PULL TYPE BROADCASTER

OPERATOR'S MANUAL

PARTS CATALOG

MANUAL #3999

Revised May 2016

Model WF-64 Pictured

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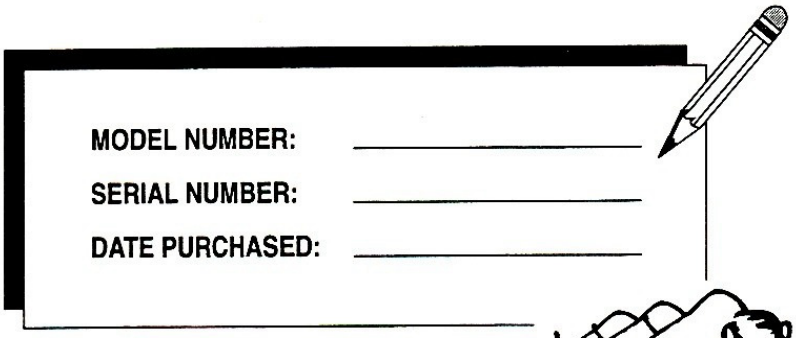
PLEASE NOTE:

Information, figures, specifications, and parts in this operator's manual are based on the latest available at the time of publication. Specifications and design are subject to change without notice. The right is reserved to make changes and updates to this manual at any time without notice.

The model and serial numbers of your new **Pull-Type Broadcaster** are stamped on a serial plate that is mounted on your machine below the cover for the derailleur speed changer for the fluffy seed box.

For your future reference and protection, we suggest that these numbers be recorded in the space provided below:



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INTRODUCTION

READ THIS OWNER'S AND OPERATOR'S MANUAL THOROUGHLY before operating the equipment. Follow recommended precautions and safe operating practices. Failure to do so could result in personal injury or equipment damage. **Read, understand, and follow** all safety instructions prior to uncrating and operating this equipment.

This owner's manual provides safety, operating, maintenance, and service information on *Truax* Pull-Type Broadcast seeders.

PULL-TYPE BROADCASTER MODELS:

MODEL NUMBER	PLANTING WIDTH	OVERALL MACHINE WIDTH	MACHINE WEIGHT	CULTIPACKER AVAILABLE	COVERING CHAINS AVAILABLE
WF-32	3 Ft	6 Ft	400 Lbs.	Yes	Yes
WF-64	5 Ft	8 Ft	1000 Lbs.	Yes	Yes
WF-127	10.5 Ft	13.5 Ft	1600 Lbs.	No	Yes

Pull-Type Broadcasters are equipped with a fluffy seed box with an auger agitator and picker wheels, a legume box for small flowable seeds, and a cool season/grain seed box for intermediate sized flowable grass seeds and grains.

Covering chains are available for all models and a single roller cultipacker is available for Models WF-32 and WF-64.

PULL-TYPE BROADCASTER OPERATION:

This seeder distributes seed in a broadcast pattern across the seeding width of the machine. Seed is metered from the seed boxes and drops onto two baffles that help distribute the seed on the soil surface the full width of the seeder. Some type of tillage is usually necessary to provide loosened soil to achieve seed-to-soil contact. Covering chains usually help to distribute the seed and to provide a mixing action between the seed and the surface soil. A cultipacker should always be used after seeding to press the seed into the soil surface. Packing the soil may also be necessary prior to seeding if the seedbed is loose and fluffy.

WARRANTY

FARM EQUIPMENT LIMITED WARRANTY

TRUAX COMPANY, INC. ("Manufacturer") warrants to the original purchaser that the Farm Equipment will be free from defects in material and workmanship under normal use and condition for a period of one (1) year after the date of delivery. This warranty is limited to replacement or repair, at the Manufacturer's facilities in Minneapolis, Minnesota, USA, of such parts as shall under normal use and service appear to have been defective in material or workmanship. This warranty is null and void if parts other than the Manufacturer's parts are used. This warranty does not extend to Farm Equipment and parts that have been subject to misuse, accident, tampering, alteration or installation in a manner not approved by the Manufacturer in writing. **This warranty is exclusive, and the manufacturer makes no other warranty, express or implied, including but not limited to any warranty of merchantability or fitness for a particular purpose.**

Parts claimed to be defective shall be returned to the Manufacturer at Minneapolis, Minnesota, transportation prepaid. If upon inspection by the Manufacturer, the part(s) are determined to have been defective, the Manufacturer will replace or repair such defective part(s) without charge except for transportation. Prior to returning any Farm Equipment or part(s) alleged to be defective, the purchaser shall notify the Manufacturer in writing of the claimed defect. **This is the exclusive remedy for any breach of warranty.** The sole purpose of this remedy shall be to provide the purchaser with the replacement or repair of defective part(s). This exclusive remedy shall not be deemed to have failed its essential purpose so long as the Manufacturer is willing and able to replace or repair the defective part(s).

No person, agent, distributor, or dealer is authorized to give any warranty other than the one herein expressed on the Manufacturer's behalf or assume for it any liability pertaining to Farm Equipment. **In no event shall manufacturer or its dealers be liable for any amount in excess of the price paid by the purchaser for the farm equipment or for any incidental or consequential damages of any kind, whether for breach of any warranty, for breach or repudiation of any other term of condition of sale, for negligence, on the basis of strict liability or otherwise.**

A defect, within the meaning of this warranty, in any part of the Farm Equipment shall not, when such part is capable of being repaired or replaced, operate to condemn the entire Farm Equipment.

This warranty is expressly in lieu of all warranties, guarantees, allegations, or liabilities expressed or implied, by the Manufacturer, its dealers or its representatives.

truax COMPANY, INC.

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RECOGNIZE SAFETY INFORMATION

This is a safety-alert symbol. When you see this symbol on your machine or in this manual, become alert, as your safety is involved.

Follow recommended precautions and safe operating practices.

SAFETY ALERT SYMBOL

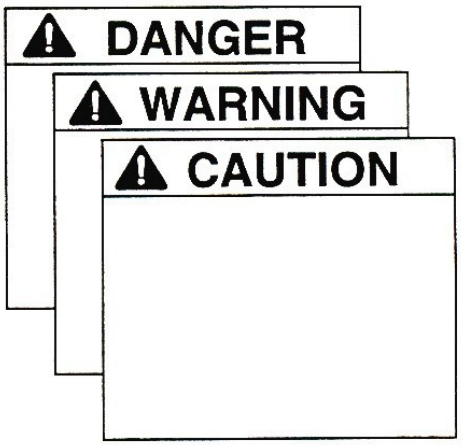
UNDERSTAND SIGNAL WORDS

These are typical safety signs that appear with the safety-alert symbol and signal words **(DANGER, WARNING, and CAUTION).** Safety signs are displayed to alert the operator and others of the risk of personal injury during normal operations and servicing.

DANGER identifies the most serious potential hazard. The sign is displayed in the area of the hazard.

WARNING identifies a serious hazard. The sign is displayed in the area of the hazard.

CAUTION is used for a general reminder of good safety practices or to direct attention to unsafe practices.



TYPICAL SAFETY SIGNS

SAFETY FIRST!

Carefully read, understand, and follow all safety instructions in each section prior to setting up, transporting, and operating your drill.

It is important that no one be allowed to operate ***Truax*** equipment until they have been properly trained on the safe operation of this equipment. All operators must clearly understand the importance of replacing **all** guards and safety devices before operating the equipment.

SAFETY DECALS

The maintenance and care given to the safety decals and features will result in a "user friendly" machine. It is important that decals be replaced if they become damaged or lost. It is also important that the decals be cleaned more frequently than the drill.

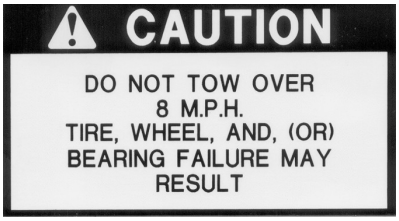
When new options are added, it is important to add **ALL** decals or safety features and to replace any decal that is hidden by the new option.

When applying decals to the equipment, be sure to clean the surface to remove any dirt or residue. Firmly adhere the decals to the cleaned surface.

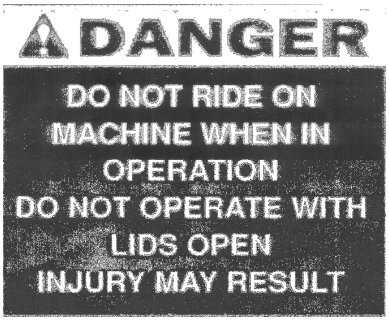
Keep safety decals in good condition. Replace torn, missing, or defective decals. If replacement safety decals are needed, they may be ordered by part number from the following address:

Truax Company, Inc.
4300 Quebec Avenue North
New Hope, Minnesota 55428
(763)537-6639

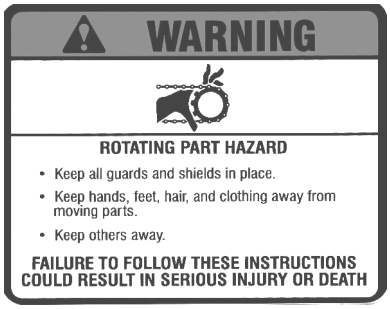
These are the safety decals provided for Truax drills:



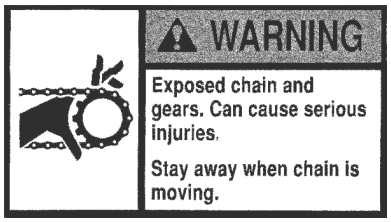
Models WF-32 & WF-64



Part #1046C3-A

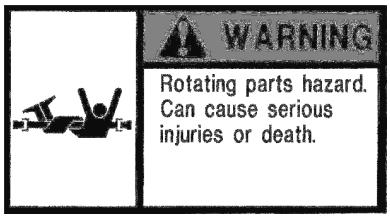


Part #1046C4-A

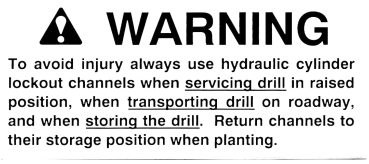


Part # 1046C2-A

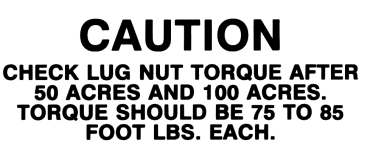
Part #1046C5-A
Model WF-127



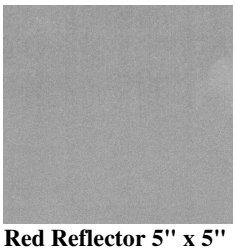
Part #1046C8



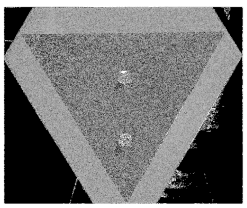
Part #1046C16



Part #1046C22



Red Reflector 5" x 5"
Part #2008C2

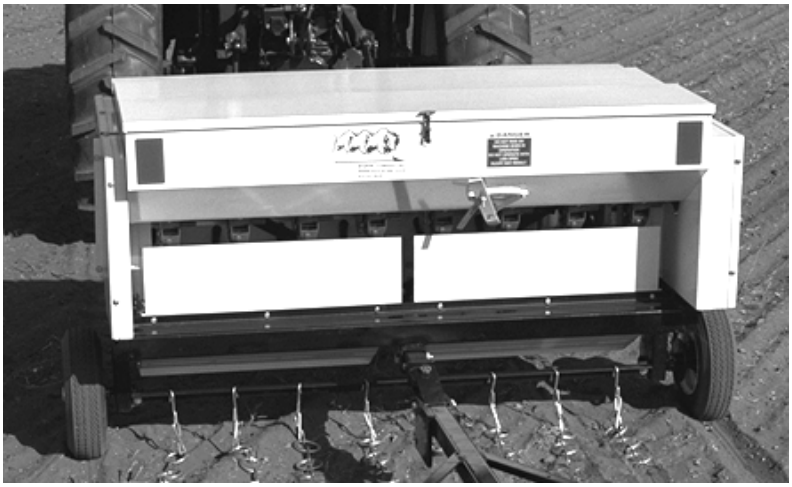


Slow Moving Vehicle Sign
Part #1046C72 (Metal Sign)
Part #1046C71 (Decal)

PLACEMENT OF SAFETY DECALS

The placement of the safety decals is shown in the following pictures:

Drive Side Front & End



Rear Seed Box

SAFETY PRECAUTIONS

For your own safety and to avoid harm to yourself and others, please observe the following safety precautions:

1) **DO NOT** operate this unit without reading this Operator's Manual!

2) **DO NOT** operate this unit with anyone riding on the machine!

3) **DO NOT** operate unit when other people are near the machine!

4) **DO NOT** obstruct or paint over safety decals!

5) **DO NOT** operate machinery without guards and safety devices as injury may result!

6) **DO NOT** operate unit with lids open - injury may result!

7) **DO NOT** tow over 8 m.p.h. as tire, wheel, and/or bearing failure may result!

8) **DO NOT** operate without chain guards as injury may result!

9) Use caution when operating close to fences, tree lines, ditches or streams.

10) Reduce operating speed on inclines and rough terrain and shift to a lower gear before going up or down steep slopes.

11) Slow down when turning.

12) **DO NOT** turn sharply! Check the clearance between the tractor tire and the tongue when turning.

13) Install safety chains between the unit and the towing vehicle. Follow the tractor manufacturer's instructions for proper hookup to the tractor.

14) Disengage seed boxes when not seeding and before transport.

15) **NEVER** work in or near seed boxes while tractor is running!

16) When servicing the unit (when it is attached to the tractor), turn the tractor **"off"** and put it in gear or park.

17) When servicing the unit (when detached from the tractor), block both wheels (front and rear) and secure the tongue.

18) Securely support unit, block wheels (front and rear), and restrain tongue when performing the following work:

- Elevating the end of the unit to calibrate it.
- Changing a tire.
- Replacing or repacking wheel bearings.

HIGHWAY AND TRANSPORT PRECAUTIONS

1) Adopt safe driving practices:
   - Keep the tractor brake pedals latched together at all times. **Never use independent braking with machine in tow, as loss of control and/or upset of unit may result!**
   - Always drive at a safe speed relative to local conditions and ensure that your speed is low enough for an emergency stop to be safe and secure. Keep speed to a minimum.
   - Reduce speed prior to turns to avoid the risk of overturning.
   - Avoid sudden uphill and downhill turns on steep slopes.
   - **DO NOT** coast! Always keep the tractor or towing vehicle in gear to provide engine braking when going downhill.
   - **DO NOT** eat, drink, or use a cell phone while driving!

2) Comply with state and local laws governing highway safety and movement of farm machinery on public roads.

3) Use approved accessory lighting, flags, and necessary warning devices to protect operators of other vehicles on the highway during day and night transporting.

4) The use of flashing amber lights is acceptable in most localities. However, some areas may prohibit their use. Local laws should be checked for all highway lighting and marking requirements.

5) When driving the tractor and equipment on the road or highway under 8 m.p.h. at night or during the day, use flashing amber warning lights and a slow moving vehicle **(SMV)** identification emblem. Be sure unit reflectors are clean and unobstructed.

6) Always tow with a vehicle that is heavier than the unit.

7) Implement tires are designed for field use and will not stand up under sustained highway travel.

8) Rotate jack on tongue, or remove jack from tongue.

9) Plan your route to avoid heavy traffic.

10) Be a safe and courteous driver. Always yield to oncoming traffic in all situations, including narrow bridges, intersections, etc.

11) Be observant of bridge loading ratings. **DO NOT** cross bridges rated lower than the gross weight at which you are operating. Know the weight of your tractor and drill.

12) Watch for overhead and side obstructions while transporting. Be careful of over-sized equipment on narrow bridges.

13) Always operate equipment in a position to provide maximum visibility at all times. Make allowances for increased length and weight of the equipment when making turns, stopping the unit, etc.

14) Transport unit on a trailer, where possible. When moving on a trailer, over-sized equipment must be permitted, flagged, and have approved lights.

SAFETY CHAINS FOR TRUAX EQUIPMENT: DRILLS AND BROADCASTERS

- All Flex Drills : Models - FLXII-86, FLXII-88, FLXII-812, FLXII-816, FLXII-818, & FLXII-822
  All require a minimum ultimate system strength of 10,000 # safety chain. (Part # 4233A)
- OTG Drills (On-The-Go Drills) : Models - OTG-7508, OTG-7512, OTG-7516, & OTG-7518
- All require a minimum ultimate system strength of 10,000 # safety chain. (Part # 4233A)
- OTG Drills (On-The-Go Drills) : Model - OTG-7522
- Require a minimum ultimate system strength of 16,000 to 20,000 # safety chain. (Part # 4233B)
- Truax Broadcasters: WF-64 and WF-127
- Require a minimum ultimate system strength of 10,000 # safety chain. (Part # 4233A)
- Trillions, towed models only, Model - TR-120 and TR-144, dual rear transport series
- Require a minimum ultimate system strength of 10,000 # safety chain. (Part # 4233A)

Auxiliary attaching systems, aka safety chains as defined in ANSI/ASAE S338.5, 5 May 2006 are available for Truax equipment manufactured after 1975 up to and including current production. Reference to this document will provide safety chain specifications and its overall relationship to the auxiliary attaching system. Care must be taken to make sure the size of the safety chain is appropriate for the weight of the towed implement. Further, the towed machine attaching point strength shall be of sufficient to support, along the line of travel, the gross weight of towing machine. Towing machine and towed machine attaching points, examples are shown in figures 1 and 2. See following information regarding "Maximum Dimension of A, B, C": Dimension A is the horizontal distance from the primary attaching point to the center of the intermediate support, if one is used. Dimension B is the horizontal distance from the primary attaching point to the towed machine attaching point. Dimension C is the horizontal distance from the primary attaching point to the towing machine attaching point. Please refer to Figure # 1 and Figure # 2 for specific dimensions.

The above information is from the Field Equipment for Agriculture-Safety Chain for Towed Equipment: ANSI/ASAE S338.5 May 2008: STANDARDS ENGINEERING PRACTICES DATA - ASABE STANDARDS 2008

Please refer to this publication for further information.

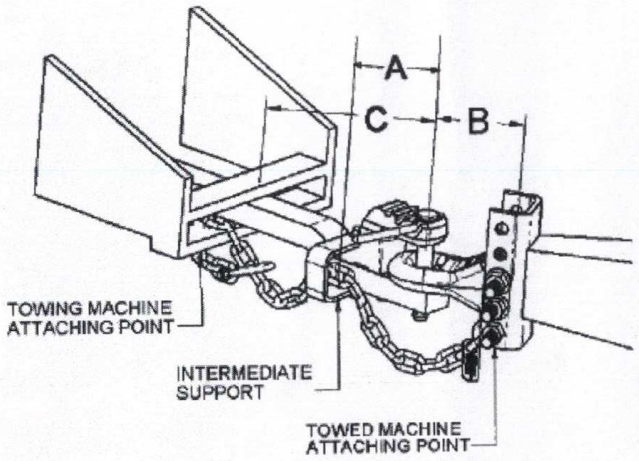


Figure 1 – Example auxiliary attaching system with intermediate support

Field Equipment for Agriculture - Safety Chain for Towed Equipment

ANSI/ASAE S338.5 Revision approved : May 2006
American National Standard

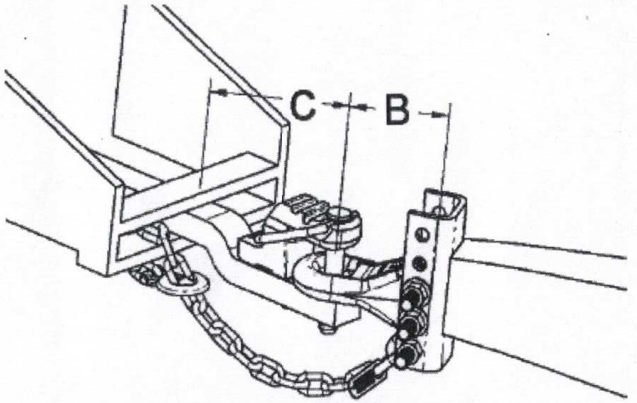
Dimension "A" - 9"
Dimension "B" - 9"

Dimension "C" - 9"

The above are the maximum distances from primary attaching point to chain attaching point or support.

Maximum Dimension A, B, C is the maximum distance ahead or behind the primary attaching point to the safety chain attaching point (on the towed machine or towing machine) or an intermediate support.

1. Dimension "A" is the horizontal distance from the primary attaching point to the center of the intermediate support.
2. Dimension " B" is the horizontal distance from the primary attaching point to the towed machine attaching point.
3. Dimension "C" is the horizontal distance from the primary attaching point to the towing machine attaching point.



EXTRA INTERMEDIATE SUPPORTS ARE NOT REQUIRED WHEN DIMENSIONS B AND C ARE LESS THAN SHOWN IN TABLE 1

Figure 2 – Example auxiliary attaching system

SET-UP & PREPARATION

UNCRATING AND SETTING UP

Note: Before accepting shipment from the freight carrier, check for any damage to the unit. **DO NOT** accept freight without indicating on the bill of lading if there is damage.

1) **Unloading the unit:** Use a forklift with adequate lift rating and 6 foot fork length. Slide the forks under the skid members and lift the unit from the truck bed. **Never lift a unit by the seed boxes, damage or injury will occur.**

2) **READ, UNDERSTAND, and FOLLOW** all safety and set-up instructions.

3) **REMOVE PARTS AND PACKAGES FROM SEED BOXES** before removing machine from the skid. Failure to do this may result in damage to the seed box agitator and/or shaft.

4) **Tongue:** Install the tongue.

5) **Parking Jack:** Install the parking jack onto the welded mount and secure with the pin.

6) Check to see that the picker wheel shaft turns freely. It may be necessary to remove chain guards and chains from sprockets to verify that the shaft is turning freely.

7) **Check the Chains:** Chain Alignment is important and may be checked by jacking up the drive wheel and turning it to verify if any chain tries to "walk off" a sprocket. A catch, click, or snap of the chain indicates that a chain is trying to "walk off" one of the sprockets. If the problem is with one of the keyed sprockets, loosen the setscrew and move just the sprocket. If the problem is with one of the pinned sprockets, move the entire shaft (that it is attached to) and then move the keyed sprocket affected by moving the shaft to complete the alignment.

8) **Loose Bolts:** "BI-Way" style lock nuts are used in production after fall 1999. Prior to this most fasteners were treated with Loctite; therefore, nuts will be hard to remove. Check nuts on all scrapers (inside and outside).

9) Check for damaged or missing safety decals, and replace as needed. If you need decals, please contact:

Truax Company, Inc.
4300 Quebec Avenue North
New Hope, MN 55428
Telephone: (763) 537-6639
Fax: (763) 537-8353.

PREPARING THE TRACTOR

1) Make sure all tractor "power take-off"' (PTO) guards are in place.
2) Retain drawbar in a fixed position.
3) Place tractor drawbar in a position so that the unit frame is nearly level.
4) Attach safety chain from tractor to unit.
5) Secure the tractor lift links.
6) Install tractor "slow moving vehicle" **(SMV)** emblem.

ATTACHING THE UNIT

1) Secure the unit to the drawbar with a pin that has a cross-locking device to prevent the units from separating.

2) Attach safety chain between the unit and the tractor. Safety chain is not a standard item but is available as an option.

3) Tractor drawbar height may require the tongue clevis to be raised or lowered.

4) The unit frame should be nearly level when operating.

5) Check the wheel lug nuts. Torque is 75-85 lbs. and should be checked after the 1st and 2nd day of use and again after 50 and 100 acres. After that, check periodically to ensure lug nuts are tight. **Only applies to Model WF-127.**

IDENTIFYING THE UNIT

After setting up the unit, it is highly recommended that you mark the machine with your name or an owner's brand for identification in case of stolen equipment.

For example, your initials could be engraved in the frame with a cold chisel or burned in with a welder. It is recommended that you identify your unit in several areas. It is also recommended that several photos be taken of the unit that show these identification marks clearly. Then, file them in a safe place with other important papers.

