from Air Cart.
See illustration below.



Double Shoot - Continued

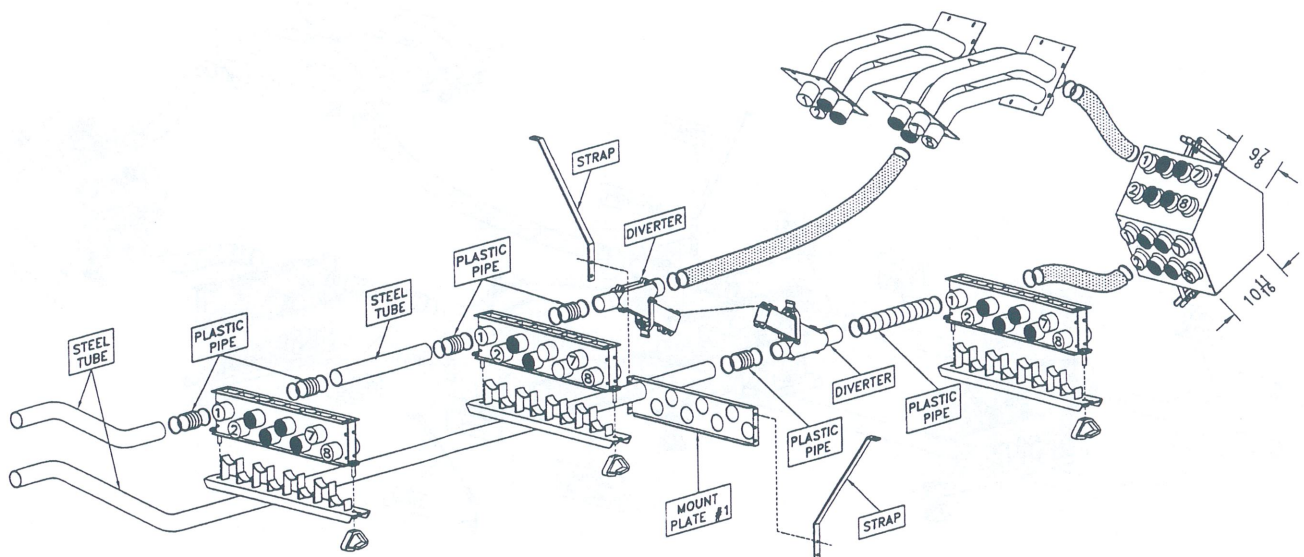
Units using 3 primaries up to 30 runs: Tow Behind

