OTG DRILLS

OPERATOR'S MANUAL

MANUAL #6999

2014

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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 OTG Drill are stamped on a serial plate that is mounted below the cover for the derailleur speed changer
(see page 40-20 for location or 90-9 item #63 for location & part #).

For future reference and protection, we recommend you record these numbers in the space provided below.

IMPORTANT!

Be sure to complete and mail the owner's registration card located at the back of this operating manual. It is our goal to keep you updated as new revisions became available.

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GENERAL SAFETY INFORMATION

SAFETY

GENERAL SAFETY INFORMATION

1) 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

2) UNDERSTAND SAFETY 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

3) 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.

4) 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.
43007 Quebec Avenue North
New Hope, Minnesota 55428
Phone: (763)537-6639
Email: truax3@qwestoffice.net
Email: truax1@qwestoffice.net

These are the safety decals provided for Truax drills:

Part #1046C3-A

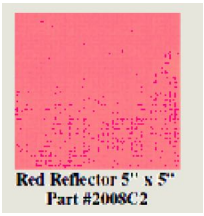
Part #1046C4-A

Part # 1046C2-A

Part #1046C5-A

Part #1046C8

Part# 1046C555


Red Reflector 5" x 5"
Part #2008C2


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

5) PLACEMENT OF DECALS

DRIVE SIDE END & FRONT
Fig. 10-1

DRIVE SIDE REAR OF DRILL
Fig. 10-2

NON-DRIVE SIDE REAR OF DRILL
Fig. 10-3

NON-DRIVE SIDE END & FRONT
Fig. 10-4

GENERAL SAFETY INFORMATION

HYDRAULIC SAFETY VALVE
Fig. 10-5

DERAILLEUR SAFETY, PATENT & SERIAL PLATE
Fig. 10-6

Fig. 10-7
CALIBRATION DECAL

6) 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 drill without reading this Operator's Manual!

2) DO NOT operate this drill with anyone riding on the drill!

3) DO NOT operate drill when other people are near the drill!

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 drill with lids open - injury may result!

7) DO NOT tow over 20 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 drill and the towing vehicle. Follow the tractor manufacturer's instructions for proper hookup to the tractor.

14) Use extra caution when moving farm equipment on roadways.

15) Be careful of over-sized equipment on narrow bridges.

16) When moving on a trailer, over-sized equipment must be permitted, flagged, and have approved lights.

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

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

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

20) DO NOT back up with the planters in planting position!

6) SAFETY PRECAUTIONS
(Continued)

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

- Changing a tire.
- Replacing or repacking wheel bearings.
- Changing furrow openers or no-till coulter assemblies.

22) For safety and to reduce wear on the clevis, always install and maintain the hitch clevis (part #1022B2) below the hitch body (part #1022C2) as illustrated on page 90-61 so the hitch body carries the tongue weight.

7) 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. Various safety lights and devices are available from your dealer.

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 20 m.p.h. at night or during the day, use flashing amber warning lights and a slow moving vehicle (SMV) identification emblem.

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

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) Always raise the drill openers to the highest position and turn the hydraulic valve to off position before transporting the drill.

10) Plan your route to avoid heavy traffic.

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

12) 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.

13) Watch for overhead and side obstructions while transporting the drill.

14) 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.

8) OPERATE SAFELY

DO NOT operate this drill without reading and understanding the Operator's Manual!

Install safety chains between the drill and the towing vehicle. Follow the tractor manufacturer's instructions for proper attachment to the tractor.

Reduce operating speeds on inclines and rough terran and shift to a lower gear before going up or down slopes.

Slow down when turning, DO NOT turn sharply! Check the clearance between the tractor tire and the tongue when turning.

DO NOT operate the drill when other people are near the drill! DO NOT operate the drill with anyone riding on the drill!

DO NOT operate machinery without guards and safety devices in place as injury may result!

CAUTION when operating close to fences, tree lines, ditches, or streams.

DO NOT tow over 20 m.p.h. as tire, wheel, and/or bearing failure may result!
(Federal & state laws in some areas require wheel breaks for towing at higher speeds)

Wear proper clothing and equipment for specific situations.



9) TRANSPORT SAFELY

Use extra CAUTION when moving farm equipment on roadways

Be careful of over-sized equipment on narrow bridges

When moving on a trailer, over-sized equiment must be permitted, flagged, and have approved lights.

SMV decal must be on when towing under 20 mph.

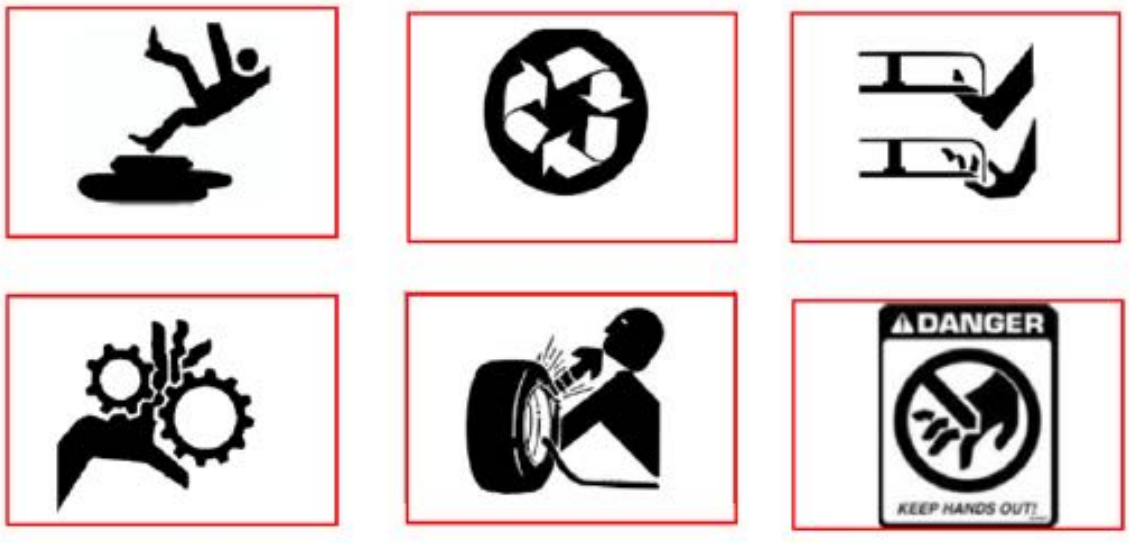
10) SAFE MAINTENANCE

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

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

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

USE EXTREME CAUTION when working near or handling double disc furrow openers or no-till coulters! Wear leather gloves! SHARP EDGES ON BLADES COULD RESULT IN SERIOUS INJURY!