Record Identification Numbers

Help prevent crime by properly documenting ownership. Record the model and serial numbers of the unit on all documentation papers, including insurance, financial and warranty. Keep all documentation, photographs, etc. in a safe, secure location.

HELP PREVENT CRIME!
- RECORD I.D. NUMBERS -

TRUAX COMPANY

4300 Quebec Ave. North
New Hope, Minnesota 55428
Phone: (763) 537-6639

Model #_____ Serial #_____

TIRES

CAUTION! Never use the unit with under-inflated tires as excessive wear and tire failure may result. Inflate tires to **manufacturers' specifications as stamped on the tire** and check them on a regular basis (especially if the temperature has changed since the last tire inflation).

WARNING! Follow proper procedures when mounting or removing a tire on a rim or wheel. Failure to do so may result in a serious injury. If both tire beads are not seated when maximum inflation pressure is reached; deflate the tire, re-lubricate the bead, and re-inflate the tire.

CAUTION! Never exceed **manufactures' specification** for tire inflation, as the tire may fail or explode causing personal injury.

WARNING! Units with ribbed implement tires **are not** meant for highway speeds. Tire manufactures specify **8 mph** (Models WF-32 and WF-64) or **20 mph** (Model EF-127) or less for this type of tire.

CAUTION! Check lug nut torque before using the unit. Check again after 1st and 2nd day of use and after 50 and 100 acres of use. Check periodically to ensure lug nuts are tight. Torque should be 75 to 85 foot lbs. each.

Note: Tire pressure affects tire circumference and thus can affect seeding rates.

TRANSPORTING THE UNIT

1) Be sure that the unit's "slow moving vehicle" **(SMV)** emblem is clean and visible.

2) Attach safety chain between the unit and the towing vehicle.

3) When roading a unit for more that 1/4 mile, it is essential to disengage the sprocket lockout hub.

4) Make sure that the unit reflectors are clean and in place.

5) **NEVER** transport the unit faster than **8 mph (Models wf-32 and WF-64)** or **20 mph (Model WF-127)** unless the unit is on a trailer.

6) **DO NOT** transport or haul the unit with seed in boxes, as this will cause settling and packing, which is hard on drive chains when planting is resumed.

7) **DO NOT** leave seed sacks (empty or partially full) in seed boxes as they may become entangled in the agitators during transport.

8) Be extremely cautious when crossing narrow bridges.

9) Transport on a trailer requires chaining or strapping the unit's main frame **(not the seed boxes)** to the trailer. Raise end wheels so that planters are on trailer deck. Fasten red flags to oversized units. Follow all state and local regulations when transporting a unit.

10) Secure box lids with an additional rope or rubber tie downs **(not the seed box cover lid retainers)** when moving the unit on the highway. The seed box cover lid retainers may break due to excessive bounce if hooked during transport.

OPERATING THE PLANTER

SEED CALIBRATION AND METERING

SEED CALIBRATION PROCEDURE:

1) Truax equipment has been designed to operate using all three boxes (fluffy, small seed, and cool season/grain) simultaneously or in any combination desired.

2) When using the unit, it is important to remember that when the lockout is engaged, the mechanisms in all seed boxes operate and deliver seed through the seed hoses.

3) To avoid errors during calibration, **calibrate each seed box individually**. Changing the calibration of one box does not affect the other boxes.

4) First, calibrate the small seed box, then the cool season box (when installed), and finally the fluffy box.

SEEDING RATE VARIABLES:

1) Different bags of seed weighing the same amount may contain different amounts of pure live seed, due to seed germination, seed purity and inert material, unfilled kernels, moisture content, or seed size.
2) The unit wheels may slip due to seedbed condition, soil type, lay of the land (i.e. slope), and speed of operation.
3) The tire size, type, pressure and tire wear will affect the seeding rates.
4) Leaving a gap wider than the unit row spacing between unit passes, overlapping unit passes, and failure to fully stop and lift the unit when turning at the end of the field will affect uniform seed distribution.
5) The operator may have false information as to the land area.

<u>IMPORTANT</u>: Remember that the feed cups meter volume, not weight!

FACTORS AFFECTING SEEDING RATE CALIBRATION

Several factors will affect the seeding rate. These include humidity, seed density, seed purity (inert matter in seed lot), seed germination, mixing of seed types, seed box used, site conditions, and speed of travel.

For more precise calibration, two or more of the calibration methods should be used, and repeated several times a day. It is **not recommended** that suggested procedures be used when controlled "plot planting" is being done.

The procedures provided for the calibration of Truax drills are to be used as a guide only - as several factors could affect the rate at which the seed will flow through the seedway passages.

The operator of the equipment must constantly monitor the seed delivery and placement!

CALIBRATION

The first step in calibration of seeding equipment is to determine the desired seeding rate in terms of Pure Live Seed (PLS) per square foot or PLS pounds per acre. The applied seeding rate for bulk seed will depend on the species in the seed mixture as well as the purity and germination of the seed being used.

See **EXHIBIT**, Page 30-5 for determining seeding rates and seeds per square foot.

Once the seeding rate is determined, three methods for determining the seed being delivered from the Pull-Type Broadcaster may be used.

METHOD ONE – SIMULATE FIELD OPERATION

This procedure is on a decal on the inside of the fluffy seed box lid.

CALIBRATION PROCEDURE FOR MODELS WF-32 AND WF-64

1. Attach planter to the tractor.
2. Engage drive mechanism so drive wheel turns seed boxes.
3. Jack up the drive wheel.
4. Place tarp or plastic sheet under the planter to catch the seed.
5. Place seed in seed box (one box at a time). Fill at least 1/4 full.
6. Turn drive wheel until seed drops onto tarp. Wipe all seed from baffles onto tarp.
7. Empty all seed from the tarp and reposition tarp under seed boxes.
8. Turn drive wheel required number of turns (See Appropriate Chart for seed weighed in grams or pounds).
9. Weigh seed collected in ounces or grams and convert to bulk pounds per acre using appropriate chart.
10. The results equal the seeding rate in bulk pounds per acre, not in Pure Live Seed (PLS).
11. Repeat at least three times and average results.
12. Add the weights from each box to determine the total weight of seed planted.
13. See Pages 30-8 and 30-9 for adjusting seed flow from each seed box.

SEEDING RATE CHART (GRAMS)

Pounds Per Acre Table
For Gram Scale
Model WF-32 use 24 Turns; Model WF-64 use 12 Turns

Grams in Tens	*Grams in Units*									
	0	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**
0	**0.0**	**0.4**	**0.7**	**1.1**	**1.5**	**1.8**	**2.2**	**2.6**	**2.9**	**3.3**
10	**3.7**	**4.0**	**4.4**	**4.8**	**5.1**	**5.5**	**5.9**	**6.2**	**6.6**	**7.0**
20	**7.3**	**7.7**	**8.1**	**8.5**	**8.8**	**9.2**	**9.6**	**9.9**	**10.3**	**10.7**
30	**11.0**	**11.4**	**11.8**	**12.1**	**12.5**	**12.9**	**13.2**	**13.6**	**14.0**	**14.3**
40	**14.7**	**15.1**	**15.4**	**15.8**	**16.2**	**16.5**	**16.9**	**17.3**	**17.6**	**18.0**
50	**18.4**	**18.7**	**19.1**	**19.5**	**19.8**	**20.2**	**20.6**	**20.9**	**21.3**	**21.7**
60	**22.0**	**22.4**	**22.8**	**23.1**	**23.5**	**23.9**	**24.3**	**24.6**	**25.0**	**25.4**
70	**25.7**	**26.1**	**26.5**	**26.8**	**27.2**	**27.6**	**27.9**	**28.3**	**28.7**	**29.0**
80	**29.4**	**29.8**	**30.1**	**30.5**	**30.9**	**31.2**	**31.6**	**32.0**	**32.3**	**32.7**
90	**33.1**	**33.4**	**33.8**	**34.2**	**34.5**	**34.9**	**35.3**	**35.6**	**36.0**	**36.4**
100	**36.7**	**37.1**	**37.5**	**37.8**	**38.2**	**38.6**	**38.9**	**39.3**	**39.7**	**40.1**
110	**40.4**	**40.8**	**41.2**	**41.5**	**41.9**	**42.3**	**42.6**	**43.0**	**43.4**	**43.7**
120	**44.1**	**44.5**	**44.8**	**45.2**	**45.6**	**45.9**	**46.3**	**46.7**	**47.0**	**47.4**
130	**47.8**	**48.1**	**48.5**	**48.9**	**49.2**	**49.6**	**50.0**	**50.3**	**50.7**	**51.1**
140	**51.4**	**51.8**	**52.2**	**52.5**	**52.9**	**53.3**	**53.6**	**54.0**	**54.4**	**54.7**
150	**55.1**	**55.5**	**55.9**	**56.2**	**56.6**	**57.0**	**57.3**	**57.7**	**58.1**	**58.4**

Turn drive wheel based on machine size, weigh collected seed and refer to chart for pounds per acre of bulk seed.
Example: 54 grams = 19.8 pounds per acre.

SEEDING RATE CHART (OUNCES)

Pounds Per Acre Table
For Ounce Scale
Model WF-32 use 24 Turns; Model WF-64 use 12 Turns

Units	*Tenths of Ounce*									
Oz.	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
0.0	0.0	1.0	2.1	3.1	4.2	5.2	6.3	7.3	8.3	9.4
1.0	10.4	11.5	12.5	13.5	14.6	15.6	16.7	17.7	18.8	19.8
2.0	20.8	21.9	22.9	24.0	25.0	26.0	27.1	28.1	29.2	30.2
3.0	31.3	32.3	33.3	34.4	35.4	36.5	37.5	38.5	39.6	40.6
4.0	41.7	42.7	43.8	44.8	45.8	46.9	47.9	49.0	50.0	51.0
5.0	52.1	53.1	54.2	55.2	56.3	57.3	58.3	59.4	60.4	61.5
6.0	62.5	63.5	64.6	65.6	66.7	67.7	68.8	69.8	70.8	71.9
7.0	72.9	74.0	75.0	76.1	77.1	78.1	79.2	80.2	81.3	82.3
8.0	83.3	84.4	85.4	86.5	87.5	88.6	89.6	90.6	91.7	92.7
9.0	93.8	94.8	95.8	96.9	97.9	99.0	100.0	101.1	102.1	103.1
10.0	104,2	105.2	106.3	107.3	108.3	109.4	110.4	111.5	112.5	113.6

Turn drive wheel based on machine size, weigh collected seed and refer to chart for pounds per acre of bulk seed.
Example: 2.2 ounces = 22.9 pounds per acre.

CALIBRATION PROCEDURE FOR MODEL WF-127

CALIBRATION PROCEDURE FOR 8" ROW SPACING (GRAMS)

1) Disconnect the front and rear seed box hoses from three aluminum transitions. Place a bag or can to catch the seed under each of the three (3) aluminum transitions and the three (3) seed cups from the front and rear seed boxes if used. **Note: If transitions are not available block the flow of seed from all but 3 rows.**
2) Measure the circumference of the drive wheel in feet. Divide 96 by the wheel circumference in feet to determine the number of wheel revolutions. Example: Wheel circumference is 7.25 ft.; 96 divided by 7.25 equals 13 ¼ wheel revolutions.
3) Use the valve stem or a paint mark on the wheel to keep track of the revolutions. Turn the drive wheel the required number of revolutions determined in step #2.
4) Combine the seed from the three rows of each seed box into separate containers.
5) Weigh the collected seed in grams.
6) Divide the weight by two (2).
7) The result equals the seeding rate in **bulk pounds per acre**. This is not Pure Live Seed (PLS).
8) Repeat at least three (3) times and determine an average output per box.
9) See Pages 30-8 and 30-9 for adjusting seed flow from each seed box.

CALIBRATION PROCEDURE FOR 8" ROW SPACING (OUNCES)

1) Disconnect the front and rear seed box hoses from three aluminum transitions. Place a bag or can to catch the seed under each of the three (3) aluminum transitions and the three (3) seed cups from the front and rear seed boxes if used. **Note: If transitions are not available block the flow of seed from all but 3 rows.**
2) Measure the circumference of the drive wheel in feet. Divide 217.80 by the wheel circumference in feet to determine the number of wheel revolutions. Example: Wheel circumference is 7.25 ft.; 217.80 divided by 7.25 equals 30 wheel revolutions.
3) Use the valve stem or a paint mark on the wheel to keep track of the revolutions. Turn the drive wheel the required number of revolutions determined in step #2.
4) Combine the seed from the three rows of each seed box into separate containers.
5) Weigh the collected seed in ounces.
6) Multiply the results by 6.25.
7) The result equals the seeding rate in **bulk pounds per acre**. This is not Pure Live Seed (PLS).
8) Repeat at least three (3) times and determine an average output per seed box.
9) See Pages 30-8 and 30-9 for adjusting seed flow from each seed box.

METHOD TWO - SEEDS PER SQUARE FOOT

1. Spread a large tarp or piece of plastic on a smooth level surface and anchor the edges to hold in place.
2. Place seed in the seed compartment(s) and travel across the tarp. Make one pass across the tarp to check seeding rate.
3. Using a one square foot frame count the seeds in one square foot. Count the seeds on three to five samples and average.
4. Compare the results from step # 3 with the planned seeding rate number of seeds per square foot of bulk seed for the seed mixture previously determined using the procedure shown in the EXHIBIT, Page 30-5. Use the planned seeds per square foot of bulk seed since you will be counting all seeds on the tarp. If necessary adjust the seed box settings and repeat the test until the desired seeding rate is achieved.
5. It may be desirable to check the seed being delivered from each seed compartment individually. In this case carryout Steps 2 through 4 independently for each seed compartment.

METHOD THREE - POUNDS PER ACRE

1. Measure out some fraction of an acre for a test. One acre is 43,560 square feet. For example 1000 square feet is 2.3% (0.023) of an acre; 2000 square feet is 4.6% (0.046) of an acre; or 10890 square feet is 25% (0.25) of an acre.
2. Calculate the amount of seed required for the test area. Weigh out the appropriate amount of each seed type and place in the appropriate seed box.
3. Seed the measured area and check if you had sufficient seed to cover the area or ran out before covering the measured area.
4. Adjust the Unit settings and repeat the trial on a new area as necessary.
5. This method is the least accurate since only a small amount of seed is placd in the seed boxes unless an acre or more is used in the trial.

EXHIBIT - CALIBRATION AND DETERMINING SEEDING RATES

When preparing a seed mixture and purchasing seed, think in terms of Pure Live Seed (PLS). Pure Live Seed is an expression of the percent of a bulk seed lot that is viable seed and can be expected to germinate. Pure Live Seed (PLS) is calculated by multiplying the seed lot purity by the seed lot germination divided by 100. Germination should include both the percent germination and the percent hard seed.

% Pure Live Seed (PLS) = % Purity x % Germination / 100

Bulk seed is a term used to describe the total material in a seed lot or bag. Bulk seed includes viable seed (PLS), weed seed (within allowable tolerances); inert material (stems, straw, etc.); and other crops. The seeding rate for bulk seed (the seed in the bag) is determined by dividing the planned PLS seeding rate by the percent PLS.

Bulk Seeding Rate = PLS Seeding Rate Per Acre / % Pure Live Seed (PLS)

When planning a seeding, think in terms of how many viable seeds per square foot should be planted for the seed mixture and for each species in the mixture.

Table 1 provides information on approximate number of seeds per pound and per square foot at a one pound seeding rate for several species. Number of seeds per square foot at 1 pound per acre is determined by dividing the number of seeds per pound by 43,560 square feet per acre.

 # Seeds Per Sq. Ft @ 1 LB Rate = # Seeds Per Pound / 43,560 Sq. Ft Per Acre

Seeds per pound at the one pound rate multiplied by the planned PLS seeding rate calculates viable seeds per square foot for the planned seeding.

Example: A three species mixture of big bluestem, Indiangrass, and switchgrass is planned. The desired plant community is 50% big bluestem, 35% Indiangrass, and 15% switchgrass. The seed will be applied as a broadcast seeding at a rate of 40 PLS seeds per square foot. Using information from Table 1 and seed tag purity and germination, an example is shown below.

Species	% Stand	PLS Seeds/Sq Ft[1]	PLS Rate/Ac[2]	% Purity	% Germ	% PLS[3]	Bulk Seed Lbs/Ac[4]	Bulk Seed Seeds/Sq Ft[5]
Big Bluestem	50%	20	5.25	85%	785	66.3%	7.90	30
Indiangrass	35%	14	3.50	85%	72%	61.25	5.70	23
Switchgrass	15%	6	0.67	98%	80%	78.4%	0.85	8
Total	100%	40	9.42				14.45	61

1. PLS Seeds/SqFt - Seeding rate of 40 PLS seeds per square foot multiplied by % Stand planned.
2. PLS Rate/Acre - Seeds per square foot divided by Table 1 value for Seeds/Sq. Ft @ 1 LB/Ac for each species.
3. Percent PLS - Percent purity multiplied by percent germination divided by 100.
4. Bulk Seed Pounds/Acre - PLS Rate/Acre divided by percent PLS.
5. Bulk Seed /SqFt - Bulk Seeding Rate multiplied by Table 1 value for Seeds/Sq. Ft @ 1 LB/Ac for each species.

In this example the bulk seeding rate is 14.5 lb/ac (13.6 lb/ac for the fluffy seeds and 0.85 lb/ac for the switchgrass). A calibration count of 60 total seeds per square foot on the tarp would indicate proper seed box settings and operation.

TABLE 1 - SEED INFORMATION[1]

SPECIES	NUMBER SEEDS PER POUND	SEEDS PER SQUARE FOOT @ 1 POUND PER ACRE[2]
Native Warm Season		
Alkali sacaton	1,758,000	40.4
Big bluestem	165,000	3.8
Blue grama	825,000	18.9
Buffalograss (Burs)	56,000	1.3
Eastern gamagrass	7,280	0.17
Indiangrass	175,000	4.0
Little bluestem	260,000	6.0
Prairie cordgrass	183,000	4.2
Prairie sandreed	273,000	6.3
Sand bluestem	113,000	2.6
Sand dropseed	5,289,000	121.4
Sand lovegrass	1,300,000	29.8
Sideoats grama	191,000	4.4
Switchgrass	389,000	8.9
Native Cool Season		
Canada wildrye	115,000	2.6
Green needlegrass	181,000	4.2
Needle-and-thread	115,000	2.6
Reed canarygrass	533,000	12.2
Slender wheatgrass	159,000	3.7
Western wheatgrass	110,000	2.5
Introduced Cool Season		
Creeping foxtail	750,000	17.2
Creeping red fescue	615,000	14.1
Crested wheatgrass	175,000	4.0
Hard fescue	680,000	15.6
Intermediate wheatgrass	88,000	2.0
Kentucky bluegrass	2,177,000	50.0
Meadow bromegrass	71,000	1.6
Orchardgrass	654,000	15.0
Perennial Ryegrass	227,000	5.2
Pubescent wheatgrass	100,000	2.3
Red top	4,990,000	114.6
Russian wildrye	175,000	4.0
Smooth bromegrass	136,000	3.1
Tall fescue	227,000	5.2
Tall wheatgrass	79,000	1.8
Timothy	1,230,000	28.2

TABLE 1 (CON'T) - SEED INFORMATION

SPECIES	NUMBER SEEDS PER POUND	SEEDS PER SQUARE FOOT @ 1 POUND PER ACRE[2]
Legumes		
Alfalfa	200,000	4.6
Alsike clover	700,000	16.1
Birdsfoot trefoil	375,000	8.6
Cicer milkvetch	130,000	3.0
Crownvetch	109,000	2.5
Hairyvetch	20,000	0.50
Purple vetch	10,000	0.23
Korean lespedeza	225,000	5.2
Sericea lespedeza	350,000	8.0
Crimson clover	149,700	3.4
Ladino clover	871,650	20.0
Red Clover	275,000	6.3
Strawberry clover	300,000	6.9
Sweetclover	260,000	6.0
White clover	800,000	18.4
Forbs		
Maximillian sunflower	150,000	3.4
Purple prairieclover	275,000	6.3
Pitcher sage	150,000	3.4
Roundhead lespedeza	151,000	3.5
Thickspike gayfeather	110,000	2.5
Dotted gayfeather	141,000	3.2
Shell-leaf penstemon	272,200	6.3
Cereal Grain		
Barley	14,000	0.32
Oats	13,000	0.30
Regreen	11,000	0.25
Rye	18,000	0.41
Wheat	15,000	0.34

1. Source - Grass, USDA Yearbook of Agriculture 1948
2. Seeds Per Sq. Ft @ 1 LB Per Acre - Number of Seeds Per Pound divided by 43,560 Sq. Ft Per Acre

ADJUSTING THE CALIBRATION

SMALL SEED BOX:

The shift lever on the bottom left end of the box exposes or closes the flutes to control the seeding rate. The exposed flute area for each cup (inside the box) should equal at least twice the diameter of the largest seed being seeded from the box. **Carefully control the exposed flute so that no seeds are crushed or ground.** When very low seeding rates are desired from the small seed box, replace the original **sprocket** (part #1055) on the end of the box with a larger **sprocket** (part #1054A).

If seed cup shaft walks (moves) left or right when in use, ensure that there is no free play in the shaft. A **machine bushing** (part #MB12-.15 or JD #N160437) next to the **shifter spool** (part #1130) reduces shaft movement. By taking up free play in the shaft and preventing the start of shaft movement, it is easier for the retaining wing nut to hold the shaft in place.

To Correct Irregular Feeding From Different Cups:

First, with the seed cup shaft shifted fully to the left, check if the drive **coupler** (part #1010) is touching the roll pin preventing full movement to the left. When there is contact between the coupler and the roll pin it will be necessary to loosen the set screws of the two bearings holding the coupler and move the coupler slightly to the left. The small seed box chain will then need to be realigned.

Second, if further adjustment is needed loosen up the cup mounting bolts and move the cups so that the exposed flute is the same on all seed cups. This will result in equal feeding from the seed cups. **See Figure 30-1.**

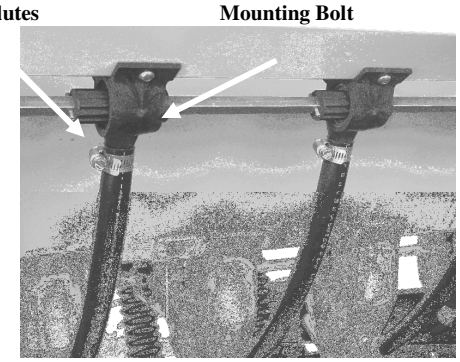


FIGURE 30-1

COOL SEASON OR GRAIN BOX:

Raise the clean-out levers on the left side of the cups to the highest position. Like the small seed box, exposing more of the flutes will result in a higher seeding rate. If irregular feeding is occurring from different cups, adjustment may be made by loosening up the cups and moving them so the exposed flute is the same on all seed cups to produce equal feeding.

If the seeding rate changes during planting, it may be caused from the **feed shaft** (part #3013) moving. This may be caused by a loose or worn **bolt** (part #B38-ISQ), a lost or broken **spring** (part #TS-72M), lost or broken **spring pin** (part #RP18-1.25), a worn or loose **shifter lever** (part #3205), a worn **shifter bearing** (part #M608621), or a worn **thrust washer** (part #TM60826).

When the output of the cool season box can not be reduced low enough, the **double sprocket** (part#3095X) on the drive end of the box can be changed to the **low output sprocket** (part #3095X1).

If the **feed shaft** (part #3103) is difficult or impossible to shift left or right, it may be caused from dust and dirt in the cups or by seed jammed in the flutes. It may be necessary to clean the box and cups before shifting the feed shaft. Application of WD-40 or liquid graphite on contact points will help. Turn **feed shaft** (part #3103) with a 5/8" wrench while shifting.

When planting large seed (such as corn or beans), move the clean-out lever (on the left side of each cup) to the middle setting to prevent crushing or chipping of the seed, which could result in an irregular plant establishment.

We do not recommend the application of fertilizer with Truax drills.