7252 Air Cart Shown



Units using 4 primaries, up to 40 runs: Tow Behind

7252 Air Cart Shown

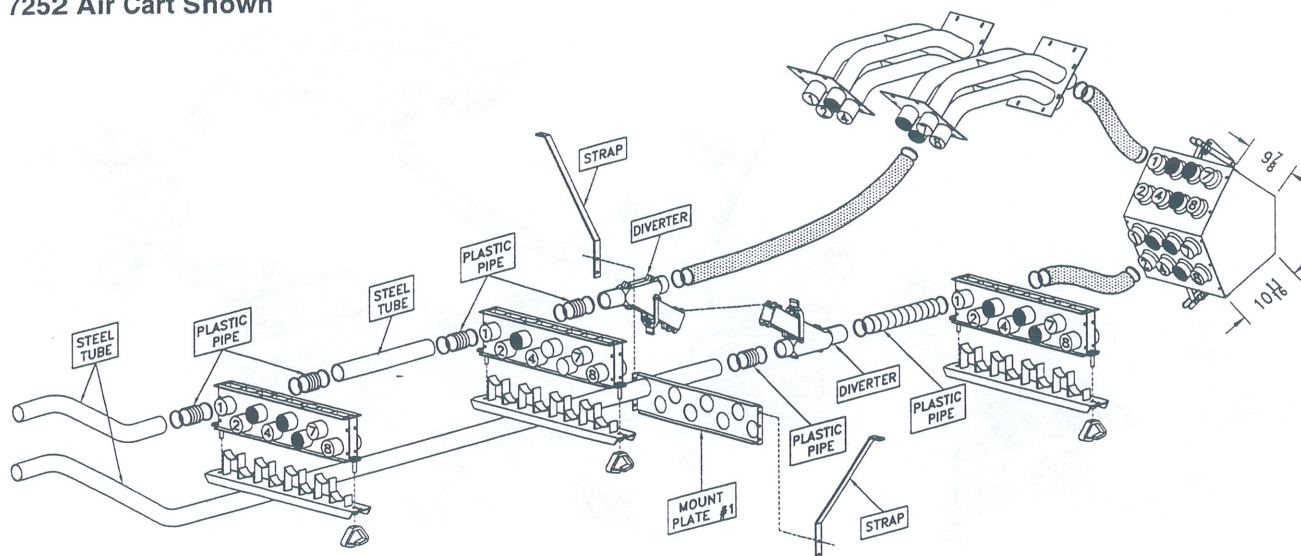


Metering

Double Shoot - Continued

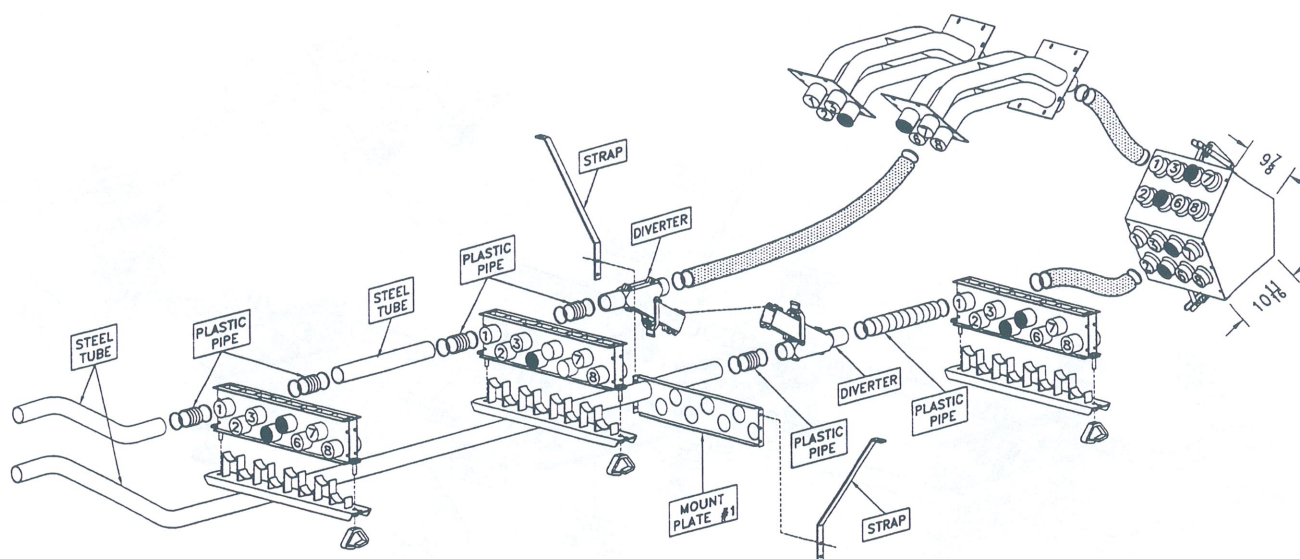
Units using 5 primaries, up to 50 runs: Tow Behind