11) AVOID HIGH PRESSURE FLUIDS

Hydraulic systems operate under high pressure. Fluid leaking from around connections and pinholes may penetrate the skin, causing infection and serious injury. If an accident occurs, see a doctor immediately. Any fluid injected into the skin must be surgically removed within a few hours or gangrene may result.

Relive pressure from hydraulic systems before disconnecting or servicing hydraulic lines. Ensure that all connections are tight and that the hoses are not damaged. DO NOT expose body parts to check for leaks. Use a piece of paper or cardboard.

12) SAFETY FIRST ALWAYS

Safety ALWAYS comes first before everything. DO NOT work with your drill untill you have thoroughly read through the manual and UNDERSTAND everything to avoid potential serious injury.

Call and ask for help any time you are not positive you can SAFELY complete a job.

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LOADING/UNLOADING OTG DRILLS

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TRANSPORTING OTG DRILLS

SET-UP & PREPARATION

LOADING/UNDLOADING OTG DRILLS

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

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

Never lift a drill by the seed boxes, damage or injury can occur.

1) UNLOADING OTG DRILL FROM SEMI TRUCK - SKID LOADED

CAUTION: KEEP PEOPLE A SAFE DISTANCE FROM LOADING/UNLOADING AREA!

- Place forklift on each side of load
- Place forklift forks under timber skid on back
- Place front forklift forks under ho-till frame on front.
- Before starting to lift both forklifts, rotate the forklift masts back towards operator.
- Lift skid off deck, just to clear, and then move truck forward so that you can lower the drill to ground.

CAUTION: IF THERE IS FREIGHT ON THE TRUCK BED BEHIND THE DRILL, NEVER RAISE THE DRILL HIGH ENOUGH TO CLEAR THIS FREIGHT. EITHER THE INTERFERRING FREIGHT WILL HAVE TO BE REMOVED FIRST OR AN OVERHEAD CRANE WILL BE NEEDED TO LIFT THE OTG HIGH ENOUGH TO CLEAR THE INTERFERRING FREIGHT.

OTGs 7508 and 7512 will need two forklifts with at least 8,000 combined capacity
OTGs 7516 and 7518 will need two forklifts with at least 10,000 combined capacity
OTG 7522 will need two forklifts with at least 12,000 capacity.

ALL FORKLIFTS NEED AT LEAST A 4 FOOT LONG FORKS - 5 OR 6 FOOT PREFERRED (OR APPROVED EXTENSIONS)

WARNING: ALWAYS HAVE QUALIFIED CREWS LOAD AND SECURE EQUIPMENT TO TRAILER DECKS

2) UNLOADING OTG DRILL FROM SEMI TRUCK - ON WHEELS

CAUTION: KEEP PEOPLE A SAFE DISTANCE AWAY FROM LOADING/UNLOADING AREA!

Never lift a drill by the seed boxes, damage or injury can occur.

- Place forklift on each side of load
- Place forklift forks under drill frame on back.
- Place front forklift forks under no-till frame on front.
- Before starting to lift both forklifts, rotate the forklift masts back towards operator.
- Lift drill wheels off deck, just to clear and then move truck forward so that you can lower the drill to ground.

CAUTION: IF THERE IS FREIGHT ON THE TRUCK BED BEHIND THE DRILL, NEVER RAISE THE DRILL HIGH ENOUGH TO CLEAR THIS FREIGHT. EITHER THE INTERFERRING FREIGHT WILL HAVE TO BE REMOVED FIRST OR A OVERHEAD CRANE WILL BE NEEDED TO LIFT THE OTG VERTICALLY TO CLEAR THE INTERFERRING FREIGHT.

OTGs 7508 and 7512 will need two forklifts with at least 8,000 combined capacity
OTGs 7516 and 7518 will need two forklifts with at least 10,000 combined capacity
OTG 7522 will need two forklifts with at least 12,000 capacity.

ALL FORKLIFTS NEED AT LEAST 4 FOOT LONG FORKS - 5' OR 6 FOOT PREFERRED (OR APPROVED EXTENSIONS)

WARNING: ALWAYS HAVE QUALIFIED CREWS LOAD AND SECURE EQUIPMENT TO TRAILER DECKS

The OTG drills can be safely side loaded from docks which are long enough for trucks to be parked and have their wheels clocked. There must be adequate room for dock plates to be positioned for the drill wheels to roll off and onto a level area. It is not recommended that ditches and embankments be used for side-loading of drills.

3) LOADING OTG DRILLS

Once the OTG has been pulled to a site (position lockout pin in the drill drive wheel so chains don't turn) where there are two forklifts with the required capacity for the OTG model, the drill can be prepared for loading

1) Hydraulically lower no-tills all the way down.

2) Hydraulically raise planters 4 inches off the ground.

3) Turn both hydraulic valve handles 90 degrees.

4) Lower both front parking stands and lock into place.

5) Remove tongue struts so tongue can be turned and secured.

6) Rotate tongue and secure with 3/4" pin and safety chain. (1" after serial #55023-)

7) Remove bolts attaching walkboard to rear of drill, and take walkboard off and stow on truck for transport. Reinstall bolts back in to walkboard for transport.

8) Loosen at least four no-till assemblies, two from front rank and two from back rank and slide them left or right to provide enough clearance for forks to lift the front. Then re-tighten them for transport.

9) Position both forklifts so they don't pinch hydraulic hoses or interfere with sheet metal parts.

10) Lift only against structural frame tubes on back of drill and no-till frame on front.

11) Tilt or roll the forklift frame back before beginning the vertical lift. NEVER LIFT LOAD WITH FORKLIFT AND THEN ROLL OR TILT FORKS BACK.