LARGE (FLUFFY) SEED BOX:

One of the most distinguishing features of the Truax planter is the means to control output from the fluffy seed box. Unlike, earlier production planters which used a double cone gear speed changer to control the output from the fluffy box, the planters use a very simple derailleur to vary the RPM of the picker wheel shaft of the fluffy box and thereby the output of seed from the box.

The derailleur controls the output only from the fluffy seed box.

The derailleur consists of (two) five-step sprockets and a spring tension idler that takes the slack from the roller chain between the two stepped sprockets. The idler is on top of the upper chain. There are five settings for seed output from the fluffy seed box. To change output settings, lift the idler and move the chain from one set of sprockets to another. The rear sprocket is the drive and the sprocket closest to the tongue is the driven one. The lowest output RPM, and therefore the lowest seed output is achieved when the chain is on the furthest to the right combination of sprockets (when standing at the tongue looking back). As the chain is moved to different combinations to the left, the drive sprocket diameter increases in relation to the driven and therefore increases the RPM and the seed output.

Additional changes in output from the large, fluffy box can be achieved by:

1) Adding **seed gaskets** (part #1005) and **retainer plates** (part #1006) inside the seed box to restrict output.

2) Increasing the size of the picker wheel sprocket located under the end cover on the drive side. The standard is a **30 tooth** (part #1055A1) square holed sprocket, and can be changed to a **36 tooth** (part #1055A2) or a **42 tooth** (part #1055A212) sprocket to further reduce output.

3) After adding the seed gaskets and retainer plates and/or changing sprockets, if further reduction is needed, it is possible to try one of several fillers such as rice hulls, cotton hulls, bran, or ground corncobs.

Note: Changing the sprocket on the clutch will affect the acre meter reading.

OPERATING THE PLANTER

NOTE: Because of the wide variation in quality and texture of different lots and mixtures of grass seed, it is impractical to supply a seeding rate chart with the drill. With a little experience, each user can work out a chart for the materials used, by calibrating the drill for the job at hand. Follow calibration procedures located inside the fluffy box lid.

The rates shown in the charts are only to be used as a guide. Refer to Box Calibration Procedure in this section for more detail.

The charts are based on original equipment sprockets. Changing sprockets will affect planter output.

Some seeds, such as soybeans and wheatgrass vary widely in size. For such seed types (at a given pound per acre rate), the number of seeds planted per acre will vary according to the size of the seed.

SEEDING CHARTS FOR TRUAX PLANTERS
FLUTED FEED ROLL – SMALL SEED BOX

TYPE OF BOX	TYPE OF SEED	EXPOSED FLUTE	BULK SEED LBS/ACRE
SMALL SEED BOX Original equipment sprockets. Exposed fluted feed roll measured on inside of cup.	**CAVE-IN ROCK SWITCHGRASS P-99.78%, G-84%, PLS-84%**	**1/2"**	**6.0**
		1/8"	**1.5**
		1/32"	**0.8**
SMALL SEED BOX Changed driven sprocket to a 30-tooth from original 20-tooth sprocket.	**SAME SEED AS ABOVE**	**1-1/16"**	**7.5**
		1/2"	**3.2**
		1/4"	**1.78**
		1/8"	**0.78**
SMALL SEED BOX Original equipment sprockets. Exposed fluted feed roll measured on inside of cup.	**ALFALFA & LADINO CLOVER**	**1/2"**	**27.1**
		3/8"	**18.9**
		1/4"	**14.2**
		1/8"	**7.7**
	BIRDSFOOT TREFOIL & CRIMSON CLOVER	**1/2"**	**24.3**
		3/8"	**17.8**
		1/4"	**11.8**
		1/8"	**6.6**
	TIMOTHY & RED TOP	**1/2"**	**16.3**
		3/8"	**11.5**
		1/4"	**8.1**
		1/8"	**4.4**

The "Sample Feed Rates" provided are to be used as a guide only - as several factors could affect the rate at which the seed will flow through the seedway passages. The operator of the equipment must constantly monitor the seed delivery and placement.

SPEED CHANGER VARIABLES – FLUFFY SEED BOX

TYPE OF BOX	TYPE OF SEED	OUTPUT SETTING	BULK SEED LBS/ACRE
FLUFFY SEED BOX Original equipment sprockets on leg shaft and clutch. **DERAILLEUR STYLE SPEED CHANGER** **When standing in front of drill facing the speed changer:** For lowest output, chain should be to the right side of the cone sprockets. The 16-tooth sprocket will be driving the 50-tooth sprocket. Any stepping of the chain to the left increases the output. Each step will increase the output between 40%-60% depending on the purity and germination of the seed. A higher purity will have a greater change in output with each step. Debearded seed will have the same effect.	**SHARP'S COMMON MIX BIG BLUESTEM, SIDEOATS GRAMA, & LITTLE BLUESTEM**	**50 drive 16**	**54.7**
		44 drive 26	**28.4**
		36 drive 36	**16.8**
		26 drive 44	**10.7**
		16 drive 50	**5.3**
	STOCK'S COMMON MIX BIG BLUESTEM, INDIANGRASS, & LITTLE BLUESTEM	**50 drive 16**	**27.8**
		44 drive 26	**15.9**
		36 drive 36	**9.1**
		26 drive 44	**5.6**
		16 drive 50	**3.1**
	CAMPER LITTLE BLUESTEM P-86%, G-54%, PLS-46.6%	**50 drive 16**	**54.3**
		44 drive 26	**27.0**
		36 drive 36	**15.9**
		26 drive 44	**9.4**
		16 drive 50	**4.5**
	BIG BLUESTEM (Debearded Seed)	**50 drive 16**	**59.5**
		44 drive 26	**33.9**
		36 drive 36	**19.4**
		26 drive 44	**11.0**
		16 drive 50	**6.3**

SEEDING CHARTS FOR TRUAX FLEX DRILLS FLUTED-FEED ROLL COOL SEASON/GRAIN SEED BOX			
TYPE OF BOX	**TYPE OF SEED**	**EXPOSED FLUTE**	**BULK SEED LB'S/ACRE**
COOL SEASON/GRAIN BOX Original equipment sprockets with gates in full up position. Exposed fluted feed roll measured on inside of cup.	**PUBESCENT WHEATGRASS** **P-97.5%, G-86%, PLS-84%**	**1-7/8"**	**28.4**
		1"	**16.4**
		1/2"	**8.95**
		1/4"	**3.28**
	BUTTE SIDEOATS GRAMA **P-90%, G-73%, PLS-65.5%**	**1-7/8"**	**6.5**
		1"	**3.4**
		1/2"	**1.5**
	LODORM OATS	**1-7/8"**	**38.0**
		1"	**21.0**
		1/2"	**11.4**
		1/4"	**4.8**
	WHEAT	**1-7/8"**	**276.5**
		1"	**161.9**
		1/2"	**78.3**
		1/4"	**42.5**
	SOYBEANS Move all cup levers to the middle notch setting for medium to small soybeans. Use the lower notch setting for large soybeans.	**1-7/8"**	**460.1**
		1"	**227.5**
		1/2"	**99.3**
		1/4"	**47.1**
	SMOOTH BROMEGRASS	**1-7/8"**	**121.6**
		1"	**71.1**
		1/2"	**36.1**
		1/4"	**16.1**

FLUTED FEED ROLLS AND SAW-TOOTHED PICKER WHEELS

Fluted feed rolls and saw-toothed picker wheels meter the seed from the bottom of the seed boxes. The amount of exposed flutes of the cool season/grain and small seed feed rolls controls the amount of seed delivered with each revolution of the seed box shafts. Shift levers on the outside bottoms of these boxes control the amount of exposed flute. A 5/16" wide picker wheel that is controlled by the speed changer meters the large seed box for fluffy, chaffy seed. The faster the RPM of the picker wheel shaft the higher the output of bulk seed. The derailleur is used to change RPM on the Pull-Type Broadcaster.

SEED PASSAGEWAY

Seed passageways for all boxes should be cleaned of cobwebs, etc. at the beginning of the season and checked periodically during use. Care must be taken when planting trashy, fluffy seed to watch for plugging.

Generally, if plugging occurs when planting fluffy seed, it may be prevented by stepping the RPM of the speed changer down several notches. This will reduce the seeding rate.

OPERATING SPEED

Operate the unit at a ground speed of 4-5 mph. Some field conditions may allow 5-7 mph ground speed. The field conditions and speed of operations may affect flow of the seed through the unit. It is important to re-check seeding rates and seed placement at operating speed. Small, hard seeds flow easily through the small seed box, permitting faster speeds, but do not exceed 6 mph.

PLANTER SEEDING CAPACITY

The theoretical field capacity for a drill can be estimated with the following formula:

$$\frac{\text{Drill Width (feet)} \times \text{Speed (mph)}}{8.25} = \text{Acres per Hour}$$

The actual field efficiency or amount of fieldwork accomplished is somewhat less than this theoretical calculated rate due to turns at the end of the fields, time spent filling seed boxes, other down time, etc. Field efficiency may be between 65% and 80%. For estimating purposes use the lower end (65%) for small fields, low quality seed, steep terrain, etc. and the higher end (80%) for larger fields, high quality seed, leveler fields, etc.

THREE-POINT HITCHES

Convertible by removing tongue and installing category 2, 3-point pins in tongue mounting holes.

COVERING CHAINS (Optional Equipment)

Covering chains are used when the soil is dry or rough. The chains will help mix the seed in the soil surface and lightly cover the seed. When soil conditions are wet, it is not recommended that the covering chains be used as they may ball up with mud and cover the seeds to deep.

SAFETY CHAINS

ALWAYS attach the safety chains between the towing tractor and the planter. Never transport WF-32 or WF-64 at speeds in excess of 8 MPH and seed at 2-5 MPH. The coupler on the tongue requires a 1-7/8" ball on the towing unit or a clevis pin on the WF-127.

ACRE METERS (Optional Equipment)

HUB STYLE, ACRE METER

This acre meter is calibrated and sealed with the sprocket combination on the face of the meter. Field change is not possible. If sprockets are field changed, calculate the ratio between actual area covered and the reading on the counter and use this **"factor"** to determine acreage readings in the future. Changing tire sizes from the standard rib implement tire will affect the acre meter reading.

Using the Output Reduction feature will result in the acre meter reading 1/2 the actual acres planted. When using the Output Reduction feature the acre meter reading times 2 is the actual acres planted.

MAINTENANCE & SERVICE

PROPER MAINTENANCE & SERVICE

Proper maintenance and service of the unit will save time and increase the life of the machine.

SEED BOXES AND LID HINGES

Check seed box lid hinges frequently for accumulation of dirt and debris. Clean as needed and apply an LPS silicone lubricant, WD-40, or any equivalent lubricant to the hinges to keep them operating freely. Replacement brass hinge pins (part #1038HP) and two 1/16" x 1/2" cotter pins (part #CP116-.5) are available.

The box integrity including welds and bolted assemblies must be inspected and maintained. All seed, debris (such as seed sacks), and unused material must be removed before transport and storage.

DO NOT use any Truax equipment with the lids of the seed boxes open.

LARGE (FLUFFY) SEED BOX

Problems caused by shaft interference between the **picker wheel shaft** (part #2003) and the **transitions** (part #1033) can be repaired by loosening **bolts** (part #B38-.750) that hold the box to the end plates and slightly rotate the box. The bearings holding the picker wheel shaft can also be loosened and the shaft can be moved slightly. The center bearing of the picker wheel shaft is held to the fluffy box bottom by a **bearing support bracket** (part #10316) that can be loosened and moved for increased shaft clearance. Also, each transition can be moved in either direction.

When removing or adjusting the **picker wheels**, (part #2002) remove the set screws entirely, as they tend to screw themselves in and tighten up again during shaft removal. Use a plastic or lead hammer when removing the shafts from the unit so the shaft ends do not become marred.

SMALL (LEGUME) SEED BOX

Irregular seeding rates can be corrected by adjusting the individual cups. After loosening the cup mounting bolts it is possible to move each cup about 1/8" and thereby change the cup output in relation to the others. If a plastic seed cup is broken, a field repair can be made with **"super glue"** (if all the parts can be found). All plastic seed tubes **should** be removed annually and cleaned thoroughly.

If the seed cup shaft tends to "walk" left or right when in use, the cause is usually wear of the shifter spool. This problem can be corrected by installing a thin **spacer** (part #MB 12-.15 or JD #N160437) over the 3/8" shaft between the roll pins and the shifter spool.

COOL SEASON SEED BOX

On a daily basis when planting dense seed that tends to settle and compact, before starting to unit it is a good idea to turn the feed shaft with a wrench in the direction it normally turns. If it turns hard, remove the drive chain to the box and apply a dry silicone based lubricant to each cup while turning feed shaft with a wrench.

When moving the shifter to a new position when the box is filled with seed, it may be necessary to turn the feed shaft with a 5/8" wrench while moving the lever.

COOL SEASON SEED BOX (Con't)

If the feed shaft continues to **"walk"** after checking the above items, then check each seed cup. Loosen the two retaining bolts on each cup and tap (lightly) with a plastic hammer to check the alignment. Retighten and proceed to the next one.

Check the **shifter bearing** (part #M60862) for excess endplay. When excessive end play is present, install a new **thrust washer kit** (part #TM60820) on units manufactured between 1975 and mid 1998. Units manufactured after mid 1998 have a Delrin® **thrust washer** (part #TM60826) and **shifter bearing** (part #M608621). This helps prevent the **5/8" shaft** (part #3103) from "walking". On units manufactured after mid 1998 replace worn parts as needed. **See Figure 40-1** for an illustration of the assembly.

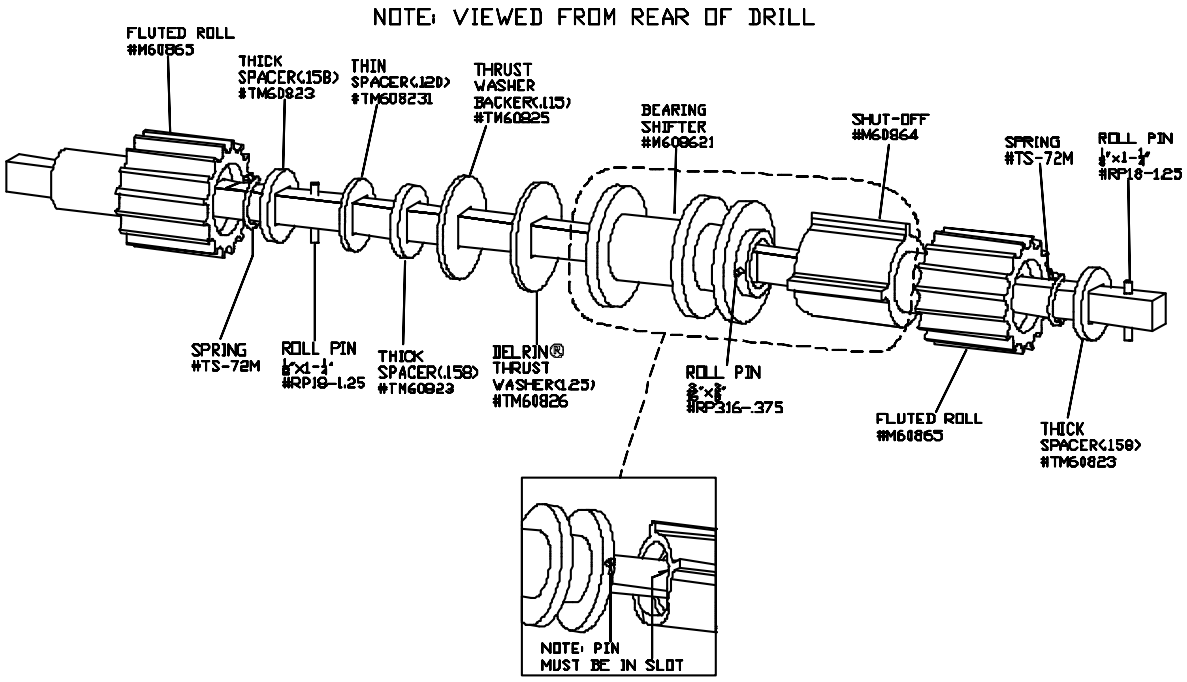


FIGURE 40-1

Units manufactured after February 1994 have a heavy-duty **shifter** (part #3205). When installing this shifter on older units it is necessary to move the **shifter quad** (part #3229) on the seed box.

COOL SEASON FLUTED FEED CUPS

The feed gate latch on the right side of the cool season cup serves as an adjustment for seed size and as a means to clean out the cup. The setting may need to be changed when planting larger seeds (such as soybeans) to prevent them from crushing.

A **repair kit** (AN161511) is available to repair a broken latch or gate.

SERVICING THE COOL SEASON FLUTED FEED CUPS

It may be necessary to service the feed cups whenever the shaft becomes difficult to shift, the rolling torque is too high, or when one or more of the cups have been removed. **See Figure 40-2 for diagram of part identified below.**

1) Open the **feed gate levers**.

2) Start at the end of the unit near the shifter lever and loosen the bolts holding the **seed cups** to the bottom of the box.

3) Move the **seed cup** until the end of the **fluted feed roll** is flush with the inside surface of the seed retainer ring on the lower radius of the seed reservoir.

4) Reset all the **seed cups** in the same manner (beginning with the cups next to the shifter) working alternately in both directions.

5) Tighten the bolts on each **seed cup** as soon as resetting is complete.

   Note: The cup retaining bolts require a **washer** (part #W14) between the bolt head and the seed cup.

6) Recheck the adjustment by moving the feed shaft shifter back and forth. Recheck all **fluted feed rolls** to insure that they are flush at the lower radius of each seed cup.

7) Close the **feed gates** to the desired setting, making sure that all gates are in identical positions.

Note: During installation, if the cup retaining bolts pull through the plastic cup, it will be necessary to place a **washer** (part #W14) on the bolt before installation.

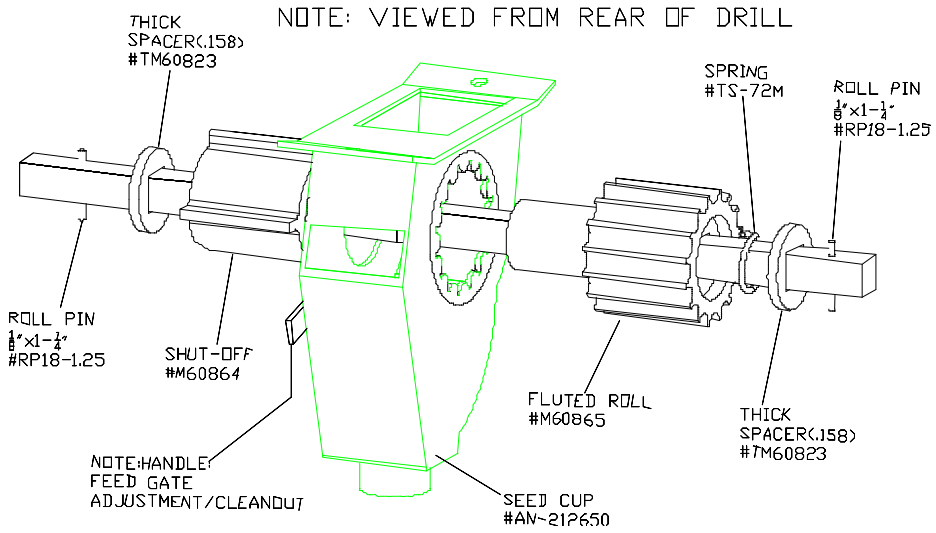


Figure 40-2

LUBRICATION SCHEDULE & RECOMMENDED LUBRICANTS

Moving parts and bearings on all units require regular lubrication. For optimum life of the unit it is recommended that synthetic **grease** (such as Kerr-McGee Mystik JT-Truax part #9991) be used every 4 hours on all the zirks.

At points requiring lubrication that do not have a grease zirk, it is recommended that a light lubricant, such as LPS Silicone lubricant be applied on a daily basis.

Sliding surfaces, such as the idler in the speed changer, should have a silicone-based lubricant applied frequently.

LUBRICATION QUICK CHECK – DAILY BASIS	
PARTS REQUIRING LUBRICATION	**TYPE OF LUBRICATION**
All Chains	LPS Silicone Lubricant
Feed Rolls	LPS Silicone Lubricant
Idler Bushings	LPS Silicone Lubricant
Box Hinges	LPS Silicone Lubricant
Bronze Bushings	LPS Silicone Lubricant
Wheel Bearing	Grease
Drive Sprocket Hub	Grease

REMEMBER: The first rule of good lubrication and maintenance is **common sense!**
Keep it clean and keep it oiled!

It is recommended that lubrication be done immediately after unit usage (while the surfaces are still warm). This will allow the grease to cover the bare metal parts before cooling and condensation has begun to form.

Axles are retained to main frame by 3/8" x 3" bolts and nuts (Applies only to the WF 127). Check daily to be sure that they are in place and tight.

Check wheel lug nuts periodically to ensure they are tight. Lug nut torque should be 75 to 85 foot lbs each.

THREE-POINT HITCHES

The **lift pins** (part #2051) should be checked for metal fatigue and looseness before each use. Replace the pins if they show any indication of bending.

CHECKING BOLT TORQUE

The table shown below provides the correct values for various bolts and cap screws. Tighten all bolts to the torque specified in the chart unless otherwise noted. Check tightness of bolts periodically, using bolt torque chart as a guide. Replace hardware with same strength bolt.

TORQUE SPECIFICATIONS

BOLT DIAMETER	BOLT TORQUE			
	SAE 5		SAE 8	
	lb-ft	(N.m)	lb-ft	(N.m)
1/4"	9	(12)	12	(17)
5/16"	19	(25)	27	(36)
3/8"	33	(45)	45	(63)
1/2"	80	(110)	115	(155)
5/8"	160	(215)	220	(305)
3/4"	290	(390)	400	(540)
1"	630	(850)	970	(1320)

Torque figures indicated above are valid for non-greased or non-oiled threads and heads unless otherwise specified. Therefore, do not grease or oil bolts or cap screws unless otherwise specified in this manual. When using locking elements, increase torque values by 5%. SAE type for bolts and cap screws are identified by their head markings.

TROUBLESHOOTING

SYMPTOM	CAUSE	SOLUTION
CHAINS: **Chains come off.**	Misaligned sprockets.	Align sprockets and tighten set screws in the keyed sprockets and bearings.
	Misaligned idler.	Straighten idler. If the shaft moves after installation, unit detents in the shaft for the bearing set screws.
	Bent or damaged sprocket.	Replace the sprocket.
	Loose shaft bearings.	Tighten flangettes.
	Rusty or dirty chain.	Remove from the unit and soak overnight in light oil or silicone lubricant or apply WD-40.
	Overload in one of the boxes.	Increase the size of the driven sprocket when compared to the one that drives it. For Example: the sprocket that drives the agitator in the fluffy box may have to be increased in size, in relation to the sprocket that drives it. An overloaded sprocket then overloads the chain and causes it to walk off the sprockets.
ROLL PINS: **Breaking roll pins in the speed changer and sprockets.**	Agitator is catching the picker wheels.	Bend agitator so it does not catch on picker wheel.
	Rusty and worn sprockets.	Straighten and apply silicone lubricant.
	Picker wheels catching debris in the seed.	Clean the seed before using.
	Picker wheel shaft rubbing on transition.	Loosen fluffy seed box and rotate it. Align the shaft and retighten the seed box. Check **bearing support** (part #10316) for alignment.
	Binding chain.	Align the sprockets. Start with the drive wheel chain and work toward the seed boxes. Re-align and tighten each chain and its idlers.
	Overfilled seed box or seed settling.	Remove seed when transporting unit or stir seed in box prior to seeding. **Leave a 2" empty space at the top of the fluffy box for the seed to churn.**

TROUBLESHOOTING

SYMPTOM	CAUSE	SOLUTION
Breaking roll pins in the speed changer and sprockets.	Binding idlers.	Clean and lubricate the steel bushings of each idler. Be sure the idler is on the correct side of each chain. The idlers must be on the slack or non-drive side of the chain. In particular, the double idlers on the drive leg and the double idlers on the chain going to the clutch must be installed as per the attached decals. See decals 1046C10 and 1046C11.
	High torque load.	Slow down when planting. **DO NOT** seed at speeds greater than 7-8 m.p.h., even on the best sites. Reduce the amount of seed in the boxes. Check the sprocket ratio. To reduce the torque load on the chains, sprockets, and other drive parts, allow a small drive sprocket to drive a larger driven sprocket. **In particular, the agitator sprockets must be larger than the sprockets that drive them.**
	Fertilizer in box.	**DO NOT apply fertilizer with this equipment.**
SEED BOXES: **Fluted-feed roll shifter levers on the small seed or cool season/grain box difficult to move.**	Dirt or rust on the exposed fluted feed or cut-off rolls.	Clean and lubricate with a dry silicone based lubricant.
	Locked in torque on either feed shaft.	Turn feed shafts back and forth with a wrench while moving handle left and right.
	Bent roll pins on the shaft.	Replace as needed.
	Seed jammed in flutes.	Drop cup gates and clean with air hose.
	Worn knob on shifter handle. Knob or boss on cool season/grain shifter should be no less than 5/8" in diameter.	Replace the **shifter handle** (part #3205).
	Bolt in shifter quad of cool season box is jammed	Correct **bolt** is 3/8" x 1" square head (part #B38-1SQ).