7252 Air Cart Shown



Units using 6 primaries, up to 60 runs: Tow Behind

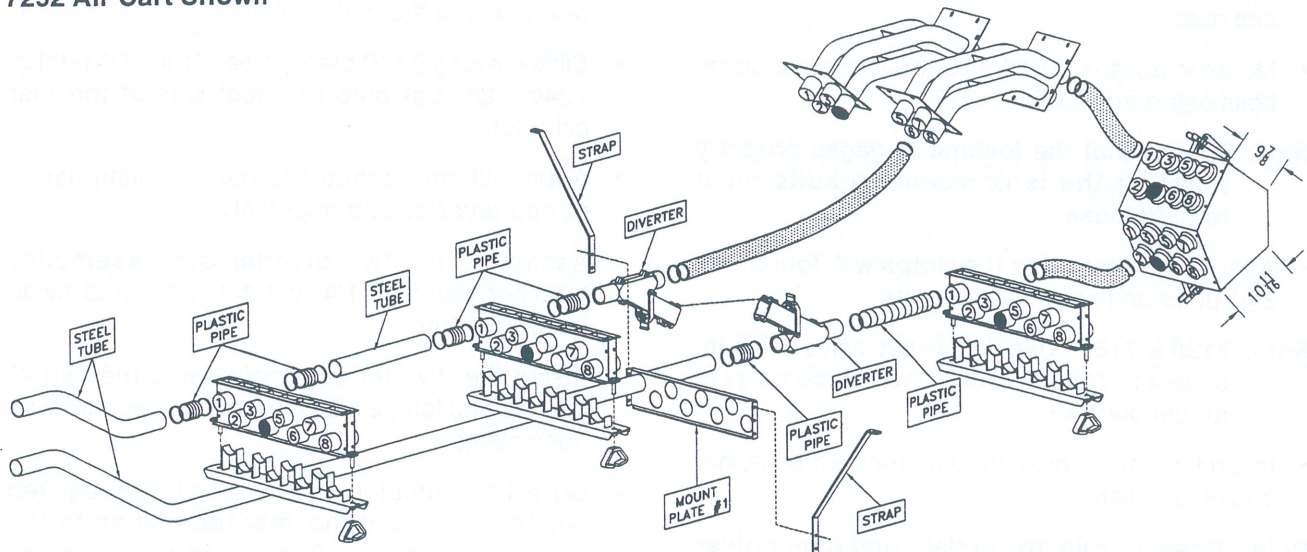
7252 Air Cart Shown



Double Shoot - Continued

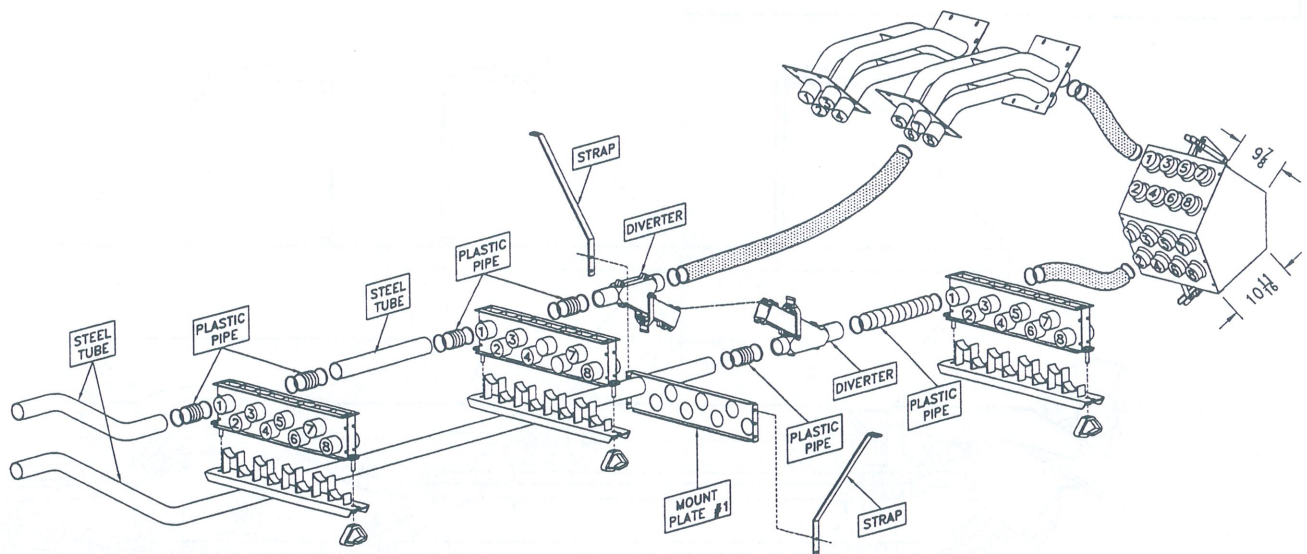
Units using 7 primaries, up to 70 runs: Tow Behind