12) Have truck driver position trailer under drill and lower to deck after drill has been raised.

13) Be sure trucker doesn't chain or strap down on drive hub - damage will result.

14) If trucker uses chains, he must protect paint from being scratched!

15) Cargo strapping only over drill frame - not over seed boxes or other sheet metal.

16) Stow walkboard on truck for shipping.

4) LOADING OTG DRILL ON TO FLATBED TRAILERS FOR TRANSPORT

HIGH DECK TRAILERS, SUCH AS A SEMI COMBINATION, CAN'T BE SAFELY SIDE-LOADED BY PUSHING A DRILL FROM THE GROUND UP ON A DECK. LOWER DROP DECK TRAILERS SUCH AS THOSE USED BY CONTRACTORS CAN BE SIDE LOADED, IF CARE IS EXCERISED!

PLACING THE TRAILER RAMPS, CORRECTLY SPACED, ON THE TRAILER SIDES WILL ALLOW THE DRILL TO BE BACKED UP OR PUSHED ON TO THE TRAILER DECK.

CAUTION: EXTREME BINDING WILL OCCUR BETWEEN THE DRILL TONGUE CLEVIS AND THE TRACTOR DRAWBAR WHEN THE TRACTOR BACKS THE DRILL UP THE RAMPS. THEREFORE, IT WILL REQUIRE A SWIVAL CLEVIS HITCH, CORRECTLY INSTALLED TO MAKE THIS WORK.

A SECOND METHOD IS TO USE A TRACTOR WITH FRONT END LOADER THAT HAS HAD A "SHOP BUILT" PINTLE HITCH BUILD AND WHICH IS CLAMPED OR BOLTED TO THE BUCKET EDGE SO THAT THE TRACTOR CAN PICK UP THE DRILL TONGUE AND PUSH THE MACHINE UP THE TRAILER RAMPS. THIS METHOD ALLOWS THE OPERATOR TO RAISE OR LOWER THE DRILL TONGUE AND FINALLY RAISE THE TONGUE TO ALLOW THE PARKING STANDS TO BE LOWERED AND PINNED INTO PLACE.

WARNING: ALWAYS HAVE QUALIFIED CREWS LOAD AND SECURE EQUIPMENT TO TRAILER DECKS

SET-UP & PREPARATION

SETUP & PREPARATION OF OTG DRILLS

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.

1) REMOVAL OF OTG DRILL FROM SHIPPING SKID

- A tractor with hydraulic system must be available and compatible with hydraulic disconnects of OTG drill.
- Remove tongue transport pin
- Unlatch tongue safety chain
- Swing tongue in to position and install tongue struts
- Attach tractor to tongue and attach hydraulic disconnect assemblies
- Disengage lockout on drill drive wheel
- Open hydraulic safety valves and raise no-tills and planters to full up position
- Place timbers between 4"x6" skid beams, under drill wheels.
- Remove steel support stands from under drill - the U bolts are reused to install walkboard
- Place several planks in front of skid for drill to roll down and off skid.

SET-UP & PREPARATION

SET-UP & PREPARATION OF OTG DRILLS

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

3) **Press Wheels:** During assembly, the press wheel(s) may be left off from the "h" brackets to accommodate the shipping skid. In these situations, the press wheel(s) are shipped in one of the seed boxes. Remove the press wheel(s) from the seed box and attach to the "h" frame with the bolt provided. The axle bolt has 2 nuts which must be tightened against the "h" frame and leave 1/8" of end play for the press wheel.

4) **Check planter assemblies** to be sure that they are aligned straight with the main frame and that press wheel assemblies are aligned behind each furrow opener.

5) **Grass drills utilizing picker wheels** In the fluffy seed box need to be checked for free movement. It may be necessary to remove chain guards and chains from sprockets to verify that the shaft is turning freely. If picker wheel shaft rubs on the transitions, it is possible to rotate the box slightly by loosening the box end bolts. This will allow more clearance at the transitions. Also, the center bearing support (part #10316) may be moved.

6) **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 set screw 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.

7) **Loose Bolts:** Top lock style of nuts are used extensively and many times have locktite added to assure the fastener doesn't loosen. Check nuts on all scrapers (inside and outside) daily or every 100 acres planted.

8) **Discs:** Check all discs to ensure that they turn freely, if tight; they might have a bent depth band; a jammed inside scraper; a bent outside scraper; bent bracket holding the white poly scraper (part #10995A) twisted or turned slightly to bind the disc blade. Refer to later discussion regarding the removal of scraper bracket when drilling loose or soft soils.

SET-UP & PREPARATION OF OTG DRILLS

9) No-Till:

13 Wave - Caster Style No-Till Assemblies (13 Wave, 18" Is Standard On OTG Drills)

24 Wave - Caster Style No-Till Assemblies (24 wave, 18" Blade)

Trash Plow Style - Concave Blade with rigid, twisted shank (13-1/2" concave, notched blades)

Trash Plow Style - Concave Blade with rigid, half twist shank (18" concave, notched blades)
(Half twist signified by weld mark on leg, see page 90-59)

Note: Both Trash Plows are Installed so as to throw out from center, half to right and half to left.

Note: If no-till assemblies do not align with the planters, adjust them as follows:

- Check the lift bracket (part # 10321) as it may be bent.

- Move no-till units to align with planting units. Park the drill on a clean concrete floor. Lower the planting units to the planting position. Mark the location of each planting unit with chalk or tape. Raise the planting units from the surface, back straight up until the notill units are over the chalk marks. Lower the drill to the planting position. Leave enough clearance to turn the no-till blades. Rotate each no-till blade until the lowest point is on the bottom and check to see if the blade is on the mark. Move no-till units right or left as needed.

- Check the rubber knuckles of the individual planter assemblies on a new drill. They may not be seated fully. Follow instructions for seating rubber torsion knuckles.

- Check the urethane torsion knuckles for the individual no-till units for proper seating. If the knuckles are not seated put the drill in planting mode on a hard surface to "seat" the torsion knuckles. In extreme cases, it may be necessary to loosen the bolts holding the knuckle before running on a hard surface. Loosen only one or two bolts at a time and retighten after knuckles have shifted.