TROUBLESHOOTING

SYMPTOM	CAUSE	SOLUTION
SEED BOXES (Con't):		
Fluted-feed roll shifter levers on the small seed or cool season/grain box difficult to move.	Seed cup gates are jammed with debris.	Move gate levers up and down and clean debris from the gate area with an air hose.
	Coated seed and its dust not cleaned after use from either the small seed or cool season/grain box.	First, try to remove seed from each cup with an air hose. Second, try to clean cups with high-pressure washer. When all else fails, remove the two bolts retaining each cup and one roll pin from each unit. This will allow you to move the cup aside to clean material from each flute and feed roll.
	Fertilizer applied from either cool season/grain or small seed box.	**Never apply fertilizer** from unit unless it is equipped with a fertilizer box attachment. Follow procedure in above item for cleaning coated seed from seed boxes.
	Worn shifter bearing on cool season box.	Replace with new **thrust bearing kit** (part #TM60820) used on all production after 1998.
	Missing **spring** (part #TS-72M).	Replace **spring** (part #TS-72M).
	Coupler alignment.	Small seed box **coupler** (part #1010) not in alignment with seed box shaft. Loosen drive end bearing and end box bolts. Align coupler with box shaft and retighten bolts and bearing.
Irregular quantities of seed coming from seed boxes.	Small seed box emptying unevenly.	Seed cups may have moved because of loose mounting bolts. Reposition and retighten.
	Feed roll flutes may be plugged.	Clean.
	Coated seed may have plugged cup.	Clean.
	Seed hoses may be kinked or plugged with debris.	Clean.
	Cool season/grain box emptying unevenly.	Seed cups may have moved because of loose mounting bolts. Reposition and retighten.
	Bridging of uncleaned seed.	Use only clean seed.
	Fluffy seed box emptying unevenly.	Tighten agitators. Tighten picker wheels. Clean transitions, seed hoses, and boot castings. Check and replace seed gaskets and seed gasket plates.

TROUBLESHOOTING

SYMPTOM	CAUSE	SOLUTION
Irregular quantities of seed coming from seed boxes.	Small seed box **coupler** (part #1010) moved.	Reposition and tighten.
Clogging of seed passages.	Dirty seed.	Use only clean seed.
		Dirty cool season mixes may be planted from the fluffy seed box. A dirty fluffy seed mix may sometimes be handled by lowering the output ratio of the warm season speed changer.
	Wet seed.	If the unit is left with seed in it overnight, it must be put into a shed or covered with a tarp. The picker wheels are less likely to handle stems and awns if the seed gets wet or moist as they will bend and then snap back, rather than break in two as they pass through the picker wheels.
	Bent seed hose.	On rough sites, one or more seed hoses may become bent for a short distance. This allows the seed to buildup and then is released in a "slug". This may result in a plugged seedway passage.
	Storage litter.	During storage, a buildup of cobwebs and mice nests will plug hoses. Remove and clean all hoses before use.
Cool season seed box feed shaft "walks".	Excessive wear on the shifter bearing.	Order a replacement **thrust washer kit** (part #TM60820) for units built 1975 to mid 1998. For units built after mid 1998, order replacement parts as needed. See Page 40-2 for a detailed drawing.
<u>FLUFFY SEED BOX:</u> **Too little seed from the fluffy seed box.**	Wrong setting of the speed changer.	When standing at the tongue looking at the unit, the lowest output is when the speed changer chain is to the **far right**. Each step to the left increases the output.
	Restriction in the seed box.	If seed gaskets and retainer plates are in place, **remove them**.
		Use only commercially cleaned seed. Hand collected seed should be cleaned.
	Wrong sprocket.	Reduce the size of jackshaft sprocket (the end above the ground wheel). OEM is 30 tooth.
	Restriction in the seed passageway.	Clean the seed hose.
		Clean the transition.
		Clean the dirt from between the discs and within the boot casting.

TROUBLESHOOTING

SYMPTOM	CAUSE	SOLUTION
FLUFFY SEED BOX: **Too much seed from the fluffy seed box.**	Excessive seed feed rate.	Add seed gaskets and retainer plates to fluffy seed box.
		Add the optional **Output Reduction Kit** to the unit. This will reduce output from all seed boxes on the unit by 50%. **Only on Model WF-127.**
	Wrong sprocket.	Increase the size of the jack shaft sprocket (the end above the ground wheel). OEM is 30 tooth.
		Increase the clutch sprocket size. OEM is 30 tooth.
		Increase the picker wheel shaft sprocket size. OEM is 30 tooth.
	Seed too fine.	Use a different seed box. Place seed in the cool season/grain seed box.
		Add inert filler, such as ground corncobs, cottonseed hulls, bran, etc.
		Add seed gaskets and retainer plates.
		Place tape on the bottom of the box to restrict the slot next to the picker wheels.
		Remove chain to the agitators in the fluffy box.
COOL SEASON/GRAIN BOX: **Too little seed from the cool seed box.**	Plugged seedway passage.	Straighten kinked hose.
		Remove debris from the seed hose.
		Clean bent or plugged metal seed tube (on units built prior to September 1993).
	Green seed cup.	Lower the gate for larger size seeds.
		Clean the flutes.
		Adjust flutes to the maximum open position.
	Dirty seed.	Clean the seed or try using the fluffy seed box.
Too much seed from the cool season box.	Excessive seed feed rate.	Add the optional **Output Reduction Kit** to the unit. This will reduce output from all seed boxes on the unit by 50%. **Only on Model WF-127.**
	Double sprocket on end of box is too small.	Change the double sprocket. Use **double sprocket** (part #3095X1 in place of part #3095X).

TROUBLESHOOTING

SYMPTOM	CAUSE	SOLUTION
SMALL SEED BOX:		
Too little seed from the small seed box.	Plugged seedway passage.	Clean cup assembly. Clean seed hose. Clean seed. Use only dry seed. Check hose for collapse. Adjust flutes to the maximum open position. Check for loose cup that may have moved to a more closed position.
Too much seed from the small seed box.	Excessive seed feed rate.	Adjust flute opening to a smaller or more closed position. Add the optional **Output Reduction Kit** to the unit. This will reduce output from all seed boxes on the unit by 50%. **Only on Model WF-127.** Increase the size of the sprocket on the end of the small seed box. OEM is 20 tooth.
MAIN FRAME:		
Main frame or axle breakage.	Many possible causes.	Slow down when seeding on slopes and ditch banks. Correct preload on axle nut. **DO NOT** tow unit at posted highway speeds. **TOW AT A SPEED OF 8 MPH or 20 MPH depending on unit Model OR LESS.** Service wheel bearings (i.e. check and repack) on a regular basis. Check wheel lug nuts for tightness. Torque wheel lug nuts to 75 to 85 Foot Lbs.

SYMPTOM	CAUSE	SOLUTION
ACRE METER: **Acre meter tallying incorrectly.**	Double tracking or leaving too wide a space between rows on each trip across the field.	Leave the same amount of space between each seeded strip as the furrow opener spacing on the drill.
	Land area contains more or less area than assumed.	Double-check the **"facts"**.
	One or more sprockets between the ground wheel and the acre meter have been changed.	If sprocket combination has been changed from the OEM standard, then calculate the area covered. **See procedure on Page 30-17.**
	Circle drilling with the drive wheel on the outside of the turn will give a false reading from the acre meter.	
	Output reduction feature in use. Applicable only with Model WF-127.	Acre meter will read 1/2 of actual acres planted. Multiply acre meter reading by 2 for actual acres planted.

STORAGE & PLACING THE UNIT BACK INTO SERVICE

1) Store the unit on a flat, level surface, preferably in a shed. Custom made covers can be ordered from L & L Tarp, 47550 254th Street, Baltic, SD 57003. Phone 605/529-5264.

2) Block the wheels and detach the unit from the tractor.

3) Vacuum the seed boxes.

4) On Model WF-127 remove the convoluted seed hoses, clean and store them in a cardboard box.

5) Slide the cool season and small box shifter back and forth.

6) Remove the cool season box row dividers where installed and clean the bottom of the cool season box.

7) Drop the gates on the cool season seed cups to its lowest level. The lever is located on the left side of the seed cup as you face the back of the unit. **See Figure 60-1.**

Figure 60-1

8) Using an air hose, blow the seed **(all of it)** from the boxes, especially the small seed box cups and flutes.

9) Using a screwdriver, clean stems from the transitions.

10) Clean the unit with a high-pressure washer. **Greaseable bearings should have grease applied before and after washing to prevent water from entering the bearing and to purge water from the bearings after washing.**

11) Using an air hose, blow **all the water** from the unit, including the inside of the boxes.

13) Paint all bare metal and rust spots. Use Ford Automotive Paint (Tampico Yellow - 1972) or Krylon (Warm Yellow Gloss #1941) and RUST-OLEUM Professional High Performance Enamel (Gloss Black #7579) for a close match to original paint color.

STORAGE & PLACING THE UNIT BACK INTO SERVICE (con't)

14) Spray all moving parts (sprockets, hinges, chains, press wheel bearings, etc) with a silicone based lubricant. **Check seed box lid hinges for accumulations of dirt and debris.** Clean as needed and apply an LPS Silicone Lubricant, WD-40, or an equivalent lubricant. Replacement brass hinge pins (part #1038HP) and two 1/16" x 1/2" cotter pins (part #CP116-.5) can be ordered.

15) Repack wheel bearings.

16) Torque wheel lug nuts to 75-85 lbs.

17) Check the unit for bent or broken parts and remove or replace them as needed. Pay particular attention to safety decals and the parts of the unit they reference. Repair or replace them as needed so that the unit is safety-conditioned.

OPTIONAL ACCESSORIES – Pull Type Broadcaster

ITEM	DESCRIPTION
Row Dividers for Cool Season/Grain Seed Box	Seed box dividers to aid in keeping seed distributed across the unit.
Output Reduction Kit	A speed reduction kit that permits planting very low seeding rates. Seed output from all seed boxes on the unit is reduced by 50%. **Not available Models WF-32 and WF-64.**
Acre Meter	Records acreage planted by the unit.
Highway Tires (Model WF-127)	7.60 Radial 4-6 ply tire.
Truck Tires (Model WF-127)	7.60 Bias 8-10 ply tire.
Flotation Tires (Model WF-127)	9.5L Rib Implement 8-ply tire.
Spare Tire on Rim (Model WF-127)	Spare tire mounted on a rim for the unit.
Spare Tire Mount (Lockable) (Model WF-127)	Bracket for mounting a spare tire on the unit that can be locked.
Rear Jack Stand	Required on Model WF-127.
Toolbox (Lockable)	Toolbox with a lockable latch mounted on the unit.
Safety Chains	Chain for connecting the unit to the tractor.
Tail Lights	Trailer type taillights (4 prong, flat plug style) with wiring harness the length of the tongue.
Scale (Pesola 93628-M)	Hand held scale that weighs both in grams and ounces. Used in unit calibration.

SPECIFICATIONS PULL TYPE BROADCASTER

	WF-32	WF-64	WF-127
Machine Width	3.8 ft	6.5 ft	13.7 ft.
Planting Width	2.7 ft	5.3 ft	10.7 ft.
Length (front to back, including tongue and cool season/grain box)	6.7 ft	8.3 ft	12 ft.
Machine Weight	400 lbs.	1,000 lbs.	1,600 lbs.
BOX CAPACITIES (Bu/Ft):			
Small Seed/Legume Box	0.25	0.25	0.25
Fluffy Seed Box	1.01	1.01	1.01
Cool Season/Grain Box	1.10	1.10	1.10
TRACTOR REQUIREMENTS:			
Standard Planter Unit	17 h.p.	24 h.p.	50 h.p.
Standard Planter Unit with Cultipacker	22 h.p.	30 h.p.	N/A

Pull Type Broadcaster

WF32 (Old Production)

WF64 (Old Production)

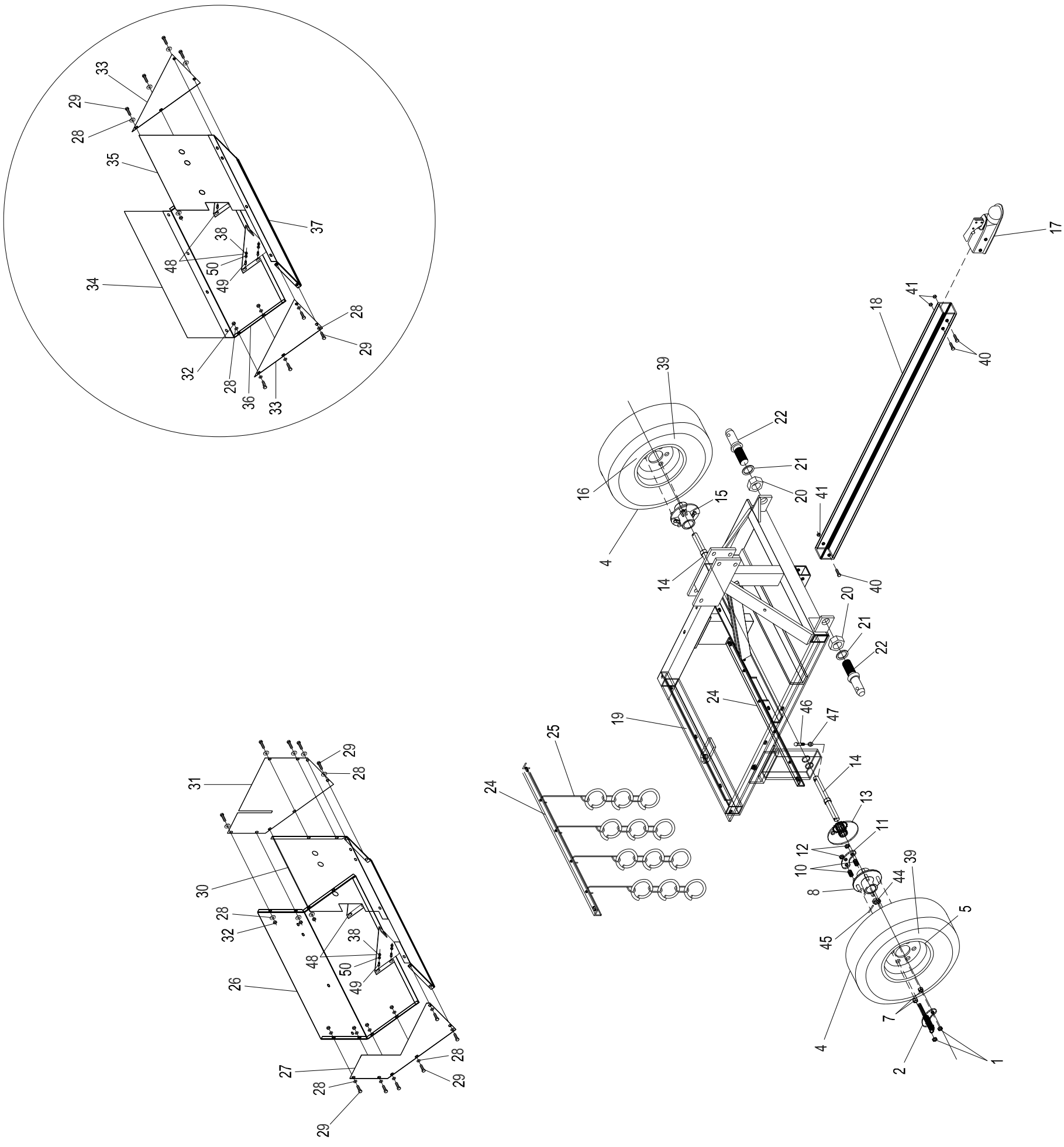
WF64 (New Production)

WF127 (New Production)

PARTS CATALOG

ALWAYS ORDER BY PART NUMBER - NOT BY ITEM NUMBER

WF32 FRAME ASSEMBLY 1 OF 3



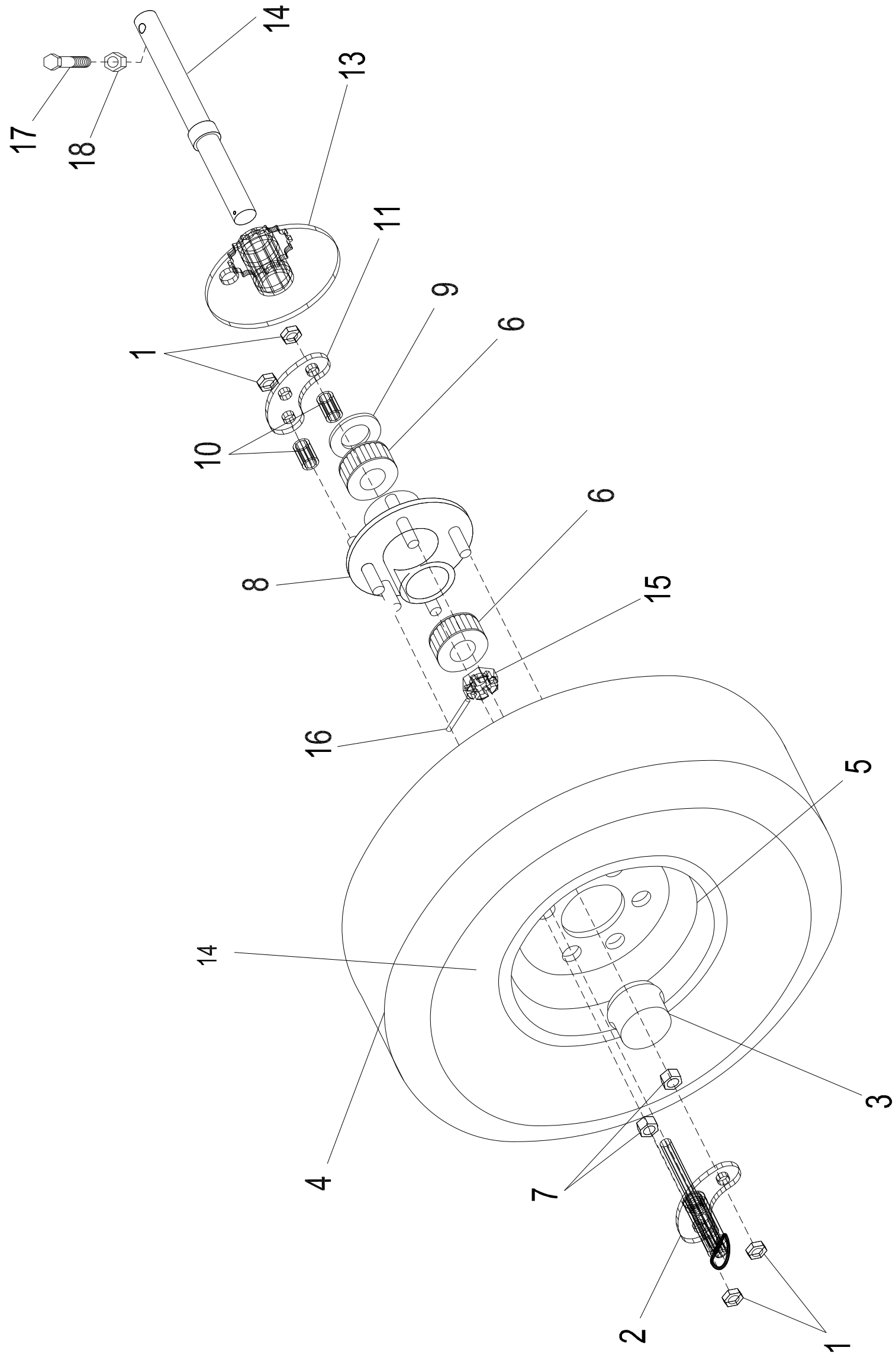
WF32 FRAME ASSEMBLY – 1 OF 2		
ITEM NO.	**PART NUMBER**	**DESCRIPTION**
1	N12-20-CJN	Nut, 1/2" –20 Clincher, Jam
2	1085B241	Mount Spring & Pin Assembly
3	1082D	Cap, Dust for 4-Bolt Hub
4	WF1072	Tire, 4.80 X 400
5	WF10723	Rim, Drive
6	1078	Bearing, 4 Bolt Hub WF, 1”ID. #L44643
7	WN12-20	Wheel Nut, 1/2"-20 With 45 Degree Bevel From Centerline
8	WF1071	Hub, 4-Bolt, 1992-
9	1138E	Seal, 4-Bolt WF, 1”ID
10	107821	Wheel Bolt Spacer, 1/2"ID 3/4"OD 1-1/8”L
11	1085B27	Rim Bracket, Lockout Hub
12	N12-20-CJN	Nut, 1/2" –20 Clincher, Jam
13	62130	Drive Hub
14	62151	Axle, 4-Bolt Pinned
15	WF1071	Hub, 4 Bolt, 1992-
16	WF10722	Rim, Non Drive
17	WF10223	Hitch, Ball Style
18	WF1058	Tongue
19	WF103632	WF Frame
20	N34-TL	Nut, 3/4" Top Locking
21	W34	Washer, 3/4"
22	2051	Lift Pin, Cat I 1-7/8”
24	WF4003A1	Chain Hanger, 4 Row
25	4003B	Covering Chain
26	60023B1	Baffle, Rear 31-1/2”
27	60022	Baffle End, Drive Side
28	W516	Washer, 5/16"
29	B516-1	Bolt, 5/16” X 1”
30	60026C	Baffle, Front 31-1/2” (Notch)
31	60019	Baffle End, Non Drive Side
32	N516	Nut, 5/16”
33	WF10112	Baffle End, WF
34	WF32BB	Rear Panel, 4 Row
35	WF32B	Front Panel, 4 Row
36	WF32AA	Baffle, Rear 4 Row
37	WF32A	Baffle, Front 4 Row

WF32 FRAME ASSEMBLY – 2 OF 2		
ITEM NO.	**PART NUMBER**	**DESCRIPTION**
38	N38	Nut, 3/8”
39	WF1072BB	Tube
40	B38-3	Bolt, 3/8” X 3”
41	N38-FN	Nut, 3/8” Flange
44	N1-SL	Nut, 1” Slotted
45	CP532-1.5	Cotter Pin, 5/32” X 1-1/2”
46	B516-1.5	Bolt, 5/16” X 1-1/2”
47	N516	Nut, 5/16”
48	300177	Angle, Baffle
49	B38-1	Bolt, 3/8” X 1”
50	W38	Washer, 3/8”