7252 Air Cart Shown



Units using 8 primaries, up to 80 runs: Tow Behind

7252 Air Cart Shown



Metering

Double Shoot - Continued

Tow Between:

- Install Plate #2 between the 2" x 2" frame members of the Air Cart, using two - 3/8" U-bolts, lockwashers and nuts.
- Mount straps to the bottom of the rear leg retaining bolts of the front tank.

Note: Ensure that the locknut engages properly however the tank mounting bolts must remain loose.

- Attach the Plate #1 to the straps with four 3/8" x 3/4" bolts and serrated lock nuts.

Note: 7130 & 7180 - Use bottom two holes of mount plate #1. **7240 & 7300** - Use top two holes of mount plate #1.

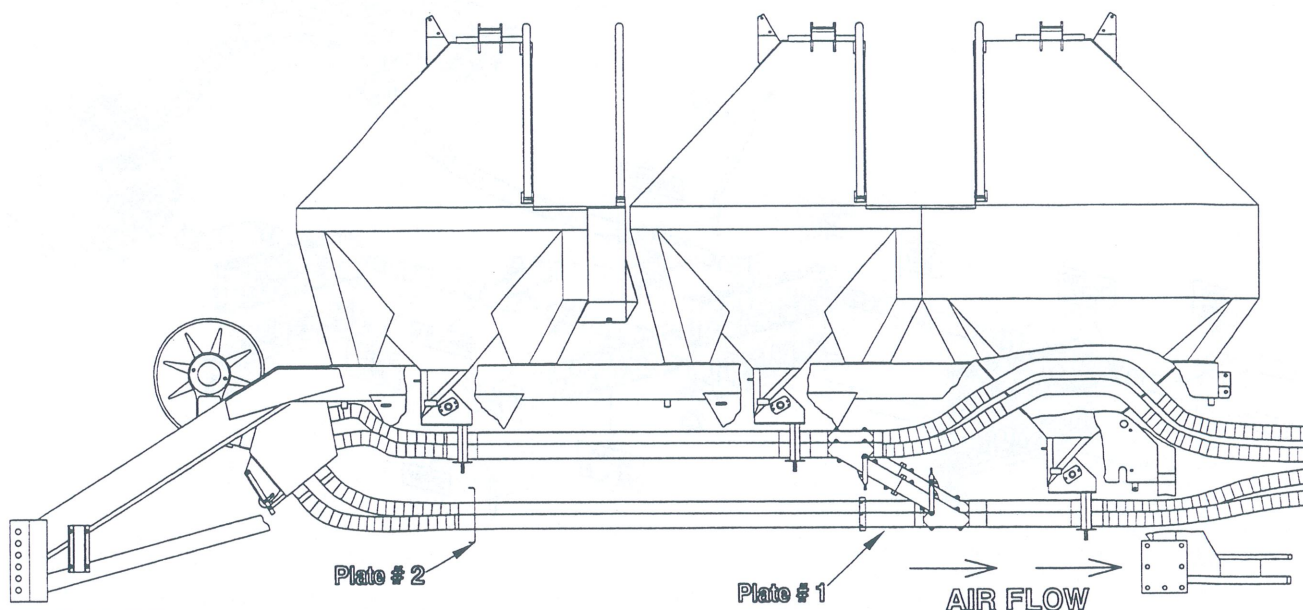
- Insert the bottom pipe into the primary tube holder and mount plate.

Note: Ensure collector outlets and tube holder holes correspond.