10) INSTALLATION OPTIONS:

1) **LEADING PRESS WHEELS:**

Leading press wheels can be installed on 13 or 24 wave style of no-tills. After adding a 1/2" spacer (or two 1/4" spacers), add leading press wheel, gaskets, bolts, and nuts. Leading press wheels should have 1-1/2" of preload on each wheel; therefore put a 2"x6" under each end wheel and loosen U-bolts holding the vertical 1-1/2" shanks and lower units until they touch the ground. Re-tighten and try in typical field conditions. Readjust as needed. See page 40-15

2) **IMPRINTERS:**

Seeds requiring surface placement or very shallow placement are best seeded with the Truax optional Imprinters. To install, remove the double disc opener assembly from the lift bracket (Part# 10321) and reinstall an Imprinter assembly. Make sure the delivery hoses under the Imprinter are close or very close to the soil surface which will help direct the seed to the ground for imprinting before blowing away. In addition, adjust the mud scraper so as to clean the knobby steel wheels to prevent mud buildup. See page 40-24

3) **OUTPUT REDUCTION:**

The Output Reduction is a standard feature and is installed at the time of manufacture. A double, two step sprocket is attached to the clutch and is driven by a double sprocket (or a moveable single sprocket) on a corresponding shaft. See page 40-187 The acre meter is shipped programmed with the lowest output.

11) The hydraulic system

Rephasing cylinders and hoses have been charged at the factory. Therefore, use care when changing the hose ends. Drills are shipped with hydraulic hoses only reaching to end of tongue; therefore, additional hose may be needed. When changing hose or hose ends avoid getting air into system. After changing hydraulic hoses or fittings it will be necessary to "work" air out of system by attaching to tractor and raising and lowering the drill planting units multiple times.

Note: When adding hose, lower drill to planting position, shut off the safety hydraulic valve on tongue tower and move tractor levers back and forth to release hydraulic pressure before disconnecting fittings. This "neutrals out" the system for ease in disconnecting or reconnecting the hydraulics.

SAFETY REMINDER -Avoid Contact With High Pressure Fluids!

Hydraulic systems operate under high pressure. Fluid leaking from around connections and pinholes may penetrate the skin, causing infection and serious injury. See a doctor immediately if hydraulic fluid penetrates the skin.

Be sure that all connections are tight and the hoses are not damaged. Be sure hose protector sleeve is in place and secure.

The two safety valves on tongue tower must be turned to "**OFF**" position when drill is in transport mode.

12) 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.
Email: Truax1@qwestoffice.net

SET-UP & PREPARATION OF OTG DRILLS

13) IDENTIFYING THE DRILL

After setting up the drill, it is highly recommended that you mark the drill 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 drill in several areas. It is also recommended that several photos be taken of the drill 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 drill 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 Avenue North
New Hope, Minnesota 55428
Phone: (763) 537-6639

Model #_____ Serial #_____

SEE PAGE 90-9 ITEM #63 FOR PLATE LOCATION & PART #

14) TIRES

CAUTION! Never use the drill 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 manufacturers' specification for tire inflation, as the tire may fail or explode causing personal injury.

WARNING! Drills with ribbed implement tires are not meant for highway speeds. Tire manufacturers' specify 20 m.p.h. or less for this type of tire.

CAUTION! Check lug nut torque before using the drill. 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 130-135 lbs. each. (9/16" Grade 5)

Note: Tire pressure affects tire circumference and thus can affect seeding rates. The Truax drills come with 255/70R22.5 140/137M Regroovable tires

(CAUTION: RECOMMENDED 80 PSI TIRE PRESSURE)

SET-UP & PREPARATION

TRANSPORTING OTG DRILLS

1) PREPARING THE TRACTOR

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

2) ATTACHING THE DRILL

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

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

3) The drill tongue will be generally sloped down toward the tractor. An important consideration is to have approximately equal force or pressure exerted by the planter discs and the press wheels.

4) The drill frame should be nearly level when the drill openers are in the planting position. This can be checked by positioning the drill on a flat surface with a 2" x 6" under each wheel. Lower the drill planting units to the ground surface and check to see if the disk openers and no-till coulters are touching the ground surface equally.

If adjustment is needed proceed in the following sequence:

1. First, check the hitch clevis and adjust up or down if possible.
2. Second, check to insure the no till coulters are adjusted to the proper height.
3. Third, for hookup to some tractors, particularly smaller tractors, it may be necessary to position the drawbar in its reversed position to achieve adequate height.

5) Check hoses to the no-till parallelograms and the hoses to the planter rockshaft cylinders for binding and entanglement.

6) Check 5/8" x 3-1/2" bolts (models after serial #5005- are 5/8" x 4-1/2") and nuts that retain axles to legs. Loctite should be applied after tightening the bolts or clean threads. Check these bolts periodically (every 100 acres) and tighten as necessary. Replace the nuts with a locking style nut if they frequently become loose.

7) Check the wheel lug nuts. Torque is 130-135 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.

3) TRANSPORTING THE DRILL

1) Raise drill planters and no-till units to their highest position and then turn both hydraulic valves on tongue tower to their "**off**" position.

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

3) Attach safety chain between the drill and the towing vehicle.

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

5) When starting out in the transport mode, insure that the clutch is disengaging the drive and the shafts are not turning.

6) Make sure that the drill reflectors are clean and in place.

7) **NEVER** transport the drill faster than **20 m.p.h.** unless the drill is on a trailer.

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

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

10) Be extremely cautious when crossing narrow bridges.

11) When towing the drill on roadways, it is important to watch ground clearance (especially on a crowned road or one that has low shoulders). A towed drill should be secured to the towing vehicle with a safety chain.

12) Hydraulic valves on tongue tower must be closed before towing drill on roadway.

13) When transporting the drill on a trailer, the safety pin & chain must be installed to prevent the tongue from swinging down.

14) Transport on a trailer requires chaining or strapping the drill's main frame (not the seed boxes) to the trailer. Lower planters and no-till units so that they are on trailer deck. Fasten red flags to oversized units. Follow all state and local regulations when transporting a drill.