PARTS CATALOG

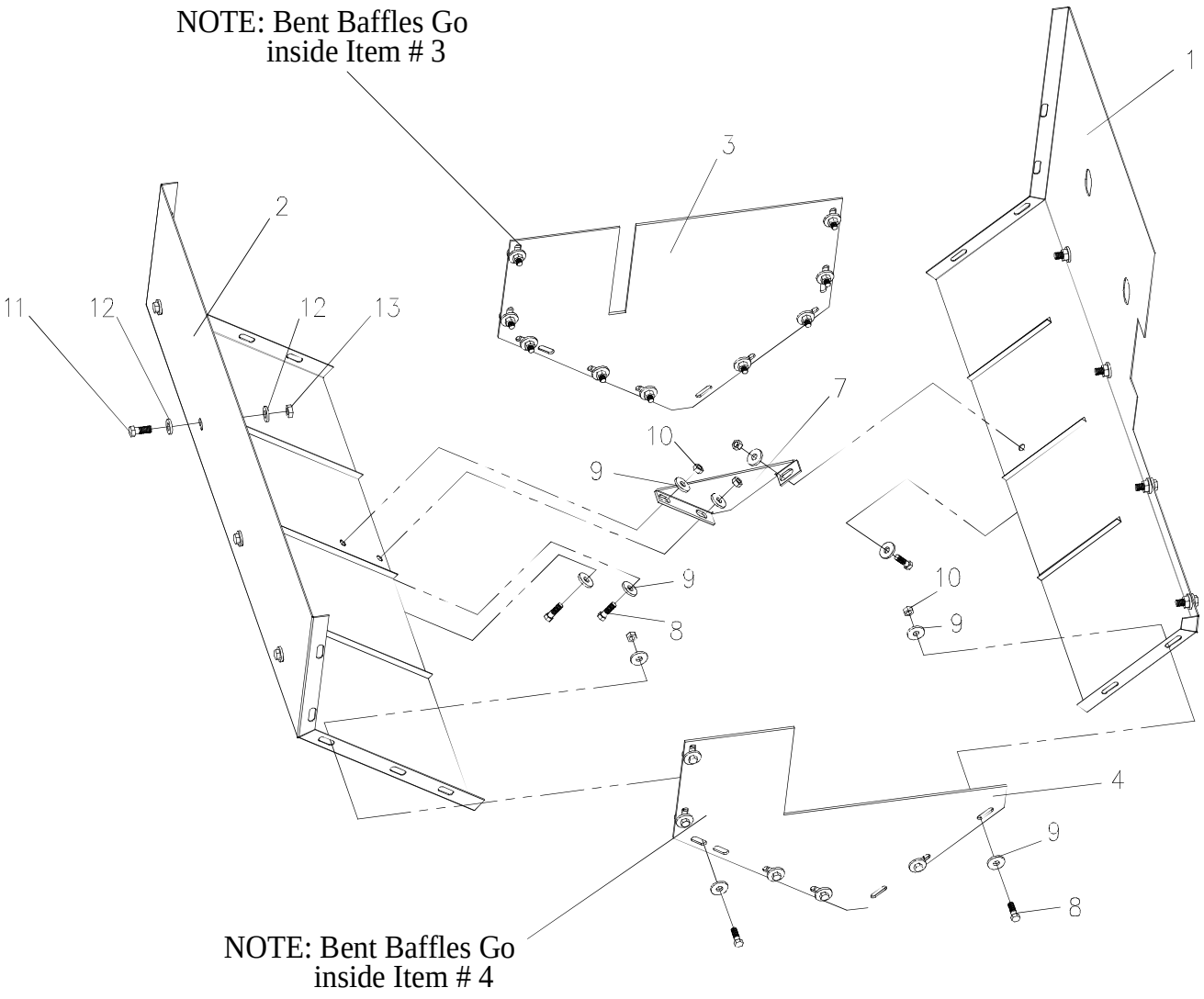
ALWAYS ORDER BY PART NUMBER - NOT BY ITEM NUMBER

WF32 DRIVE ASSEMBLY 1 OF 2



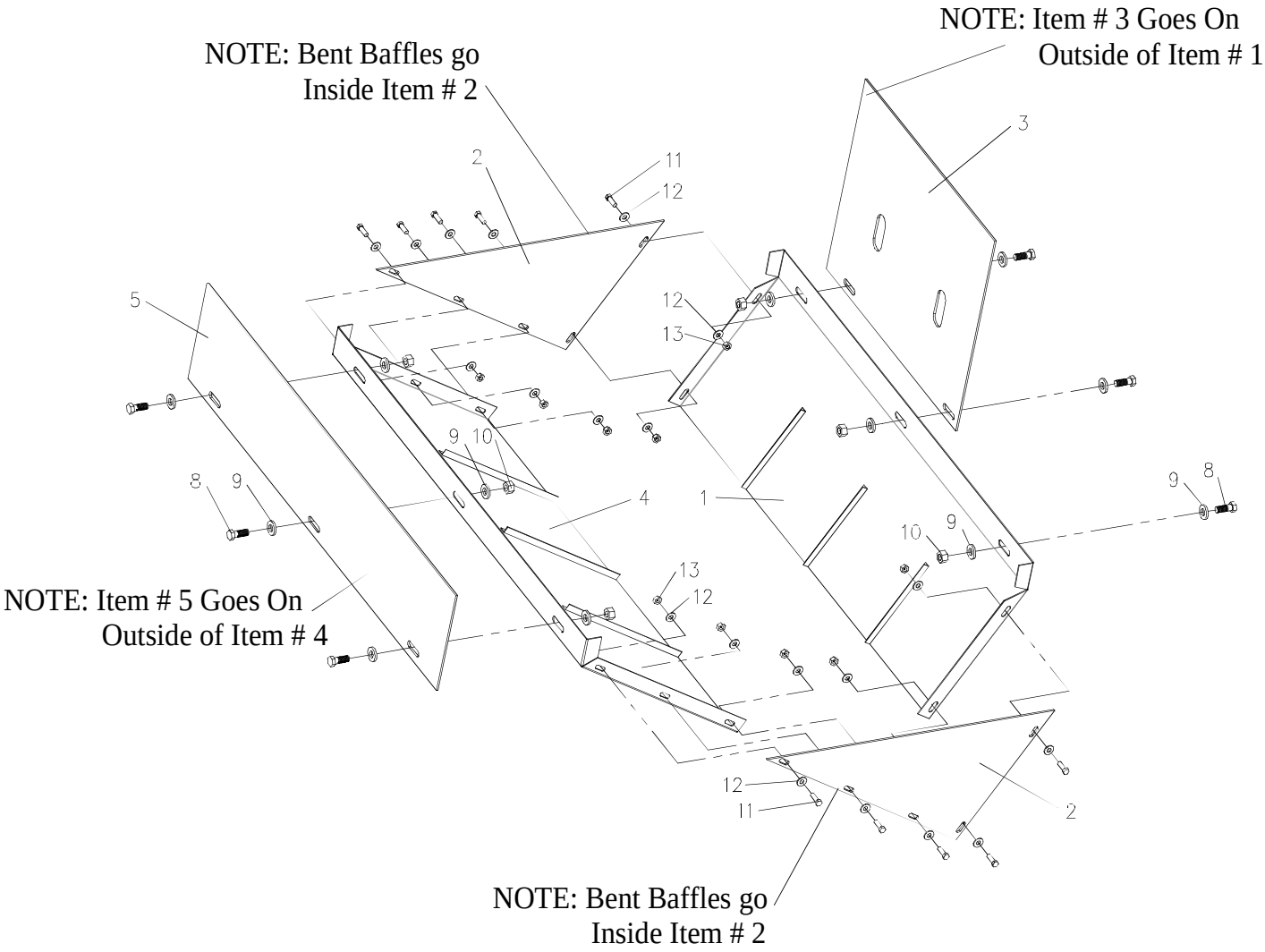
WF32 DRIVE ASSEMBLY – 2 OF 2		
ITEM NO.	**PART NUMBER**	**DESCRIPTION**
1	N12-20-CJN	Nut, 1/2” -20 Clincher, Jam
2	1085B241	Mount Spring & Pin Assembly
3	1082D	Cap, Dust for 4-Bolt Hub
4	WF1072	Tire, 4.80 X 400
5	WF10723	Rim, Drive
6	1078	Bearing, 4-Bolt Hub WF, 1” ID. #L44643
7	WN12-20	Wheel Nut, 1/2”-20 With 45° Bevel From Center line
8	WF1071	Hub, 4-Bolt, 1992-
9	1138E	Seal, 4-Bolt WF, 1” ID
10	107821	Wheel Bolt Spacer, 1/2” ID x 3/4” OD x 1-1/8”L
11	1085B27	Rim Bracket, Lockout Hub
12	62130	Drive Hub
13	62151	Axle, 4-Bolt Pinned
14	WF1072BB	Tube
15	N1-SL	Nut, 1” Slotted
16	CP532-1.5	Cotter Pin, 5/32” X 1-1/2”
17	B516-1.5	Bolt, 5/16” X 1-1/2”
18	N516	Nut, 5/16”

WF32 BAFFLE ASSEMBLY - NEW PRODUCTION 1 OF 2



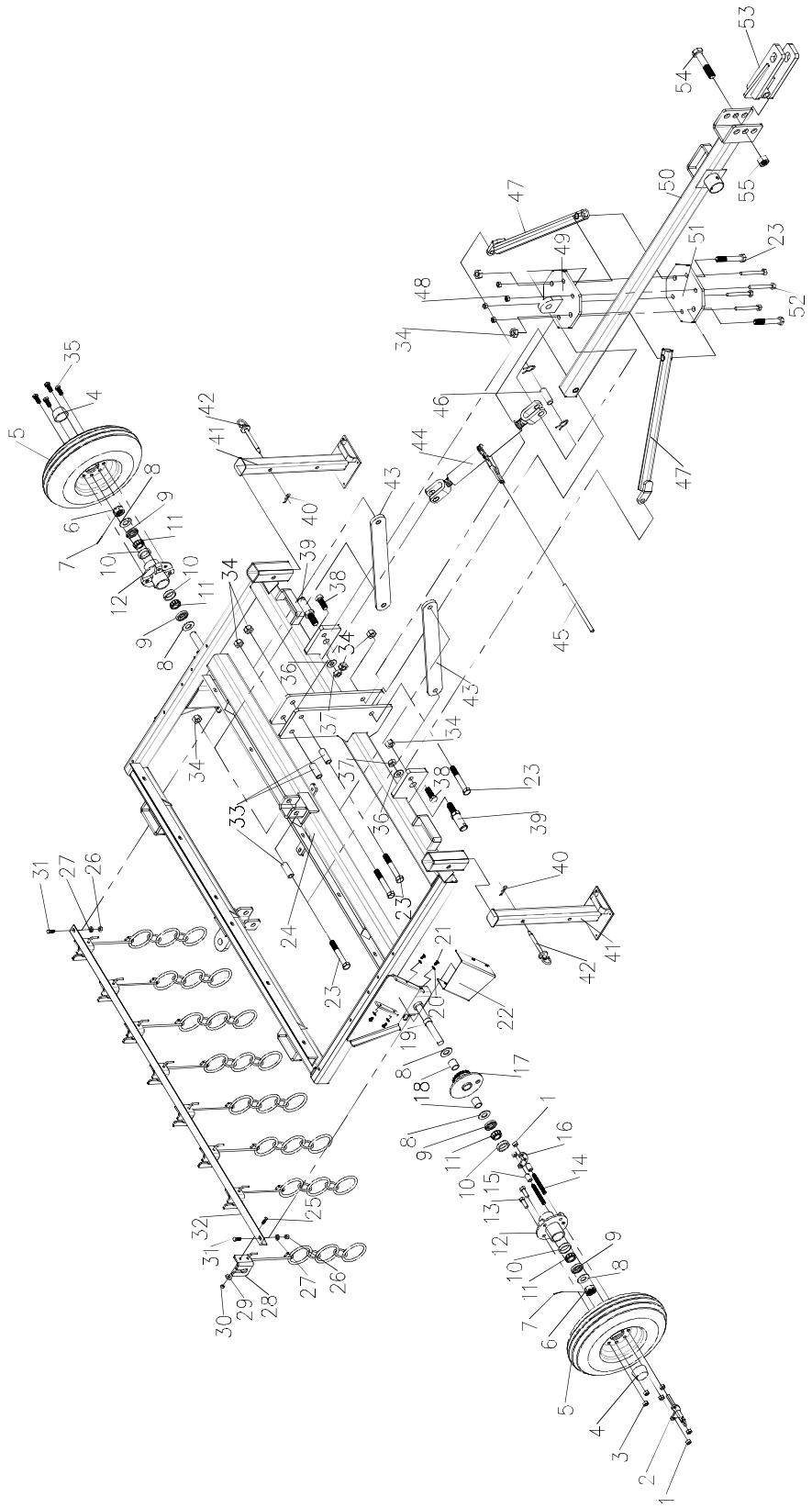
WF32 BAFFLE ASSEMBLY – NEW PRODUCTION 2 OF 2		
ITEM NO.	**PART NUMBER**	**DESCRIPTION**
1	60026C	Baffle, Front 31-1/2" (Notch)
2	60023B1	Baffle, Rear 31-1/2"
3	60019	Baffle End, Non Drive Side
4	60022	Baffle End, Drive Side
7	300177	Angle, Baffle
8	B38-1	Bolt, 3/8" X 1"
9	W38	Washer, 3/8"
10	N38	Nut, 3/8"
11	B516-1	Bolt, 5/16" X 1"
12	W516	Washer, 5/16"
13	N516	Nut, 5/16"

WF32 BAFFLE ASSEMBLY - OLD PRODUCTION 1 OF 2



WF32 BAFFLE ASSEMBLY – OLD PRODUCTION 2 OF 2		
ITEM NO.	**PART NUMBER**	**DESCRIPTION**
1	WF32A	Baffle, Front 4 Row
2	WF10112	Baffle Ends, Wild Flower
3	WF32B	Front Panel 4 Row
4	WF32AA	Baffle, Rear 4 Row
5	WF32BB	Rear Panel 4 Row
8	B38-1	Bolt, 3/8" X 1"
9	W38	Washer, 3/8"
10	N38-TL	Nut, 3/8" Top Lock
11	B516-1	Bolt, 5/16" X 1"
12	W516	Washer, 5/16"
13	N516	Nut, 5/16"

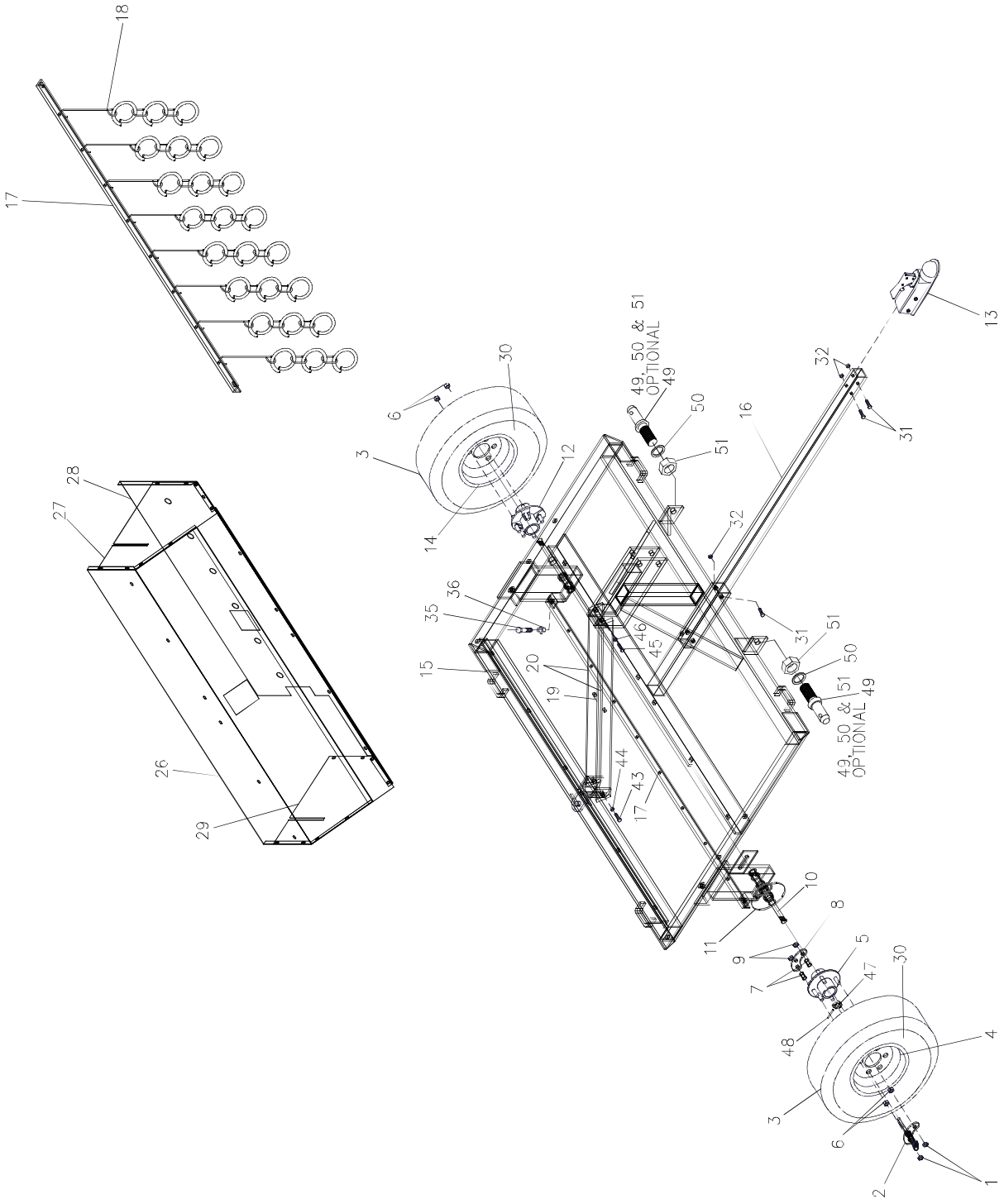
WF64 FRAME ASSEMBLY - NEW PRODUCTION 1 OF 3



WF64 FRAME ASSEMBLY - NEW PRODUCTION 2 OF 3		
ITEM NO.	**PART NUMBER**	**DESCRIPTION**
1	N12-20-CJN	Nut, 1/2" -20 Clincher, Jam
2	1085B241	Mount Spring & Pin Assembly
3	WN12-20	Wheel Nut, 1/2"-20 With 45 Degree Bevel From Centerline
4	1082D	Cap, Dust for 4-Bolt Hub
5	WF1072 WF10723	Tire, 4.80 X 400 Rim
6	N1-SL	Nut, 1" Slotted
7	CP532-1.5	Cotter Pin, 5/32" X 1-1/2"
8	MB1	Machine Bushing, 1"
9	1138E	Seal, 4-Bolt WF 1"
10	10781	Cup, 4-Bolt Hub WF, 1"ID. L44610
11	1078	Bearing, 4-Bolt Hub WF, 1"ID. L44643
12	WF1071	Hub, 4-Bolt, 1992-
13	B12-1.5NF	Bolt, 1/2" x 1-1/2" National Fine Thread
14	10782	Wheel Bolt/Threaded Rod, 1/2"-20-4"
15	107821	Spacer, Wheel Bolt 1/2"ID 3/4"OD 1-1/8"L
16	1085B27	Rim Bracket, Lockout Hub
17	62130	Drive Hub
18	1121	Bushing, 1" Bore Brass
19	62151	Axle, 4 Bolt
20	W14	Washer, 1/4"
21	B14-0.5	Bolt, 1/4" X 1/2"
22	450009	Cover, Chain
23	B34-5	Bolt, 3/4" X 6"
24	451036	Frame, WF64
25	B516-1	Bolt, 5/16" X 1"
26	N38-TL	Nut, 3/8" Top Lock
27	W38	Washer, 3/8"
28	1093C	Covering Chain
29	W516	Washer, 5/16"
30	N516	Nut, 5/16"
31	B38-1	Bolt, 3/8" X 1"
32	450007	Chain Hanger
33	107822	Spacer, 3/4"ID 1"OD 2-1/2" L
34	N34	Nut, 3/4"

WF64 FRAME ASSEMBLY – NEW PRODUCTION 3 OF 3		
ITEM NO.	**PART NUMBER**	**DESCRIPTION**
35	WB12-20-1.25	Wheel Bolt, 1/2"-20 X 1-1/4" With 45 Degree Bevel from Centerline
36	W34	Washer, 3/4"
37	N34-TL	Nut, 3/4" Top Lock
38	B34-2	Bolt, 3/4" X 2"
39	2051	Lift Pin, Cat II -1-1/8"
40	HP116	Hitch Pin, 1/16"
41	WF1069	Parking Stand
42	3204JHP	Hitch Pin, 3/4" X 4-1/2"
43	20673	Support Arm, WF
44	1061	Ratchet Jack
45	10611	Handle, Ratchet
46	801112	Pin, 1"OD 2-3/4"L (w/ retaining clips)
47	450004	Tongue, Angle Support, 2011-
48	N12-TL	Nut, 1/2" Top Lock
49	450003	Tongue, Upper Support Plate, 2011-
50	450001	Tongue, WF
51	45003A	Tongue, Lower Support Plate, 2011-
52	B12-4.5	Bolt, 1/2" X 4-1/2"
53	450002	Clevis, WF 2011-
54	B1-5	Bolt, 1" X 5"
55	N1-TL	Nut, 1" Top Lock

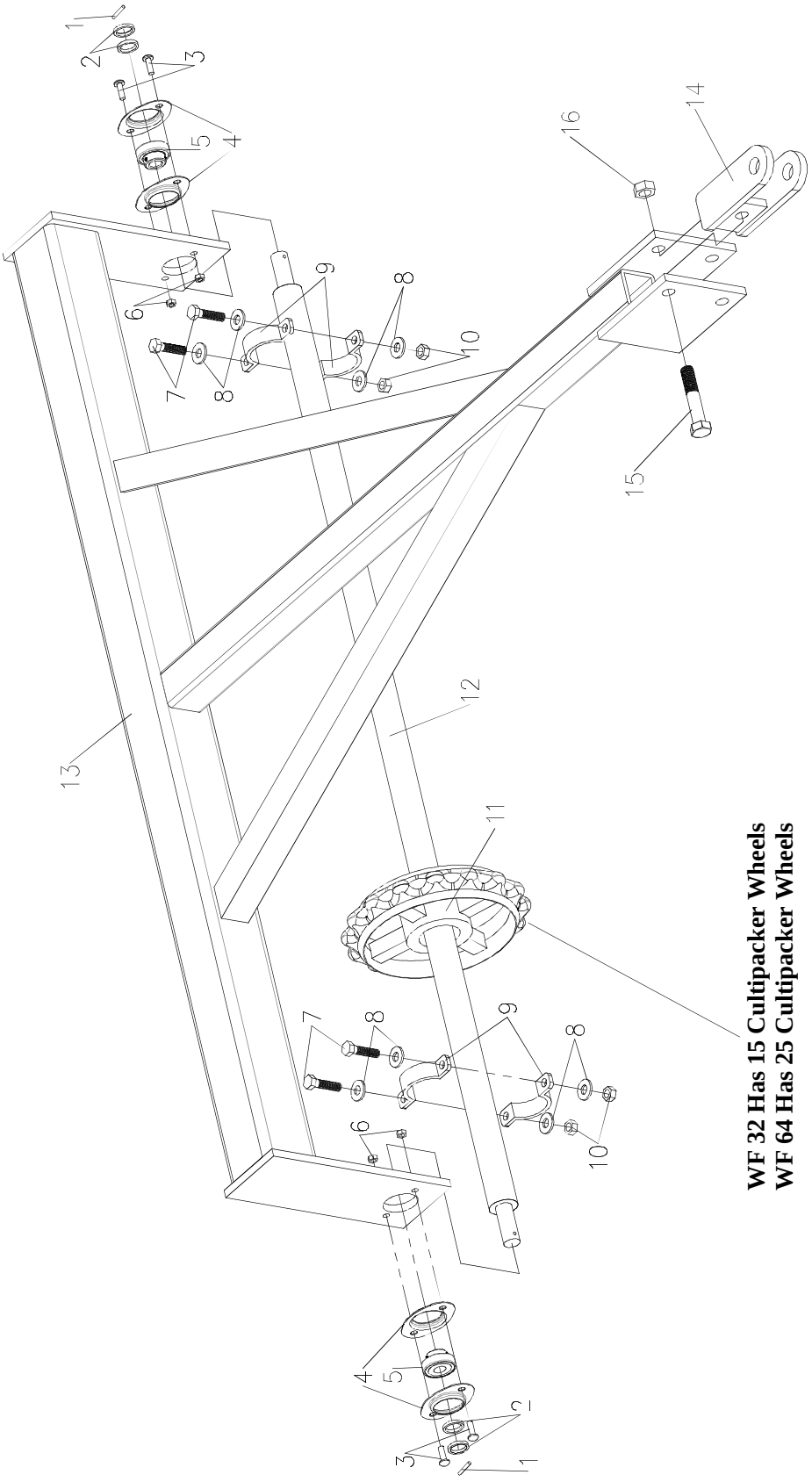
WF64 FRAME ASSEMBLY - OLD PRODUCTION 1 OF 3