- Slide the 4" lengths of the 2 1/2" plastic pipe onto the rear side of the front collector and onto the rear outlet of the bottom pipe.
- Slide the long 2 1/2" plastic pipe (7180 - 16 1/8" Lg; 7240 - 28" Lg) onto the front side of the rear collector.
- Apply silicone sealant to the mounting flange of one diverter sub assembly.
- Assemble the two diverter sub-assemblies together with four 1/4" x 1 1/4" bolts and nylon insert locknuts.
- Install the diverter assembly using the two 4" lengths and long 2 1/2" plastic pipe. Secure with hose clamps.
- Cut 2 1/2" diameter primary hose to the required length to connect the rear tank tubes to the diverter assemblies. Secure with hose clamps.
- Cut 2 1/2" diameter primary hose to the required length to connect the plenum to the front collector and the bottom pipes. Secure with hose clamps.

IMPORTANT

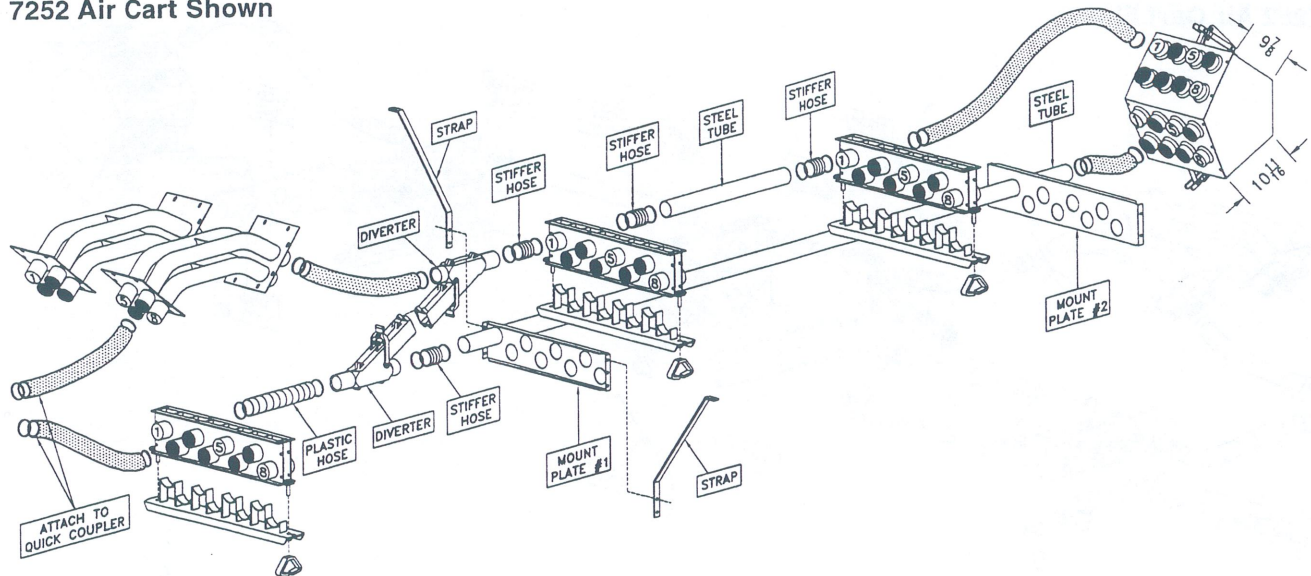
Ensure the top heads are connected to the seed hoses from Air Cart. See illustration below.