15) Drills having rubber lid retianers should have additional rope or ties used when transporting drills. Drills having over center metal latches do not need this requirement.

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CALIBRATION

For your convenience, we have provided seeding charts for various types of seeds in all 3 boxes. **Please note that these are in bulk lbs. per acre**

NOTE: % PLS stands for Percentage of Pure Live Seed.

In all charts, the numbers represent **bulk lbs. per acre**. **In each cell there are two numbers. The left represents the low output 54 tooth sprocket on the clutch and the right represents the high output 30 tooth clutch sprocket**. For specialty seed mixes, the seed company is listed next to the seed mix in the charts. The contents of the mix are listed on pages 30-20 thru 30-29.

DO NOT BACK UP DRILL WITH PLANTERS & NO-TILLS IN PLANTING POSITION!

ALWAYS RAISE PLANTERS WHEN TURNING SHARPER THAN 90 DEG. CORNERS OR IF SOD SEEDING.

1) CALIBRATION NOTES

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

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

3) When turning the **calibration nut** with the planters in planting position, the mechanisms in all three seed seed boxes will operate at the same time.

***Changing the clutch sprocket from low output (54 tooth) to high output (30 tooth) will affect the output of all three boxes.

4) Unlike the small & cool season boxes, the fluffy seed box picker wheel is not adjustable by a shifter mechanism. It would be wise to calibrate the fluffy seed box last.

5) All Truax OTG drills can be calibrated using the **calibration nut** procedure.

6) Lower the planters to the ground prior to starting the calibration procedure.

7) Disengage the lockout pin prior to starting the calibration procedure.

8) 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.

The procedure provided for the calibration of Truax drills is to be used as a guide only - 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!

OPERATING THE DRILL

CALIBRATION

9) 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, inert material, unfilled kernels, moisture content, or seed size.

2. The drill wheels may slip due to seedbed condition, soil type, lay of the land, and speed of drilling.

3. The tire size, type, pressure, and tire wear will affect the seeding rates. Note: The standard tire is a 255/70R22.5 140/137M Regroovable **(CAUTION: RECOMMENDED TIRE PRESSURE IS 80 PSI.**

4. Leaving a gap wider than the 7.5" between drill passes, overlapping drill passes, and failure to fully stop and lift the drill when turning at the end of the field will affect uniform distribution.

5. The operator may have false information as to the land area.

IMPORTANT: Remember that the feed cups meter volume, not weight!

10) When planting large seeds (such as corn or beans), move the clean-out level (left side of cup) to the middle setting to prevent crushing or chipping of the seed, which could result in an irregular seeding rate.

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

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

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

The charts are based on the drill using 255/70R22.5 tires.

Some seeds, such as soybeans and wheatgrass vary widely in size. For such seed types, the number of seeds planted per acre will vary according to the size of the seed.

1A) Methods of Calibration:

1. Bulk Pounds Method

   · Weight/Acre in Grams
   · Weight/Acre in Ounces
   · Weight/Acre in Pounds

2. Sample Bag/Land Area

3. Seed Per Row Foot

2) CALIBRATION PROCEDURE: BULK POUNDS METHOD

- Weight/Acre in Grams
- Weight/Acre in Ounces
- Weight/Acre in Pounds

Attach the drill to a tractor or other vehicle, park on a level surface, set parking brake, lower the planters to planting position and then shut off the tractor. Drills can't be calibrated in transport position because the clutch is disengaged.

1.) Fill only the 4 rows closest to the **calibration nut**. Fill box half full.

2.) Remove seed hoses from the seed transitions of the selected 4 rows.

3.) Engage the **calibration nut** by pressing in with the handle while turning clockwise.

4.) Set the seed box shifter handles or derailleur sprocket of the fluffy seed box at the desired starting point and turn the **calibration nut** over 2 rotations. This allows the seed to fill all open gaps within the seed flute or picker wheel.

5.) Place pre-weighed containers under the seed transitions.

6.) Grams - Turn **calibration nut** 3.0 times clockwise and catch seed from the 4 rows

Ounces - Turn **calibration nut** 6.0 times clockwise and catch seed from the 4 rows

Pounds - Turn **calibration nut** 12.0 times clockwise and catch seed from the 4 rows

7.) Combine the seed weight in grams, ounces, or pounds.

8.) Grams - For the low output - 54 tooth clutch sprocket multiply your amount by 0.496

For the high output - 30 tooth clutch sprocket multiply your amount by 0.893

The result is the bulk seeding rate in lbs. per acre.

Ounces - For the low output - 54 tooth clutch sprocket multiply your amount by 7.04

For the high output - 30 tooth clutch sprocket multiply your amount by 12.66

The result is the bulk seeding rate in lbs. per acre.

Pounds - For the low output - 54 tooth clutch sprocket multiply your amount by 56.27

For the high output - 30 tooth clutch sprocket multiply your amount by 405.12

The result is the bulk seeding rate in lbs. per acre.

9.) To get pure live seeding rate (PLS), multiply bulk amount by PLS percentage shown on the seed tag.

3) SMALL BOX - BULK POUNDS METHOD (see page 30-3)

- Weight/Acre in Grams
- Weight/Acre in Ounces
- Weight/Acre in Pounds

The small box, located in the front of the drill is used for seeding small seeds. The shifter lever on the right end of the seed box (when viewed from the rear) controls how much of the seed flute is open or closed for seed to travel through. The two clutch sprocket options control how fast the flute is rotating over a given distance traveled by the drill. Carefully control the exposed flute so that no seeds are crushed or ground. When very low seeding rates are required from the small box, use the low output - 54 tooth clutch sprocket with more area of the flute open on the seed box, rather than using the high output - 30 tooth clutch sprocket with very little area of the flute open on the seed box. In addition, extremely low output rates can be achieved by changing the sprocket on the small seed box shaft.

The small box shifter level mount has the numbers 0, 2, 4, 6, 8, and 10 on it to help reference your output rate. Zero indicates that none of the seed flute is exposed in the seed cup, meaning no seed will travel through. Ten indicates that the seed flute is completely exposed in the seed cup and this is the highest output of seed. Since the small seed box shifter level can be moved and locked in at any setting at or between 0 and 10, then virtually any bulk seed rate from 0 lbs per acre to the maximum indicated in the chart can be achieved.