WF64 FRAME ASSEMBLY – OLD PRODUCTION 2 OF 3		
ITEM NO.	**PART NUMBER**	**DESCRIPTION**
1	N12-20-CJN	Nut, 1/2"-20 Clincher, Jam
2	1085B241	Lockout Pin Guide
3	WF1072BA	Wheel, Drive
4	Wf1072B	Rim, Drive
5	WF1071	Hub, Drive
6	WN12-20	Nut, 1/2"
7	107821	Spacer, Wheel Bolt 1/2”ID 3/4”OD 1-1/8”L
8	1085B27	Bracket, Lockout
9	N12-20-CJN	Nut, 1/2"
10	62151	Axle, Drive
11	62150	Lockout
12	WF1071	Hub, Non Drive
13	WF10223	Hitch
14	WF10722	Rim, Non Drive
15	WF103664	WF Frame
16	WF1058	Tongue
17	4003A	Chain Hanger
18	WF1093C	Chain Cover
19	2067A	Spacer
20	20672	Support Arm
21	60021	Baffle, Rear
22	60019	Baffle, RH End
23	60020	Baffle, Front
24	60022	Baffle, LH End
25	WF1072BB	Tire
26	B38-3	Bolt, 3/8” X 3”
27	N38-FN	Nut, 3/8” Flange

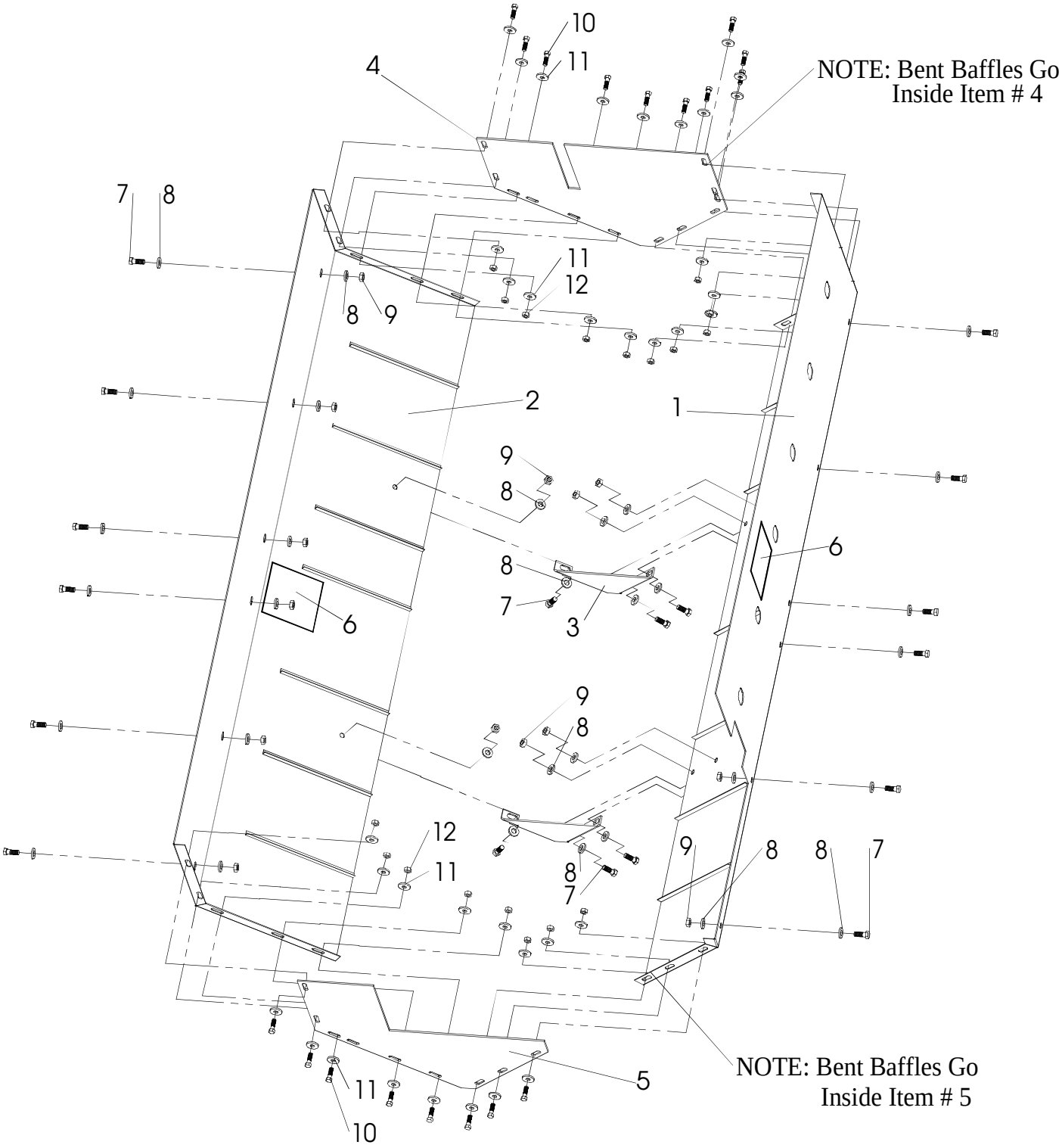
WF64 FRAME ASSEMBLY – OLD PRODUCTION 3 OF 3		
ITEM NO	**PART NUMBER**	**DESCRIPTION**
28	B38-1	Bolt, 3/8” X 1”
29	N38	Nut, 3/8”
30	B34-5	Bolt, 3/4" X 5”
31	N34	Nut, 3/4"
32	B34-5	Bolt, 3/4" X 5”
33	N34	Nut, 3/4"
34	N1-SL	Nut, 1” Slotted
35	CP532-1.5	Cotter Pin, 5/32" X 1-1/2"
36	2051	Lift Pin, Cat II - 1-1/8”
37	W34	Washer, 3/4"
38	N34	Nut, 3/4"

WF CULTIPACKER ASSEMBLY 1 OF 2



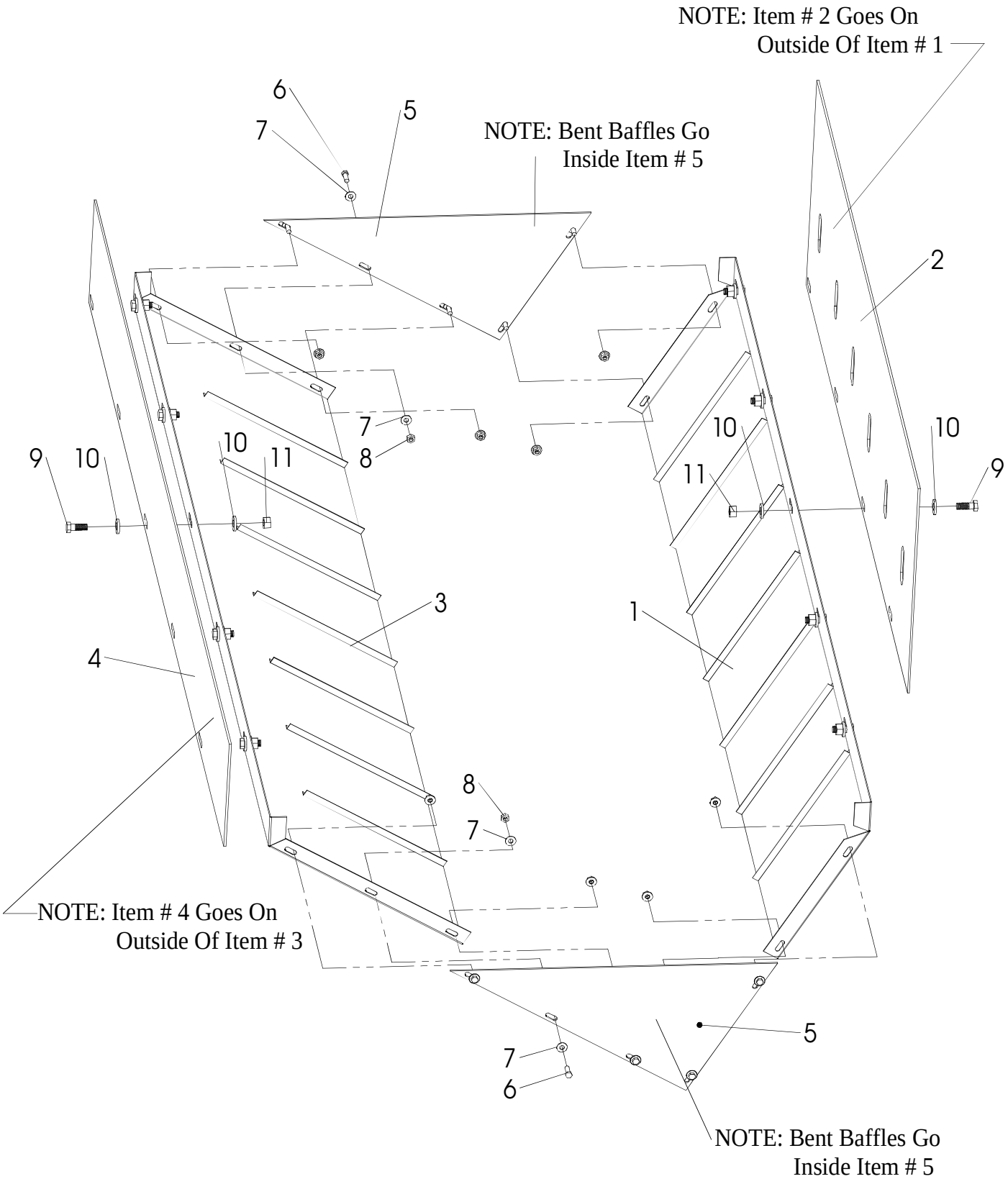
WF CULTIPACKER ASSEMBLY 2 OF 2		
ITEM NO.	**PART NUMBER**	**DESCRIPTION**
1	RP316-1.25	Roll Pin, 3/16" X 1-1/4"
2	W1-182	Machinery Bushing
3	CB516-1	Carriage Bolt, 5/16" X 1"
4	3007A	Flangette, Bearing - 52 MST
5	3007	Bearing, 1" Spherical
6	N516	Nut, 5/16"
7	B38-3	Bolt, 3/8" X 3"
8	W38	Washer, 3/8"
9	6060	Cultipacker Roller, Axle Clamp. Brillion #OA010
10	N38-TL	Nut, 3/8" Top Lock
11	6065	Cultipacker Roller, Wheel 7". Brillion #5C284
12	WF2036A1 64064	Cultipacker Axle, 4 Row Cultipacker Axle, 8 Row
13	WF2036A WF2036A2	Cultipacker Frame, 4 Row Cultipacker Frame, 8 Row
14	WF2036A3	Clevis, Cultipacker

WF64 BAFFLE ASSEMBLY - NEW PRODUCTION 1 OF 2



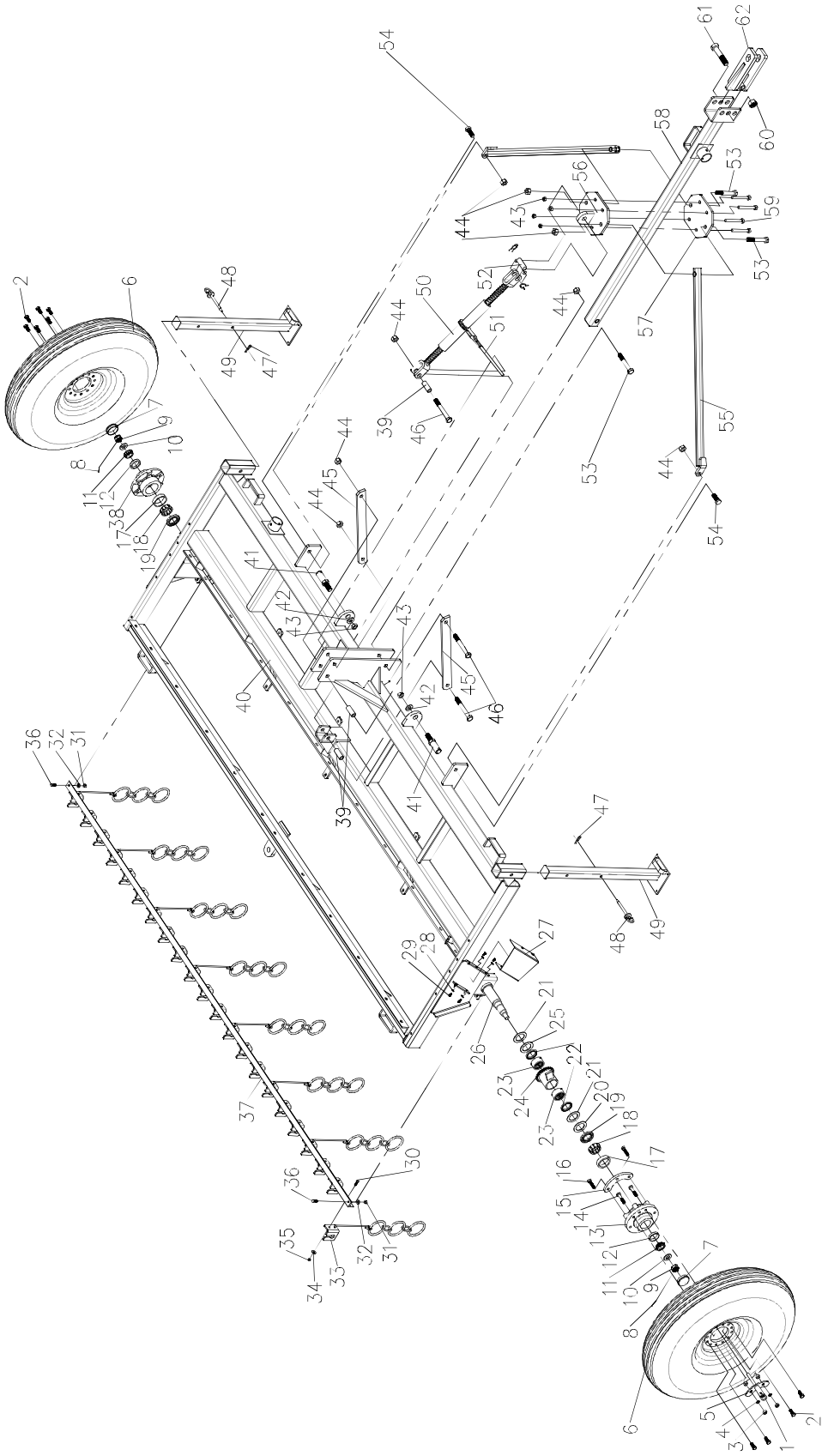
WF64 BAFFLE ASSEMBLY – NEW PRODUCTION 2 OF 2		
ITEM NO.	**PART NUMBER**	**DESCRIPTION**
1	60020	Baffle, Front
2	60021	Baffle, Rear
3	300177	Angle, Baffle
4	60019	Baffle End, Non Drive Side
5	60022	Baffle End, Drive Side
6	600201	Cover, Baffle
7	B38-1	Bolt, 3/8" X 1"
8	W38	Washer, 3/8"
9	N38-TL	Nut, 3/8" Top Lock
10	B516-1	Bolt, 5/16" X 1"
11	W516	Washer, 5/16"
12	N516	Nut, 5/16"

WF64 BAFFLE ASSEMBLY - OLD PRODUCTION 1 OF 2



WF64 BAFFLE ASSEMBLY – OLD PRODUCTION 2 OF 2		
ITEM NO.	**PART NUMBER**	**DESCRIPTION**
1	WF-64BB	Baffle, Front 8 Row
2	WF-64B	Front Panel, 8 Row
3	WF-64AA	Baffle, Rear 8 Row
5	WF10112	Baffle End, Wild Flower
4	WF-64A	Rear Panel, 8 Row
6	B516-1	Bolt, 5/16" X 1"
7	W516	Washer, 5/16"
8	N516	Nut, 5/16"
9	B38-1	Bolt, 3/8" X 1"
10	W38	Washer, 3/8"
11	N38-TL	Nut, 3/8" Top Lock

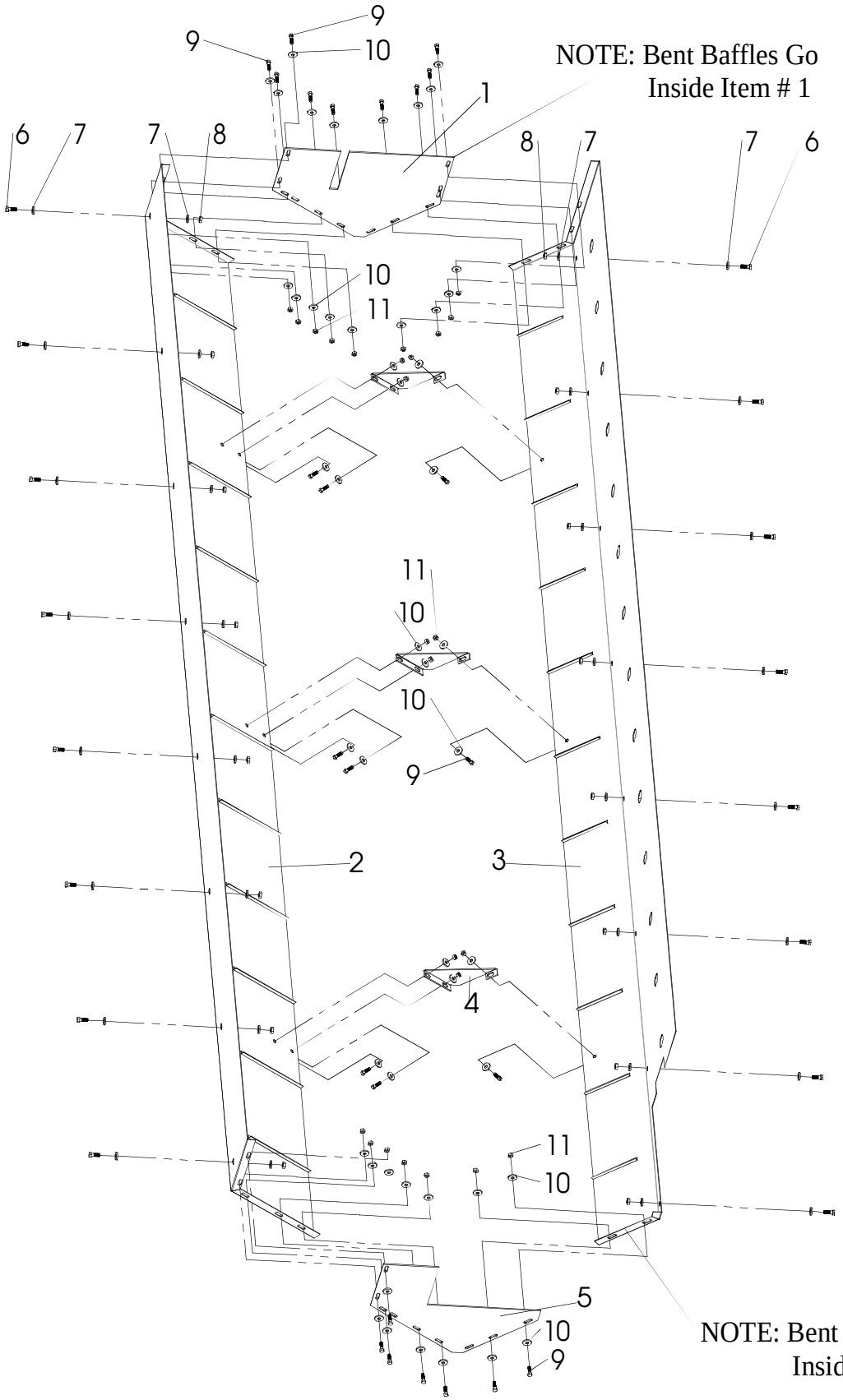
WF127 FRAME ASSEMBLY 1 OF 3



WF127 FRAME ASSEMBLY 2 OF 3		
ITEM NO.	**PART NUMBER**	**DESCRIPTION**
1	1085B25	Pin, Lock-Out
2	WB12-20-1.25	Wheel Bolt, 1/2"-20 X 1-1/4" With 45 Degree Bevel from Centerline
3	N12-20-CLJN	Nut, 1/2"-20 Clincher, Jam Nut
4	MB12-.62	Machine Bushing, 1/2"
5	1085B24	Mount, Lock-Out Pin Guide
6	1072BA	Implement Tire & Rim 760-15SL
7	1082B	Cap, Dust for 6-Bolt Hub
8	CP 532 - 1.5	Cotter Pin, 5/32" X 1-1/2"
9	N78-SL-NF (1073B)	Nut, 7/8" Slotted, National Fine Thread
10	W78 (1080B)	Washer, 7/8"
11	1076C1	Outer Bearing, 6-Bolt Hub Industry Number - LM67048
12	1076CC	Cup, 6-Bolt Hub, Outer Industry Number - LM67010
13	1085C1	Hub, 6-Bolt Drive, 1992- Drive Side
14	SCH12-2 B12-2.5 NF(After 4/1/97)	Socket Head Bolt, 1/2" X 2" Bolt, 1/2" X 2-1/2", National Fine Thread, Thread-to-Head
15	1085B27	Rim Bracket, Lock-Out Hub
16	SCH12-1.25	Socket Head Bolt, 1/2" X 1-1/4"
17	1077CC	Cup, 6-Bolt Hub, Inner Industry Number - LM501310
18	1077C	Inner Bearing, 6-Bolt Hub Industry Number - LM501349
19	1038C	Seal, 6-Bolt Hub Industry Number - CR18823
20	1085B284	Spacer, Lock-Out, Metal, .118"
21	1085B28	Spacer, Lock-Out, Plastic, .062"
22	1085B23	Seal, Lock-Out
23	1085B21	Bearing, Roller
24	1085B20	Housing, Lock-Out (w/ 1/4" Zirk)
25	1085B281	Spacer, Lock-Out, Plastic, .125"
26	2036C2	Axle, 6-Bolt Pinned, 1992-
27	440009	Chain Cover
28	W14	Washer, 1/4"
29	B14-0.5	Bolt, 1/4" X 1/2"
30	B516-1	Bolt, 5/16" X 1"
31	N38-TL	Nut, 3/8" Top Lock
32	W38	Washer, 3/8"
33	440010	Chain Bracket
34	W516	Washer, 5/16"