Double Shoot - Continued

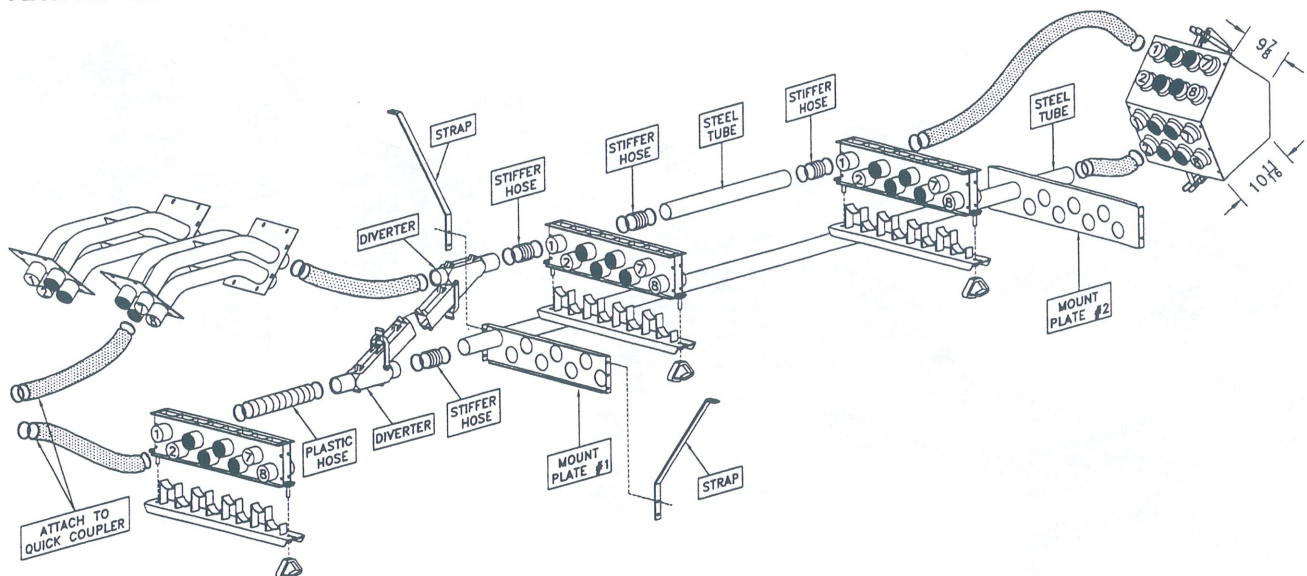
Units using 3 primaries up to 30 runs: Tow Between