4) SMALL BOX SEEDING RATES

The following chart is for the small seed box seeding rates in **bulk pounds per acre**. In each cell there are two numbers. The **left number represents the low output 54 tooth clutch sprocket and the right number represents the high output 30 tooth clutch sprocket.**

Output in bulk punds per acre: NOT IN POUNDS PLS.

All tables to be used as a guide to output. CAUTION: The output rates are variable depending on individual conditions!

	54 Tooth Sprocket/30 Tooth Sprocket				
Small Box Shifter Number	**2**	**4**	**6**	**8**	**10**
Alfalfa	4.4 / 7.9	8.1 / 14.6	12.4 / 22.3	17.2 / 30.9	21.3 / 38.3
Blackeyed Susan	2.4 / 4.4	5.2 / 9.3	7.4 / 13.2	9.5 / 16.7	12.2 / 21.7
Deer Tongue Grass	2.9 / 5.2	5.5 / 9.9	8.1 / 14.3	10.9 / 19.1	13.1 / 23.3
Fall Panicum	1.9 / 3.3	4.3 / 7.8	6.2 / 10.8	8.0 / 14.2	10.4 / 18.6
Illinois Bundle Flower	4.5 / 8.1	10.4 / 19.6	16.6 / 29.8	23.5 / 41.7	30.7 / 54.3
Millet	4.1 / 7.31	8.2 / 14.7	14.6 / 26.3	19.5 / 35.1	27.5 / 49.5
Partridge Pea	5.3 / 9.3	10.4 / 18.2	16.1 / 28.5	20.8 / 37.0	26.8 / 47.8
Switchgrass - Alamo	3.0 / 6.3	6.5 / 12.5	9.8 / 17.6	13.1 / 22.8	16.6 / 28.0
Switchgrass - Blackwell	4.4 / 8.5	9.7 / 17.0	14.4 / 25.5	19.2 / 35.9	24.9 / 43.7
Timothy	4.3 / 7.8	6.3 / 11.4	10.7 / 19.3	13.0 / 23.3	16.5 / 29.7
White Clover	3.5 / 6.4	8.0 / 14.5	12.7 / 22.9	17.0 / 30.6	21.6 / 38.8

5) MEASURING AMOUNT OF EXPOSED SHUTOFF FOR REFERENCE TO OUTPUT (SMALL BOX)

By using a scale (mm ruler), you can measure the length of exposed shutoff as an alternative reference to confirm the rate of seed flow. If using an inch ruler, convert to mm (1 inch = 25.4mm) to be able to use the chart below.

In order to standardize small box settings, use the following chart to determine what setting your seed box is running at. It would also be wise to make note of what millimeters your seed box is set at in order to adjust your seeding rate for future acres.

Millimeters exposed represents how much of the shut off on the small box shaft, is exposed outside of the seed cup. To make a measurement, place a millimeter ruler flush with the seed cup and measure how far the shut off is exposed.

Small Box Setting	mm Exposed
0	1
2	6
4	11
6	17
8	22
10	28

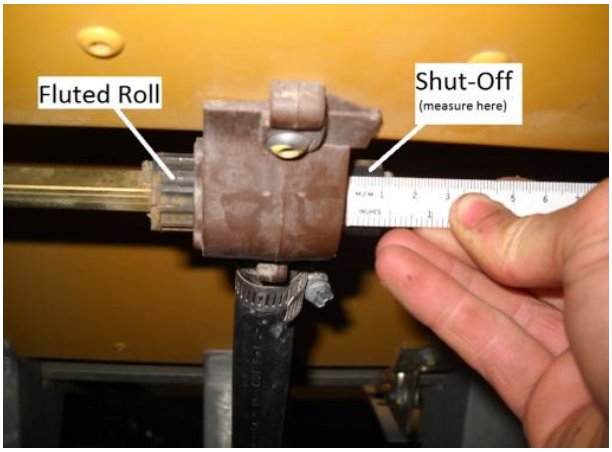


Fig. 30-1

SUGGESTION: Make a record of your settings for your specific machine/mix. Tape inside lid, keep in manual, or create a spreadsheet on your phone/computer.

The shut off if easier to adjust while the seed boxes are empty.

6) FLUFFY BOX - BULK POUNDS METHOD (see page 30-3)

- Weight/Acre in Grams
- Weight/Acre in Ounces
- Weight/Acre in Pounds

The fluffy box is located in the middle box of the drill assembly. The output of the fluffy box is adjusted by using the derailleur controls. This control only affects the middle/fluffy seed box. The derailleur consists of 2-five step sprockets and a spring tension idler that takes the slack from the roller chain between the two stepped sprockets. The rear sprocket is the drive, and the sprocket closest to the tongue is the driven one. There are five settings on the cone sprockets. Since the clutch has two outputs (low and high), the fluffy box actually has 10 different settings. The various settings control the rotation of the picker wheel within the seed box. The opening of the fluffy box cannot be altered. The cone sprocket settings are labeled 1 through 5. The lowest output RPM (1) is when the chain is on the furthest right combination of sprockets (when facing the front of the machine). As the chain is moved to different combinations to the left, the picker wheel shaft rotates faster and therefore the output of the fluffy seed box increases.

The following chart is for seeding rates in the fluffy box WITHOUT seed gaskets and retainer plates. The numbers listed represent bulk pound per acre. In each cell there are two numbers. The **left number represents the low output 54 tooth clutch sprocket and the right number represents the high output 30 tooth clutch sprocket.**

Output in bulk lbs per acre without seed gaskets and retainer plates: (NOT IN POUNDS PLS)

All tables to be used as a guide to output. CAUTION: The output rates are variable depending on individual conditions!