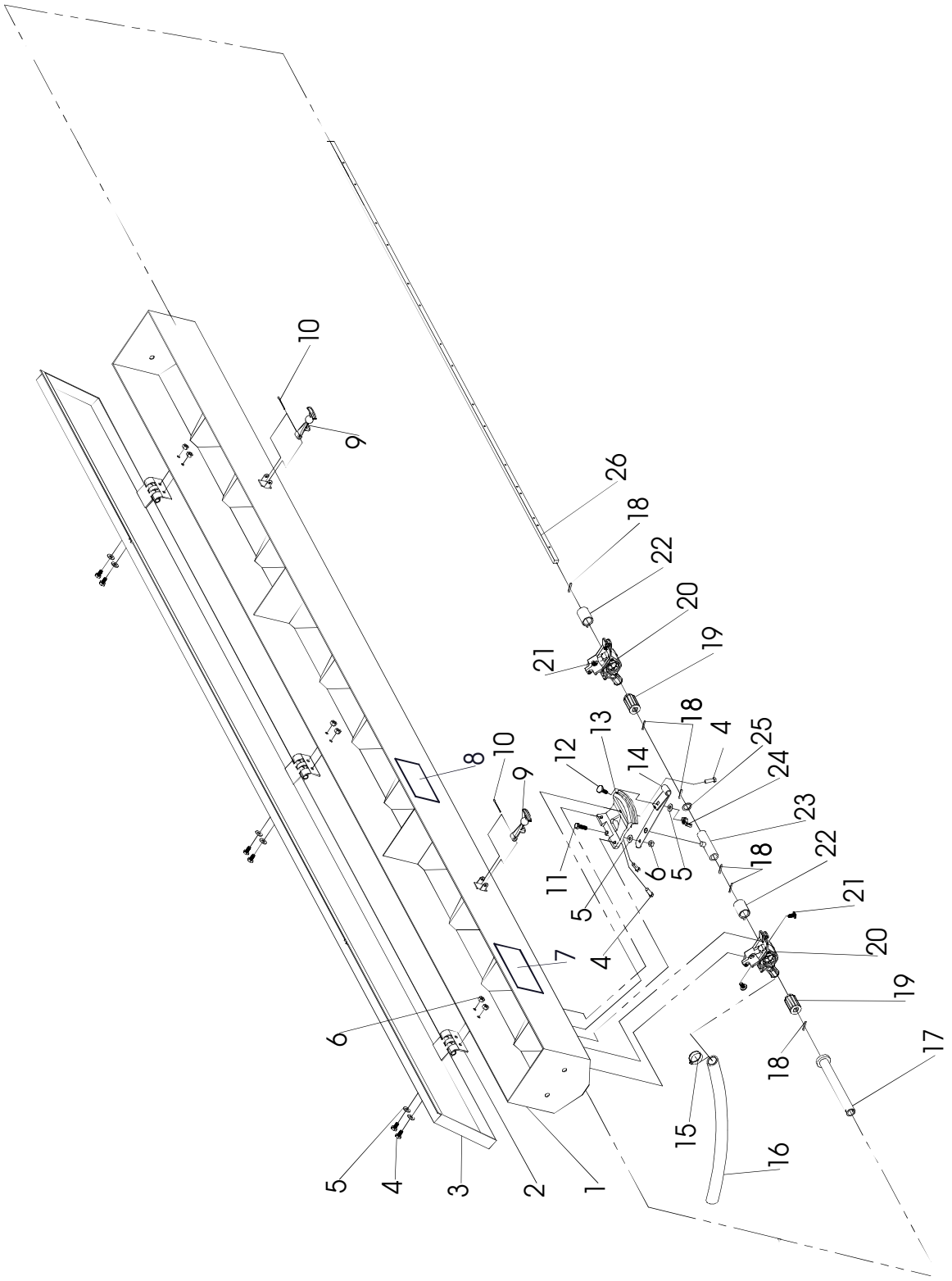
WF127 FRAME ASSEMBLY 3 OF 3		
ITEM NO.	**PART NUMBER**	**DESCRIPTION**
35	N516-TL	Nut, 5/16" Top Lock
36	B38-1	Bolt, 3/8" X 1"
37	440007	Chain hanger
38	1085C	6 Bolt-Hub, Non Drive
39	107822	Spacer, 3/4"ID 1"OD 2-1/2" L
40	441036	Frame, WF127
41	2051	Lift Pin, Cat 2-1-1/8"
42	W34	Washer, 3/4"
43	N34-TL	Nut, 3/4" Top Lock
44	N34	Nut, 3/4"
45	20673	Support Arm
46	B34-5.5	Bolt, 3/4" X 5-1/2"
47	HP116	1/16" Hitch Pin
48	3204JHP	Hitch Pin, 3/4" X 4-1/2"
49	WF1069	Parking Stand
50	1061	Ratchet Jack
51	10611	Handle, Ratchet
52	801112	Dowel Pin, 1" OD 2-3/4" L (w/ retaining clips)
53	B34-6	Bolt, 3/4" X 6"
54	B34-2	Bolt, 3/4" X 2"
55	440004	Tongue, Angle Support, 2011-
56	440003	Tongue, Upper Support Plate, 2011-
57	440003A	Tongue, Lower Support Plate, 2011-
58	440001	Tongue, WF 2011-
59	B12-4.5	Bolt, 1/2" X 4-1/2"
60	N1	Nut, 1"
61	B1-5	Bolt, 1" X 5"
62	440002	Clevis, WF 2011-

WF127 BAFFLE ASSEMBLY 1 OF 2



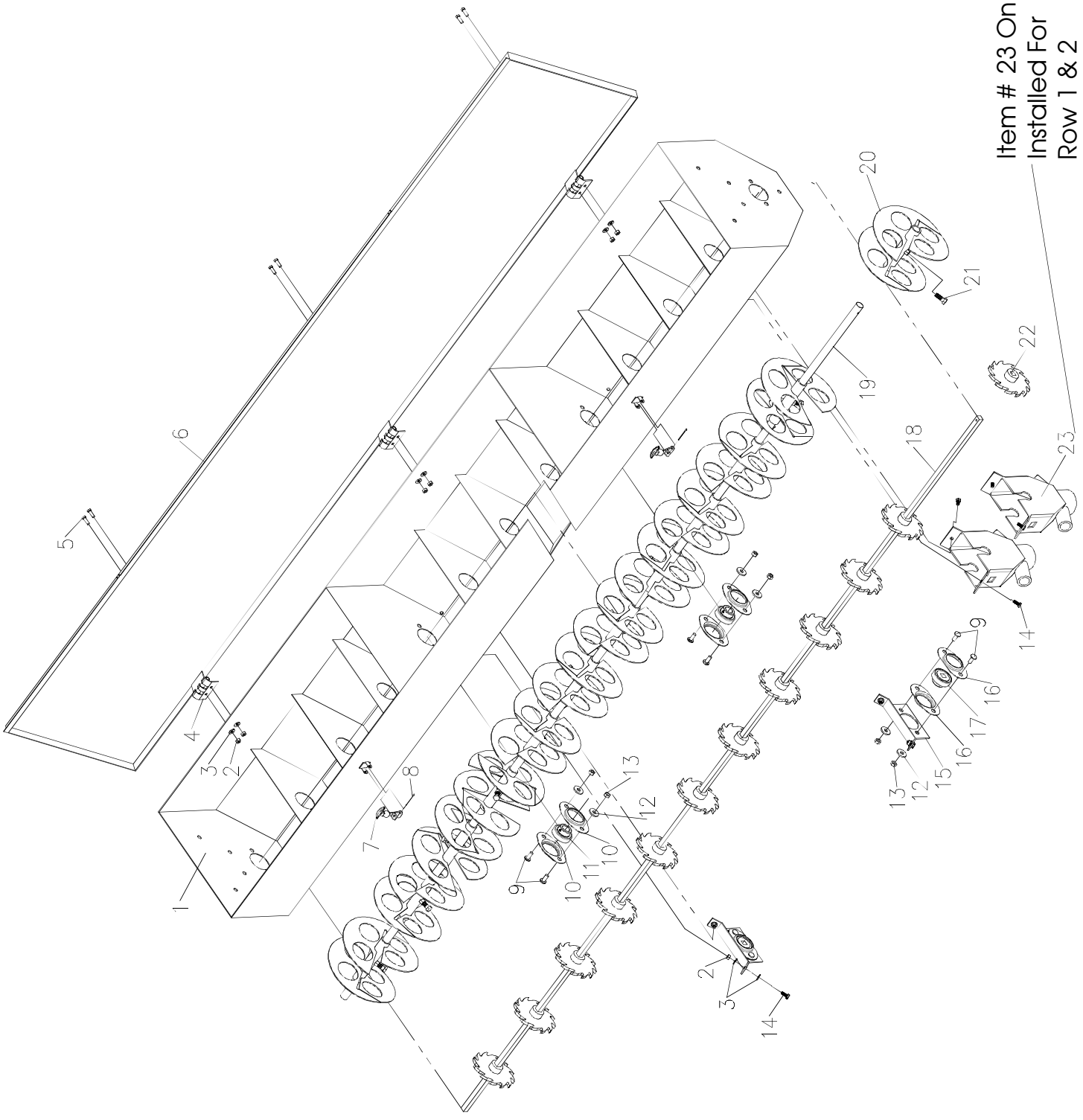
WF127 BAFFLE ASSEMBLY 2 OF 2		
ITEM NO.	**PART NUMBER**	**DESCRIPTION**
1	60019	Baffle End, Non Drive Side
2	60023B1	Baffle, Rear 10ft
3	60024B1	Baffle, Front 10ft
4	300177	Angle, Baffle
5	60022	Baffle End, Drive Side
6	B38-1	Bolt, 3/8" X 1"
7	W38	Washer, 3/8"
8	N38-TL	Nut, 3/8" Top Lock
9	B516-1	Bolt, 5/16" X 1"
10	W516	Washer, 5/16"
11	N516	Nut, 5/16"

SMALL SEED BOX ASSEMBLY 1 OF 2



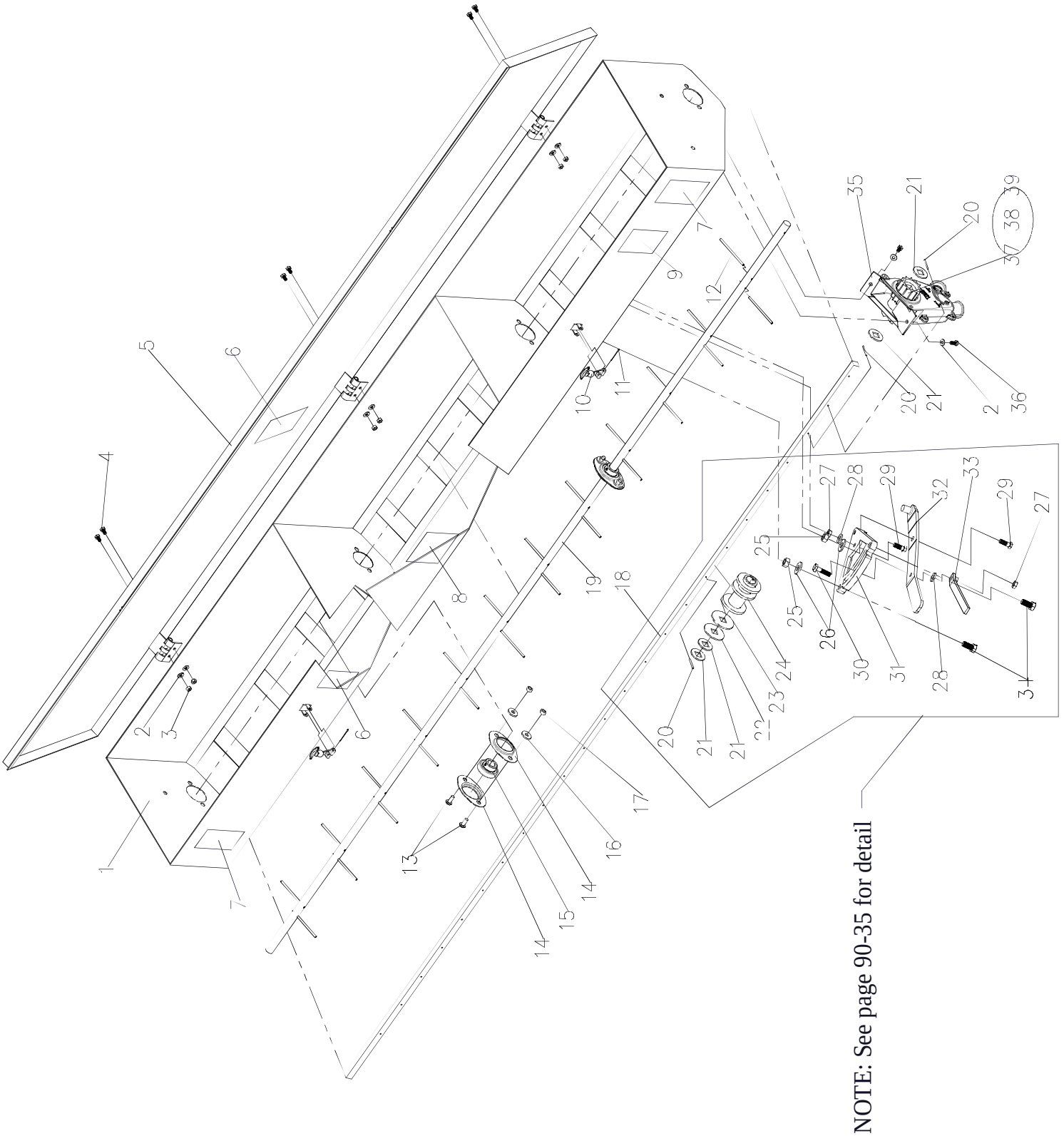
SMALL SEED BOX ASSEMBLY 2 OF 2		
ITEM NO.	**PART NUMBER**	**DESCRIPTION**
1	WF1038A (4 Row - 8” Sp.) 1038E (8 Row - 8" Sp.) 1038F (16 Row - 8" Sp.)	Small Seed Box
2	1038H	Hinge, Lid
3	WF1038A1 (4 Row - 8” Sp.) 1038E1 (8 Row - 8" Sp.) 1038F1 (16 Row - 8" Sp.)	Small Seed Box Lid
4	B14-0.75	Bolt, 1/4" X 3/4"
5	W14	Washer, 1/4"
6	N14	Nut, 1/4"
7	1012A	Hose, Small, Black Plastic, 1991-
8	CP 532 - 1.5	Cotter Pin, 5/32" X 1-1/2"
9	1038J	Lid Retainer
10	B14-1	Bolt, 1/4" X 1"
11	CB14-0.75	Carriage Bolt, 1/4" X 3/4"
12	1129	Mount, Shifter
13	1131	Lever, Shifter
14	WN14	Wing Nut, 1/4"
15	1013	Clamp, Hose, #10 or #12
16	1010	Coupler
17	RP18-0.875	Roll Pin, 1/8" X 7/8"
18	M10274	Roll, Feed (After Serial #2909 use part #731274)
19	AN-162555	Cup Assembly w/ Snap Ring (After Serial #2909 use part #73102A)
20	SHC14-0.5	Socket Head Cap Screw 1/4" - 20 X 1/2"
21	M10017	Cut-Off, Feed (After Serial #2909 use part #731017)
22	1130	Shifter Spool
23	MB12-0.015	Spacer, .015 Thick, (Use as Needed)
24	WF1048A (4 Row - 8” Sp.) 1048E (8 Row - 8" Sp.) 1048F (16 Row - 8" Sp.)	Shaft, 3/8" Square
25	1013	Clamp, Hose, #10 or #12
26	1046C2	Decal, Chain Drive Keep Clear
27	WF6277	Decal, Do Not Tow

LARGE (FLUFFY) SEED BOX ASSEMBLY 1 Of 2



LARGE (FLUFFY) SEED BOX ASSEMBLY 2 OF 2		
ITEM NO.	**PART NUMBER**	**DESCRIPTION**
1	WF1001A (4 Row - 8" Sp.) 1001E (8 Row - 8" Sp.) 1001F (16 Row - 8" Sp.)	Seed Box, Large (Fluffy)
2	N14	Nut, 1/4"
3	W14	Washer, 1/4"
4	1038H	Hinge, Lid
5	B14-0.75	Bolt, 1/4" X 3/4"
6	WF1001A1 (4 Row - 8" Sp.) 1001E1 (8 Row - 8" Sp.) 1001F1 (16 Row - 8" Sp.)	Lid, Fluffy Box
7	1038J	Lid Retainer
8	CP532-1.5	Cotter Pin, 5/32" X 1-1/2"
9	CB516-0.75	Carriage Bolt, 5/16" X 3/4"
10	1007A	Flangette, Bearing - 47MST
11	1007	Bearing, 3/4" Spherical
12	W516	Washer, 5/16"
13	N516	Nut, 5/16"
14	B14-0.625	Bolt, 1/4" X 5/8"
15	10316	Bearing Support
16	1007B	Flangette, Bearing - 47MST (Flattened Edge)
17	2007	Bearing, 1/2" Square Bore
18	WF2003A (4 Row - 8" Sp.) 2003E (8 Row - 8" Sp.) 2003F (16 Row - 8" Sp.)	Shaft, 1/2" Square
19	WF1004A (4 Row - 8" Sp.) 1004E (8 Row - 8" Sp.) 1004F (16 Row - 8" Sp.)	Shaft, 3/4" Round
20	1049A	Agitator, Auger
21	B38-1	Bolt, 3/8" X 1"
22	2002	Picker Wheel, 1/2" Square Bore
23	1033	Transition

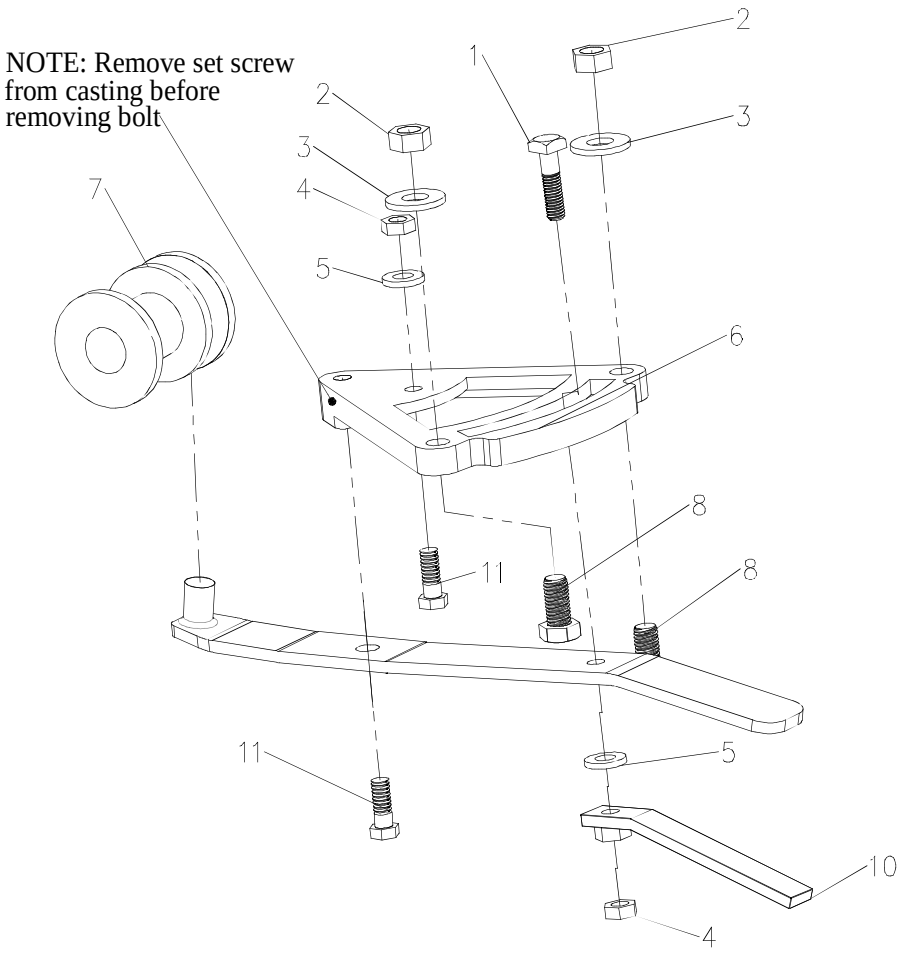
COOL SEASON/GRAIN SEED BOX ASSEMBLY 1 OF 3

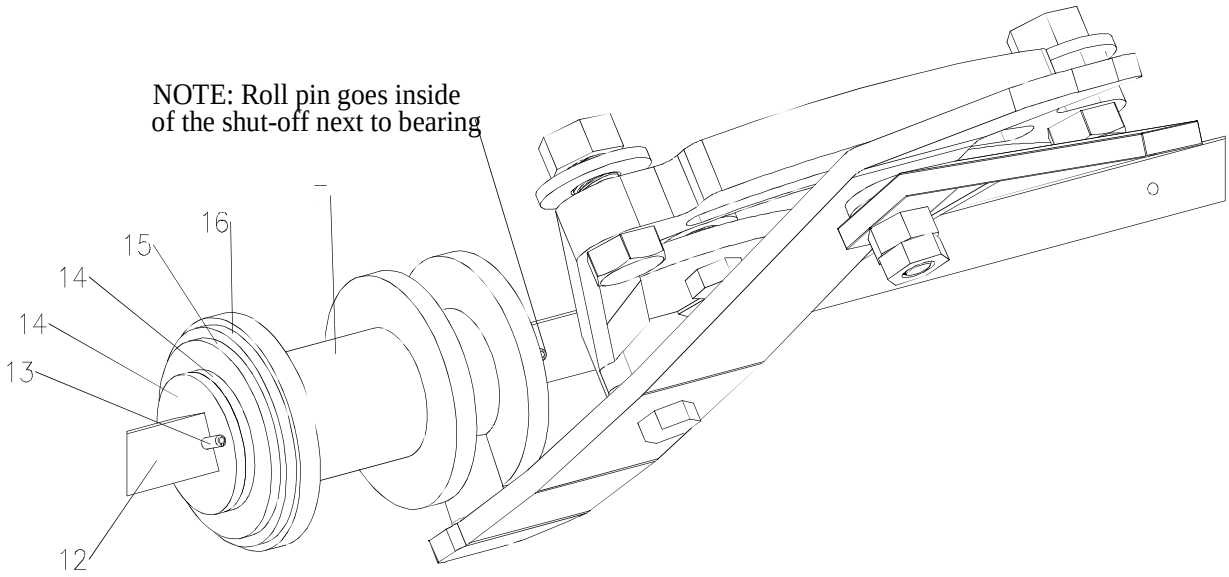


COOL SEASON/GRAIN SEED BOX ASSEMBLY 2 OF 3		
ITEM NO.	**PART NUMBER**	**DESCRIPTION**
1	WF3001A (4 Row - 8” Sp.) 3001E (8 Row - 8" Sp.) 3001F (16 Row - 8" Sp.)	Seed Box, Cool Season/Grain
2	WF3001A1 (4 Row - 8” Sp.) 3001E1 (8 Row - 8" Sp.) 3001F1 (16 Row - 8" Sp.)	Lid, Cool Season
3	1038J	Lid Retainer
4	WF3221A (4 Row - 8” Sp.) 3221E (8 Row - 8" Sp.) 3221F (16 Row - 8" Sp.)	Shaft, 3/4" Round
5	1007	Bearing, 3/4" Spherical
6	1007A	Flangette, Bearing - 47MST
7	AN-212650	Seed Cup, Cool Season Box
8	WF3103A (4 Row - 8” Sp.) 3103E (8 Row - 8" Sp.) 3103F (16 Row - 8" Sp.)	Shaft, 5/8" Square
9	3225	Agitator, 3/16" X 3-1/2"
10	3229	Shifter Quad
11	3205	Handle, Shifter
12	NH38	Nut Handle, 3/8"
13	W38	Washer, 3/8"
14	B38-1	Bolt, 3/8" X 1"
15	N38	Nut, 3/8"
16	B38-1SQ	Bolt, 3/8" X 1" Square Head
17	M608621	Bearing Shifter
18	B12-1	Bolt, 1/2" X 1"
19	W12GRD8	Washer, 1/2"
20	N12	Nut, 1/2"
21	CB516-0.75	Carriage Bolt, 5/16" X 3/4"
22	W516	Washer, 5/16"
23	N516	Nut, 5/16"
24	W14	Washer, 1/4"
25	N14	Nut, 1/4"
26	CP532-1.5	Cotter Pin, 5/32" X 1-1/2"
27	TM60826	Thrust Washer, Delrin - .125" Thickness
28	TM60825	Thrust Washer, Backer - .115" Thickness
29	TM608231	Spacer, 5/8" Square Hole - .120" Thickness
30	RP18-1.25	Roll Pin, 1/8" X 1-1/4"

COOL SEASON/GRAIN SEED BOX ASSEMBLY 3 OF 3		
ITEM NO.	**PART NUMBER**	**DESCRIPTION**
31	B14-0.625	Bolt, 1/4" X 5/8"
32	B14-0.5	Bolt, 1/4" X 1/2"
33	1046C8	Decal, Rotating Parts
34	1046C7	Decal, Truax Buffalo
35	1046C3-A	Decal, DO NOT Ride (Danger)
36	2008C2	Reflector, 5" X 5"
37	M60864	Shut-Off (After Serial #2925 use part #731864)
38	M60865	Fluted Roll (After Serial #2925 use part #731865)
39	TS-72M	Spring