7252 Air Cart Shown



Units using 4 primaries, up to 40 runs: Tow Between

7252 Air Cart Shown

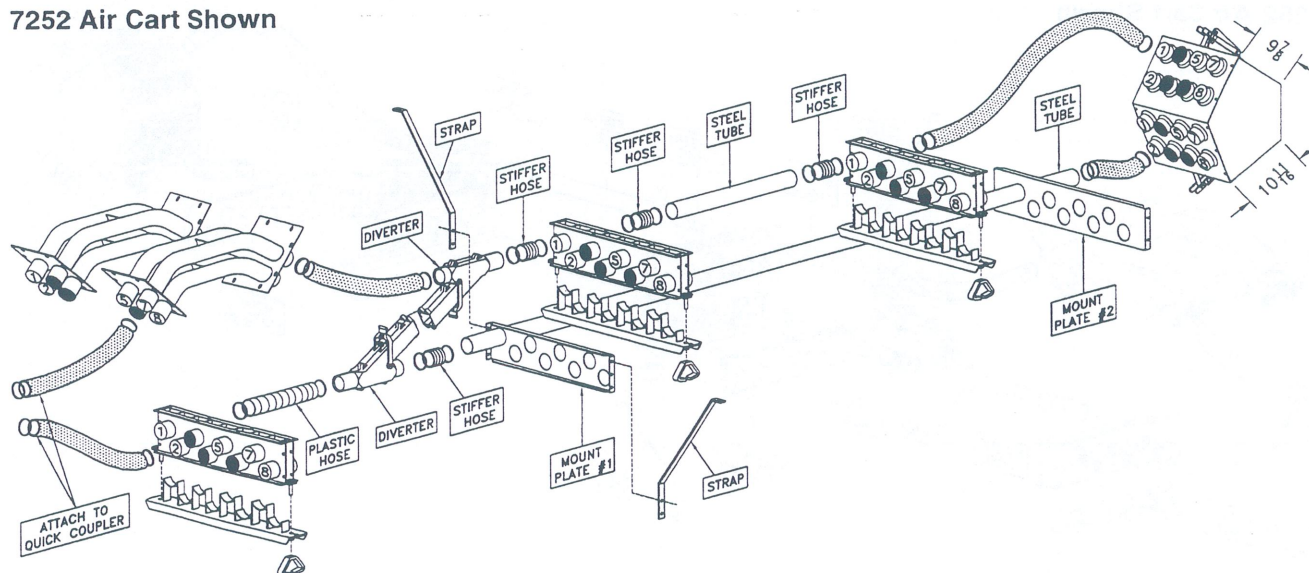


Metering

Double Shoot - Continued

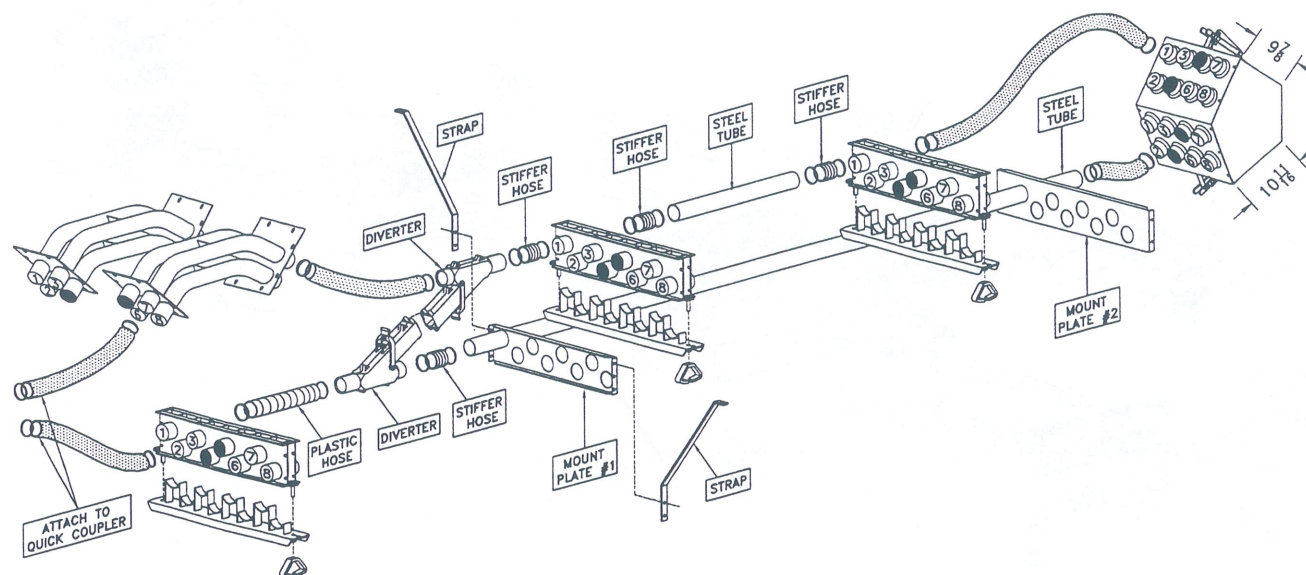
Units using 5 primaries, up to 50 runs: Tow Between