	54 Totth Sprocket/30 Tooth Sprocket				
Cone Sprocket Setting	**1**	**2**	**3**	**4**	**5**
Big Bluestem (Roundstone Seed)	3.5 / 6.9	7.0 / 12.9	12.1 / 21.5	21.1 / 37.5	35.4 / 64.2
Little Bluestem (Sharp Bros Seed)	1.1 / 2.0	2.1 / 3.9	4.0 / 7.0	6.1 / 11.0	12.2 / 20.7
Minnesota CP25 (Millborn Seeds)	6.7 / 11.8	12.2 / 22.3	22.1 / 38.9	37.0 / 64.3	63.1 / 111.0
Minnesota CRP (Millborn Seeds)	5.9 / 10.5	11.5 / 21.4	21.5 / 38.3	36.7 / 64.0	60.8 / 105.9
Prairie 3+ (Stock Seed Farm)	3.1 / 5.6	5.8 / 10.5	9.5 / 17.0	16.7 / 30.0	29.9 / 53.8
Prairie 7 (Stock Seed Farm)	4.5 / 8.0	8.3 / 15.0	14.1 / 25.4	23.9 / 43.1	43.5 / 78.4
Scorched Earth Recovery (Native American Seed)	7.2 / 13.0	13.1 / 23.6	22.7 / 40.8	38.8 / 69.8	70.7 / 127.2
Side Oats Grama (Sharp Bros Seed)	3.0 / 5.3	5.1 / 9.2	8.6 / 15.4	13.8 / 24.8	24.5 / 44.2
Showy NE Wild Flower & Grass Mix (Native American Seed)	7.6 / 13.6	14.9 / 26.9	23.0 / 41.5	35.5 / 63.9	55.1 / 99.2
South Dakota CRP (Millborn Seeds)	7.2 / 13.0	11.9 / 21.4	20.7 / 37.3	36.0 / 64.8	62.3 / 112.2

6) FLUFFY BOX - BULK POUNDS METHOD

(see page 30-3)

- Weight/Acre in Grams
- Weight/Acre in Ounces
- Weight/Acre in Pounds

Since there is limited variability in the seeding rate in the fluffy box, there is an option to further reduce the output. Adding seed gaskets (part #1005) and retainer plates (part #1006) inside the seed box will reduce output. The percent reduction varies from 10% to 25% depending on the seed species. The following chart is for seeding rates in the middle fluffy box WITH seed gaskets and retainer plates. The numbers listed represent **bulk pound per acre**. In each cell there are two numbers. The **left number represents the low output 54 tooth clutch sprocket and the right number represents the high output 30 tooth clutch sprocket.**

Output in bulk lbs per acre with seed gaskets and retainer plates: (NOT IN POUNDS PLS)

All tables to be used as a guide to output. CAUTION: The output rates are variable depending on individual conditions!

	54 Tooth Sprocket/30 Tooth Sprocket				
Cone Sprocket Setting	**1**	**2**	**3**	**4**	**5**
Big Bluestem (Roundstone Seed)	2.9 / 5.3	5.6 / 10.1	9.5 / 17.0	16.7 / 30.0	29.7 / 53.4
Little Bluestem (Sharp Bros Seed)	0.9 / 1.6	1.8 / 3.2	3.4 / 6.1	5.2 / 9.4	10.1 / 18.2
Minnesota CP25 (Millborn Seeds)	5.1 / 9.2	9.6 / 17.3	16.9 / 30.4	27.8 / 50.2	47.2 / 85.0
Minnesota CRP (Millborn Seeds)	5.5 / 9.9	10.0 / 18.0	17.0 / 30.6	29.1 / 52.4	45.4 / 81.8
Prairie 3+ (Stock Seed)	2.3 / 4.2	4.4 / 7.8	7.4 / 13.3	12.7 / 22.9	22.8 / 40.9
Prairie 7 (Stock Seed)	3.6 / 6.5	6.9 / 12.3	11.6 / 20.9	19.6 / 35.3	36.5 / 65.7
Scorched Earth Recovery (Native American Seed)	5.4 / 9.7	9.9 / 17.8	17.6 / 31.7	28.7 / 51.6	57.2 / 103.0
Side Oats Grama (Sharp Bros Seed)	2.0 / 3.6	3.6 / 6.5	6.1 / 10.9	10.2 / 18.3	17.8 / 32.1
Showy NE Wild Flower & Grass Mix (Native American Seed)	6.2 / 11.1	10.4 / 18.8	17.0 / 30.7	27.8 / 49.9	43.2 / 77.8
South Dakota CRP (Millborn Seeds)	5.5 / 9.9	9.3 / 16.7	16.2 / 29.2	27.0 / 48.6	47.3 / 85.2

7) COOL SEASON/GRAIN BOX - BULK POUNDS METHOD

(See Page 30-3)

- Weight/Acre in Grams
- Weight/Acre in Ounces
- Weight/Acre in Pounds

The 3rd box is the back box of the three box drill set-up. It can also be referred to as the cool season box or the grain box. To control output from this box, there is a shifter handle located in the rear of the drill between rows 3 and 4. Similar to the small box, moving this shifter left and right changes how much of the fluted roll is exposed inside the seed cup which will determine how much seed exits the box while the drill is operating. The two clutch sprocket options control how fast the flute is rotating over a given distance traveled by the drill. Carefully control the exposed flute so that no seeds are crushed or ground. When very low seeding rates are required from the 3rd box, use the low output - 54 tooth clutch sprocket with more area of the flute open on the seed box, rather than using the high output - 30 tooth clutch sprocket with very little area of the flute exposed inside the seed cup.

The shifter lever mount has the numbers 0, 2, 4, 6, 8, 10, 12, 14, and 16 indicated. Zero represents none of the fluted roll exposed in the cup so there will be no seed flow at that setting. Sixteen represents all the fluted roll is exposed in the cup which will output the maximum amount.

8) COOL SEASON/GRAIN BOX SEEDING CHART

(on following page, 30-10)

The following is a chart for seeding rates in the 3rd box in **bulk pounds per acre**. In each cell the **left number is the low output 54 tooth clutch sprocket and the right number is the high output 30 tooth clutch sprocket.**

OPERATING THE DRILL

CALIBRATION

Output in bulk lbs per acre! (NOT IN POUNDS PLS)

All tables to be used as a guide to output. CAUTION: The output rates are variable depending on individual conditions!