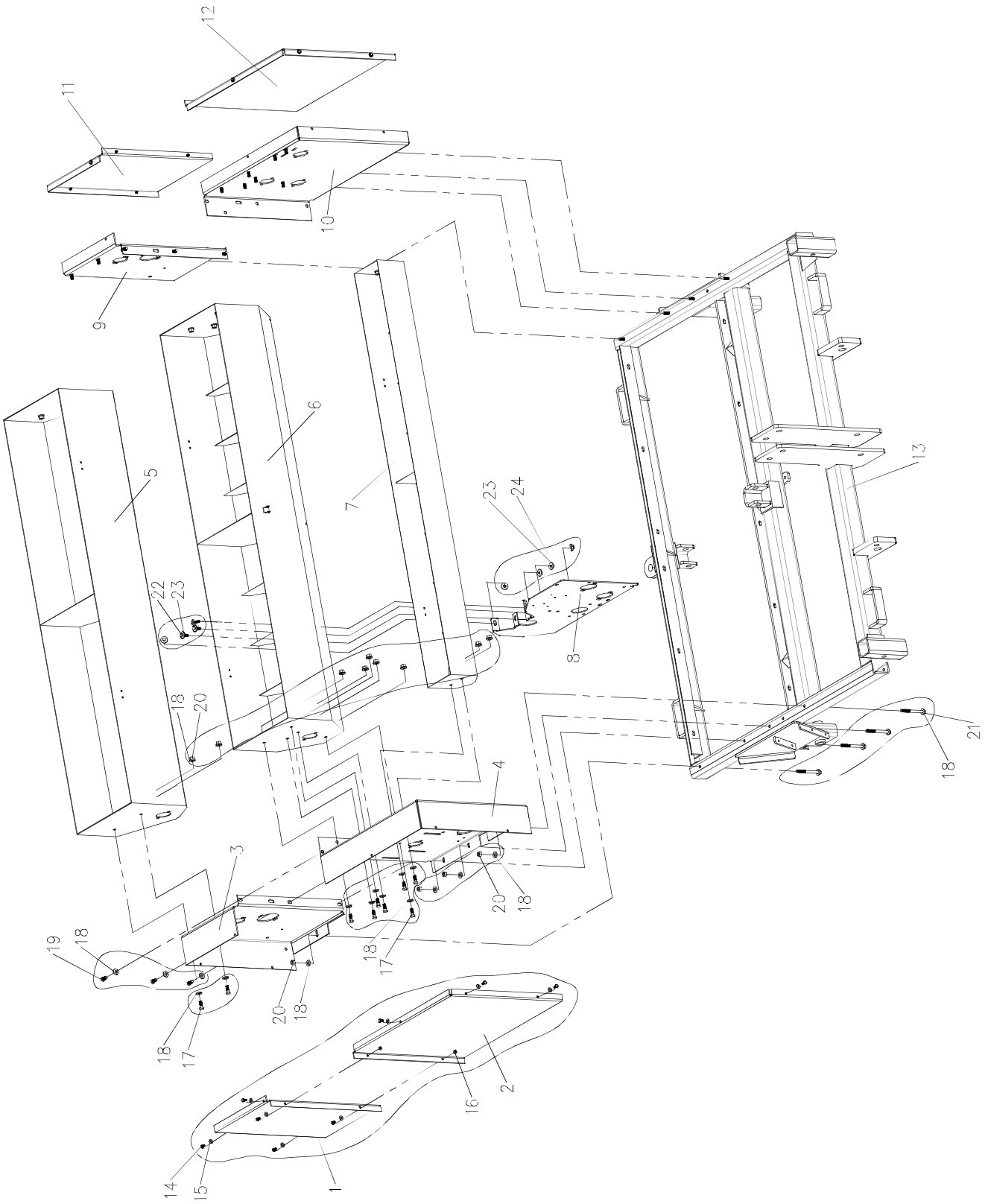
COOL SEASON SHIFTER ASSEMBLY 1 OF 2





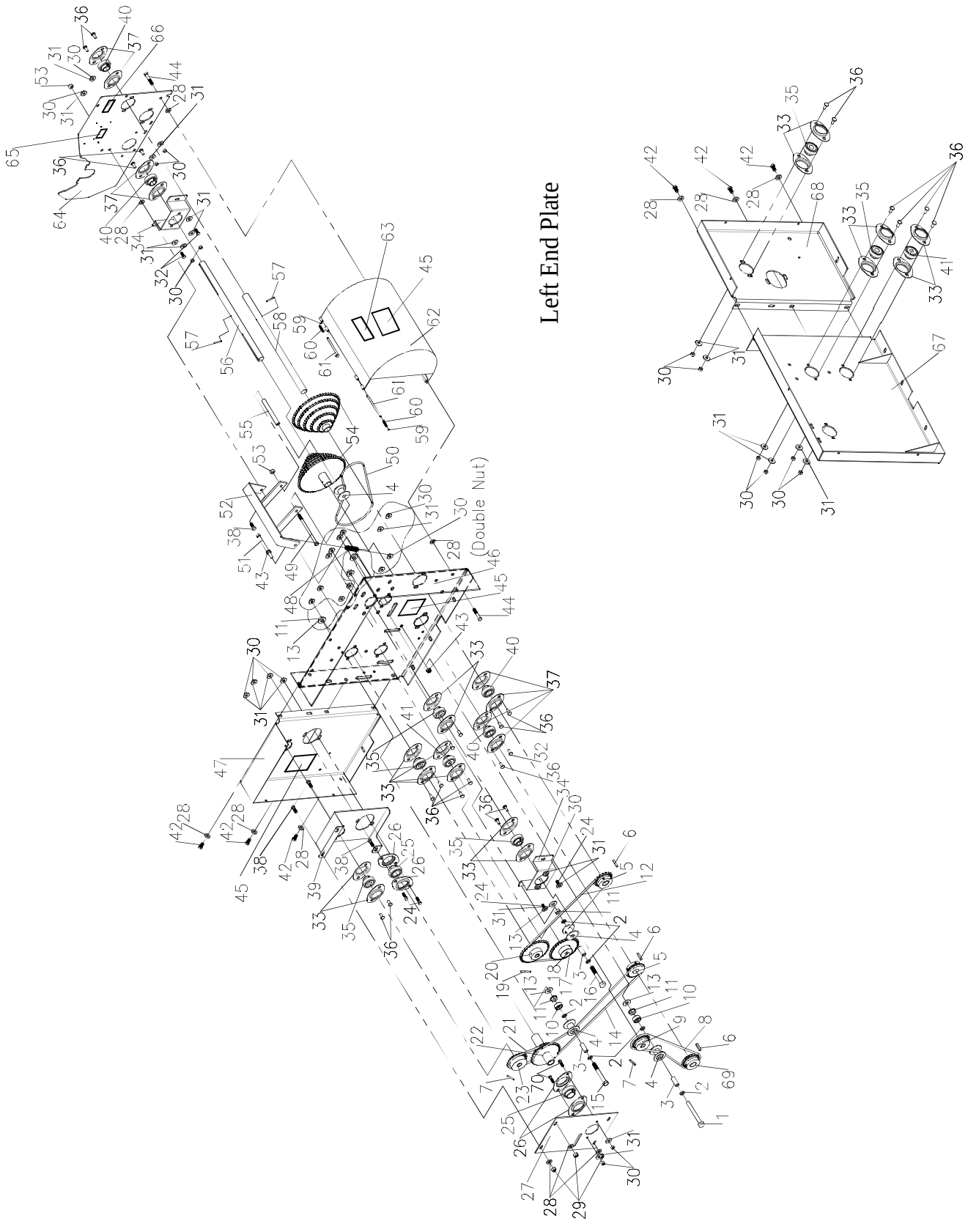
COOL SEASON SHIFTER ASSEMBLY 2 OF 2		
ITEM NO.	**PART NUMBER**	**DESCRIPTION**
1	B38-1SQ	Bolt, 3/8" X 1" Square Head
2	N12	Nut, 1/2"
3	W12	Washer, 1/2"
4	N38	Nut, 3/8"
5	W38	Washer, 3/8"
6	3229	Shifter Quad
7	M608621	Shifter, Bearing
8	B12-1	Bolt, 1/2" X 1"
9	3205	Handle, Shifter
10	NH38	Nut Handle, 3/8"
11	B38-1	Bolt, 3/8" X 1"
12	WF3103A (4 Row - 8” Sp.) 3103E (8 Row - 8" Sp.) 3103F (16 Row - 8" Sp.)	Shaft, 5/8" Square
13	RP18-1.25	Roll Pin, 1/8" X 1-1/4"
14	TM608231	Spacer, 5/8" Square Hole - .120" Thickness
15	TM60825	Thrust Washer, Backer - .115" Thickness
16	TM60826	Thrust Washer, Delrin - .125" Thickness

WF BOX/END PLATE ASSEMBLY 1 OF 2



WF BOX/END PLATE ASSEMBLY 2 OF 2		
ITEM NO.	**PART NUMBER**	**DESCRIPTION**
1	1036245	Cover, End RH
2	1036243	Cover, Front RH
3	1036241	End Plate, RH CS
4	103624	End Plate, RH
5	WF3001A (4 Row - 8” Sp.) 3001E (8 Row - 8" Sp.) 3001F (16 Row - 8" Sp.)	Box, Cool Season/ Grain Seed
6	WF1001A (4 Row - 8” Sp.) 1001E (8 Row - 8" Sp.) 1001F (16 Row - 8" Sp.)	Seed Box, Large (Fluffy)
7	WF1038A (4 Row - 8” Sp.) 1038E (8 Row - 8" Sp.) 1038F (16 Row - 8" Sp.)	Small Seed Box
8	1036255A	Support, Bearing, Mounted Style
9	1036231	End Plate, LH CS
10	103623	End Plate, LH
11	1036236	Cover, End LH
12	1036233	Cover, Front LH
13	WF103632 451036 441036	Frame, WF32 Frame, WF64 Frame, WF127
14	B14-0.5	Bolt, 1/4" X 1/2"
15	W14	Washer, 1/4"
16	N14	Nut, 1/4"
17	B38-1	Bolt, 3/8" X 1"
18	W38	Washer, 3/8"
19	B38-0.75	Bolt, 3/8" X 3/4"
20	N38-CL	Nut, 3/8" Clincher
21	B38-4	Bolt, 3/8" X 4"

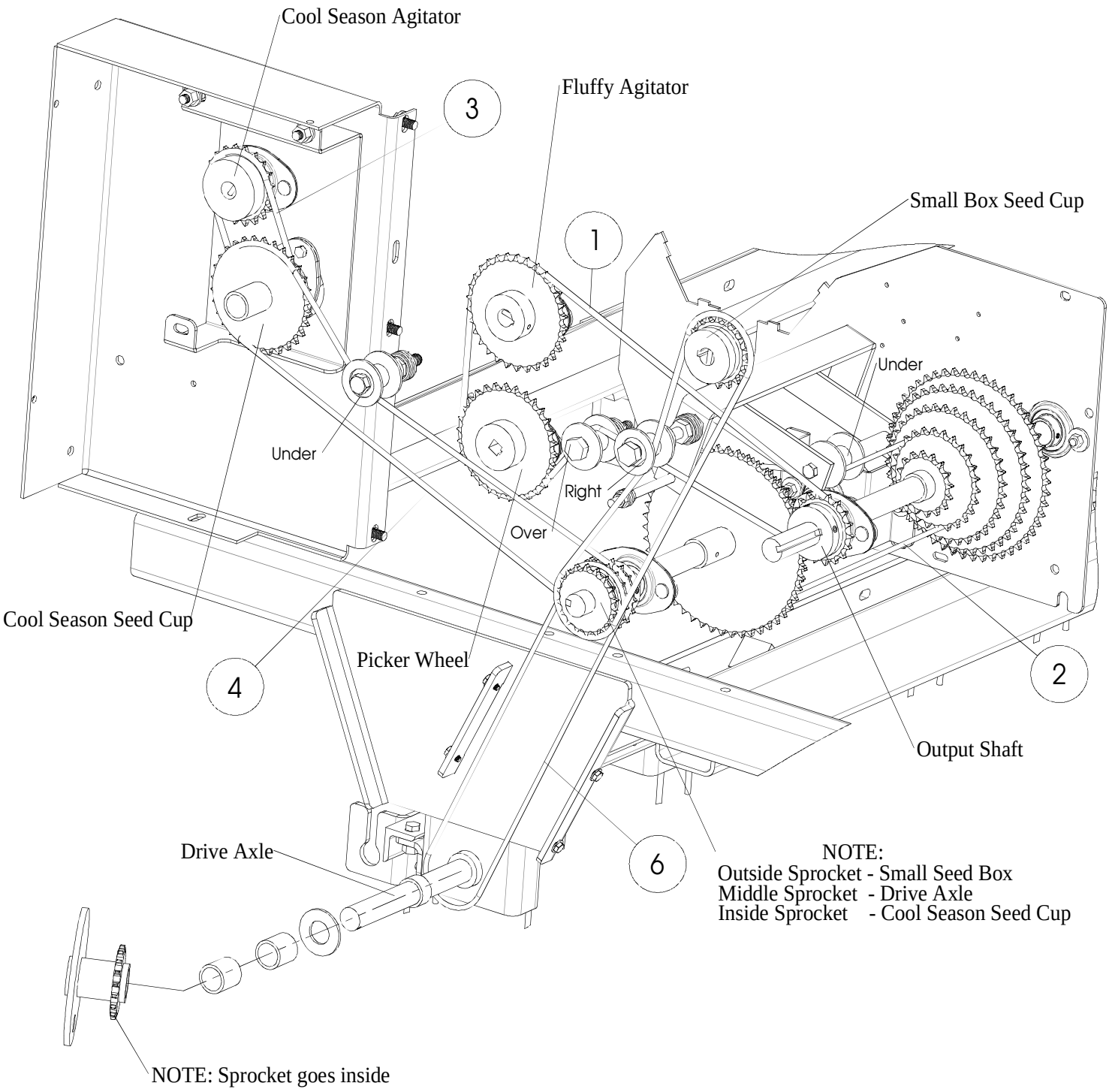
SPEED CHANGER ASSEMBLY 1 OF 3



SPEED CHANGER ASSEMBLY 2 OF 3		
ITEM NO.	**PART NUMBER**	**DESCRIPTION**
1	B12-4.5	Bolt, 1/2" X 4-1/2"
2	1040B	Machine Bushing
3	1041A2	Bushing, Idler Spool
4	1041A	Spool, Plastic
5	1045A	Sprocket, 1" Round Bore - KY & SS
6	1110	Key, Square 1/4" X 1/4" X 1-1/4"
7	RP316-2	Roll Pin, 3/16" X 2"
8	2040E	Chain, Small Seed Box (39 Links), Offset and Full Links (#2040L , #2040L1)
9	1055 (40B20) Standard 1054A (40B30) Optional	Sprocket, 3/4" Round Bore
10	1040C	Collar 1/2 ID - 3/4 OD (w/ set screw)
11	N12-TL	Nut, 1/2" Top Locking
12	2040C	Chain, Picker Wheel (51 Links), Full Link (#2040L1)
13	W12	Washer, 1/2"
14	2040GX	Chain, Cool Season Box Drive (51 Links), Full Link or Offset and Half Links (#2040L1 or #2040L, #2040L2)
15	B12-4	Bolt, 1/2" X 4"
16	B12-3.5	Bolt, 1/2" X 3-1/2"
17	1055A (40B30)	Sprocket, 1/2" Square Bore
18	CP532-3	Cotter Pin, 5/32" X 3"
19	RP316-2.5	Roll Pin, 3/16" X 2-1/2"
20	1054A1 (40B30)	Sprocket, 3/4" Round Bore
21	2040F	Chain, Cool Season Box Agitator (17 Links), Offset and Full Links (#2040L, #2040L1)
22	3095X	Sprocket, Double 30/20 (93-)
23	1055	Sprocket, 40B20, 3/4" Bore
24	B516-1	Bolt, 5/16" X 1"
25	3175	Bearing, 1-1/4" Spherical
26	3181	Flangette, Bearing - 62MST
27	3177	Bearing Support Plate
28	W38	Washer, 3/8"
29	N38-CL	Nut, 3/8" Clincher
30	N516-CL	Nut, 5/16" Clincher
31	W516	Washer, 5/16"
32	B516-1.5	Bolt, 5/16" X 1-1/2"
33	1007A	Flangette, Bearing - 47MST
34	103626	Support, Bearing

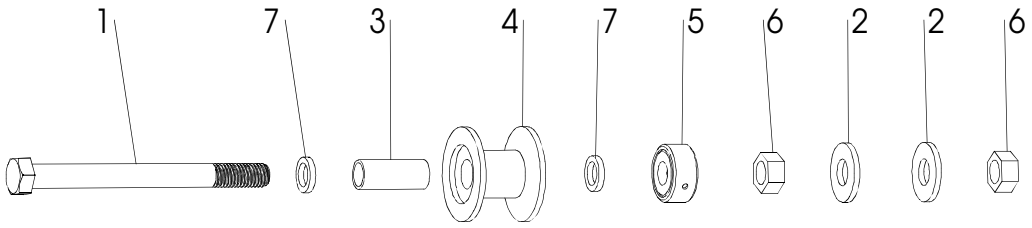
SPEED CHANGER ASSEMBLY 3 OF 3		
ITEM NO.	**PART NUMBER**	**DESCRIPTION**
35	1007	Bearing, 3/4" Spherical
36	CB516-0.75	Carriage Bolt, 5/16" X 3/4"
37	3007A	Flangette, Bearing - 52 MST
38	B38-1	Bolt, 3/8" X 1"
39	3176	Bearing Support, Cool Season
40	3007	Bearing, 1" Spherical
41	2007	Bearing, 1/2" Square Bore
42	B38-0.75	Bolt, 3/8" X 3/4"
43	N38-FL	Nut, 3/8" Flange
44	B38-2	Bolt, 3/8" X 2"
45	1046C4-A	Decal, Safety
46	103624	End Plate, RH
47	1036241	End Plate, RH CS
48	10462	Spring, Derailler
49	B38-6	Bolt, 3/8" X 6"
50	2040D	Chain, Speed Changer (39 Links), Offset and Full Links (#2040L, #2040L1)
51	B38-4.5	Bolt, 3/8" X 4-1/2"
52	15-7117	Bracket, Derailler
53	N38-CL	Nut, 3/8" Clincher
54	13-201	Sprocket Cone, 5 Step
55	1041A3	Bushing Sleeve, Derailler Idler - 5" Length
56	15-7102	Shaft, Input
57	RP316-1.25	Roll Pin, 3/16" X 1-1/4"
58	15-711	Shaft, Output
59	(Not Available for Purchase)	Clip, Cover Pin
60	(Not Available for Purchase)	Spring, Cover Pin
61	(Not Available for Purchase)	Cover Pin
62	10596	Cover, Speed Changer
63	1046C9	Decal, Speed Changer Instructions
64	1036255A	Support, Bearing
65	1075	Serial Plate
66	1046C12	Decal, Patent Information
67	103623	End Plate, LH
68	1036231	End Plate, LH CS
69	730531	Sprocket, Double 18/18 KY SS
70	CB38-1	Carriage Bolt, 3/8” X 1”

WF DRIVE CHAIN ASSEMBLY 1 OF 2



WF DRIVE CHAINS 2 OF 2		
ITEM NO.	**PART NUMBER**	**DESCRIPTION**
1	2040C	Chain, Picker Wheel (51 Links), Full Link (#2040L1)
2	2040D	Chain, Speed Changer (39 Links), Offset and Full Links (#2040L, #2040L1)
3	2040F	Chain, Cool Season Box Agitator (17 Links), Offset and Full Links (#2040L, #2040L1)
4	2040GX	Chain, Cool Season Box Drive (51 Links), Full Link or Offset and Half Links (#2040L1 or #2040L, #2040L2)
5	2040E	Chain, Small Seed Box (37 Links), Half Link #2040L2
6	(Not Available For Sale)	Chain, Drive Wheel to Input Shaft, #A2040 Chain (As required)

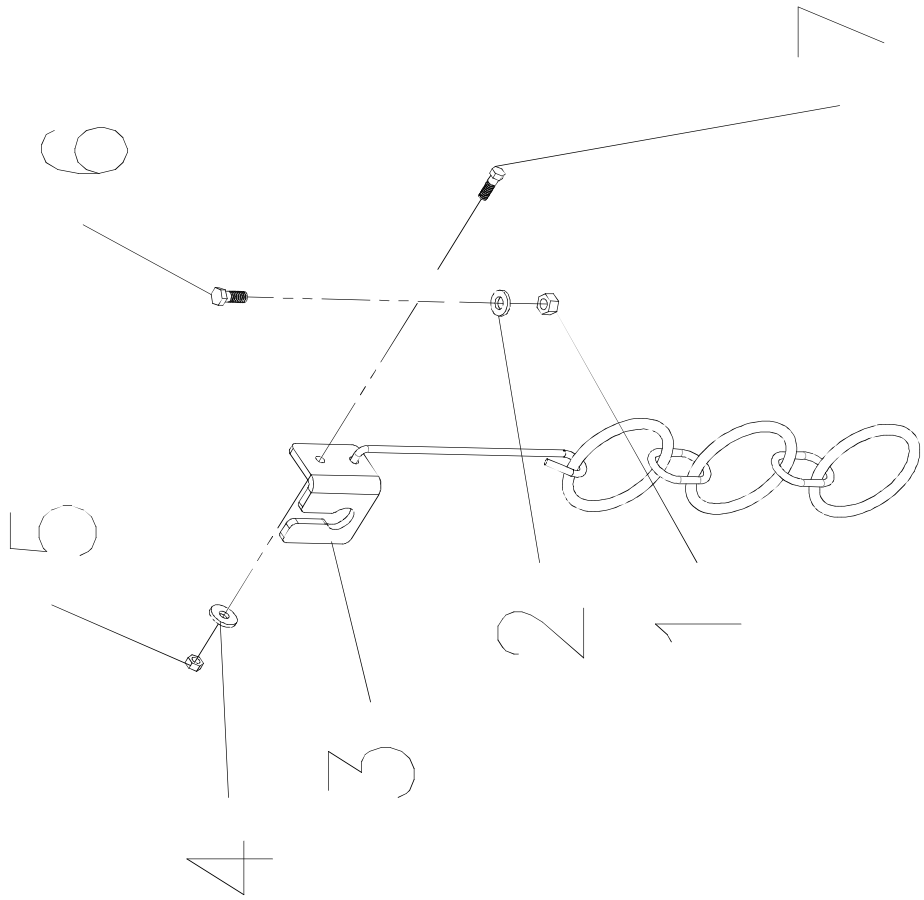
IDLER ASSEMBLIES 1 OF 2



NOTE: Omit #5 and reverse #4 direction on fluffy seed Idler

IDLER ASSEMBLY 2 OF 2		
ITEM NO.	**PART NUMBER**	**DESCRIPTION**
1	B12-5.5	Bolt, 1/2" X 5-1/2"
2	W12	Washer, 1/2"
3	1041A2	Bushing, Idler Spool
4	1041A	Spool, Plastic
5	1040C	Collar 1/2"ID 3/4"OD (w/ set screw)
6	N12-CL	Nut, 1/2" Clincher
7	1040B	Machine Bushing

COVERING CHAIN ASSEMBLY 1 OF 2



COVERING CHAIN ASSEMBLY 2 OF 2		
ITEM NO.	**PART NUMBER**	**DESCRIPTION**
1	N38-TL	Nut, 3/8” Top Lock
2	W38	Washer, 3/8”
3	440010	Chain Bracket
4	W516	Washer, 5/16”
5	N516-TL	Nut, 5/16” Top Lock
6	B38-1	Bolt, 3/8” X 1”
7	B516-1	Bolt, 5/16” X 1”