7252 Air Cart Shown



Units using 6 primaries, up to 60 runs: Tow Between

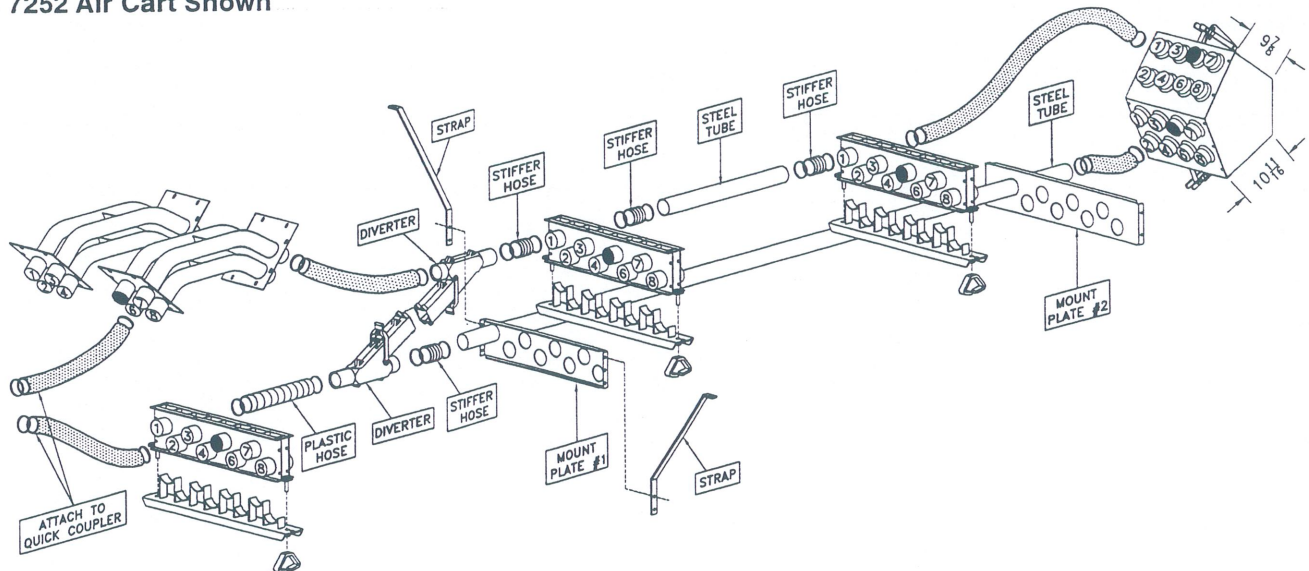
7252 Air Cart Shown



Double Shoot - Continued

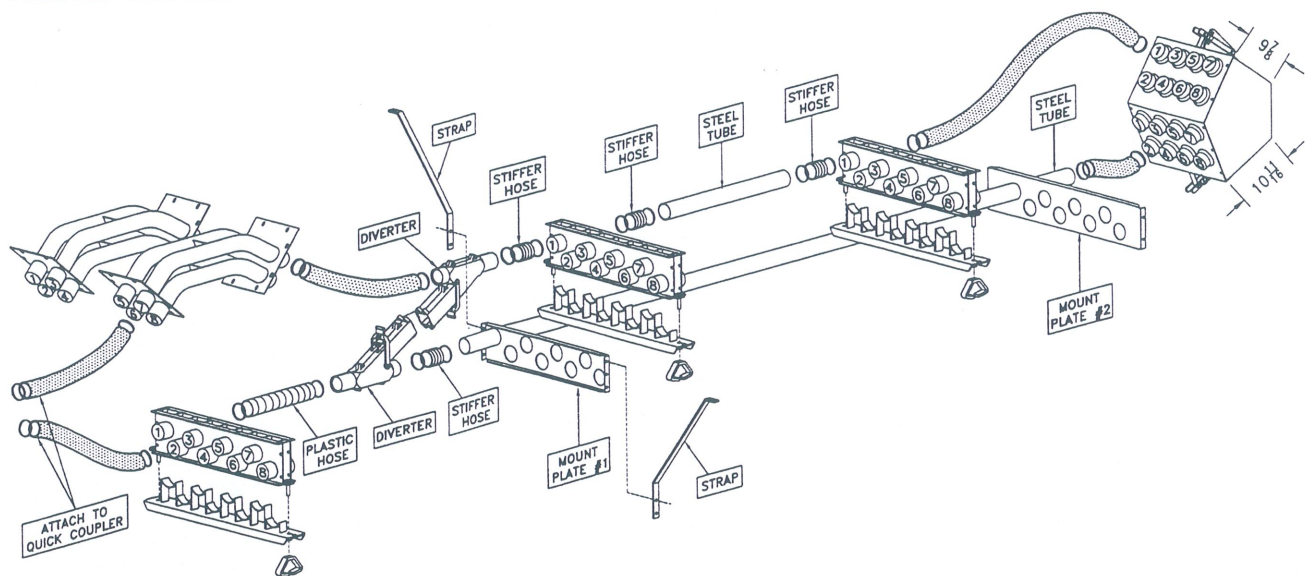
Units using 7 primaries, up to 70 runs: Tow Between

7252 Air Cart Shown



Units using 8 primaries, up to 80 runs: Tow Between

7252 Air Cart Shown



Notes

Notes