	54 Tooth Sprocket/30 Tooth Sprocket			
3rd Box Shifter Number	**4**	**8**	**12**	**16**
Annual Wild Flower Mix (Ernst Seeds)	12.6A/A22.7	A8.4/A45.5	A38.8A/A69.8	A49.0A/A88.2
Brome Grass	5.7A/A10.3	A11.6A/A20.9	19.4A/A34.9	A25.1A/A45.2
Big Bluestem (Sharp Bros Seed)	5.2A/A9.4	A12.2A/A22.0	A19.4A/A34.9	24.0A/A43.2
Canadian Wild Rye	A3.8A/A6.8	A8.5A/A15.3	A13.9A/A25.0	18.7A/A33.7
Dryland Aggressive Mix 1 (Pawnee Buttes Seed)	5.2A/A9.4	A13.5A/A24.3	20.0A/A36.0	A25.5A/A45.9A
Economy CRP Mix (Osenbaugh Seeds)	4.2A/A7.6	A8.8A/A15.8	A14.8A/A26.6	17.4A/A31.3
Eastern Gama Grass	16.1A/A29.0	A35.2A/A63.4	A62.0A/A111.6	A74.6A/A134.3A
Indian Grass	A5.5A/A9.9	A12.7A/A22.9	20.2A/A36.4	A25.0A/A45.0
Native Prairie Mix (Pawnee Buttes Seed)	5.7A/A10.3	A11.5A/A20.7	A18.3A/A32.9	A24.6A/A44.3
Orchard Grass	A8.3A/A14.9	A15.5A/A20.7	24.6A/A44.3	A31.6A/A56.9
Prem. Irrig. Pasture Mix 1 (Pawnee Buttes Seed)	7.2A/A13.0	14.7A/A26.5	A23.0A/A41.4	A28.9A/A52.0
Purple Top	A5.2A/A9.4	12.1A/A21.8	A18.6A/A33.5	23.6A/A42.5
Riparian Buffer Mix (Ernst Seeds)	4.6A/A8.3	A11.1A/A20.0	18.6A/A33.5	A22.9A/A41.2
Rye Grass	A13.6A/A24.5	A24.5A/A44.1	39.1A/A70.4	A50.9A/A91.6
Side Oats Grama (Roundstone Seed)	2.0A/A3.6	A4.3A/A7.7	A6.8A/A12.2	A9.1A/A16.4A
Virginia Wild Rye (Roundstone Seed)	4.1A/A7.4	A9.3A/A16.7	13.9A/A25.0	A17.9A/A32.2
Barley, Haybet	A25.2A/A45.4	A50.3A/A90.5	A87.1A/A156.8	A112.6A/A202.7A
Beardless Triticale	A23.9A/A43.0	A65.4A/A117.7	A112.8A/A203.0	A143.3A/A257.9A
Buck Wheat	A22.5A/A40.5	A46.3A/A83.3	83.0A/A149.4	103.8A/A186.8A
Flax	A22.6A/A40.7	A50.8A/A91.4	A81.9A/A147.4	110.2A/A198.4A
Oats, Monida	A14.2A/A25.6	A41.8A/A75.2	68.8A/A123.8	87.7A/A157.9A
Soybeans	A25.4A/A45.7	A65.3A/A117.5	113.7A/A204.7	A148.0A/A266.4A
Spring Wheat	A29.1A/A52.4	68.3A/A122.9	118.6A/A213.5	149.7A/A269.5
Winter Rye	A28.4A/A51.1	A63.8A/A114.8	108.0A/A194.4	136.0A/A244.8A

9) MEASURING AMOUNT OF EXPOSED SHUTOFF FOR REFERENCE TO OUTPUT (CS BOX)

By using a scale (mm ruler), you can measure the length of exposed shutoff as an alternative reference to confirm the rate of seed flow. If using an inch ruler, convert to mm (1 inch = 25.4mm) to be able to use chart below.

In order to standardize cool season box settings, use the following chart to determine what setting your seed box is running at. It would also be wise to make note of what millimeters your seed box is set at in order to adjust your seeding rate for future acres.

Millimeters exposed represents how much of the shut off on the 3rd box shaft is exposed outside of the seed cup. To make a measurement, place a millimeter ruler flush with the seed cup and measure how far the shut off is exposed.

3rd Box Setting	mm Exposed
0	2
4	13
8	25
12	37
16	47

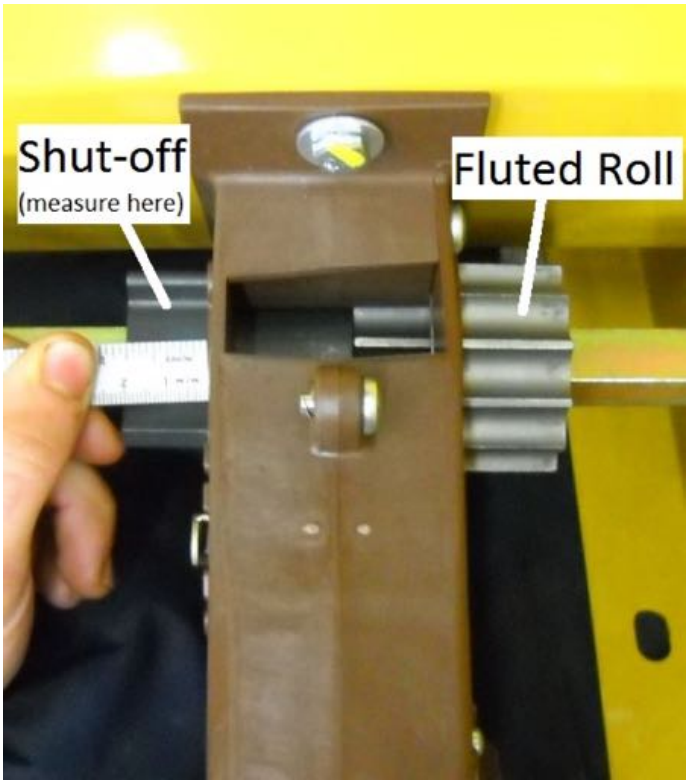


Fig. 30-2

SUGGESTION: Make a record of your settings for your specific machine/mix. Tape onto inside lid, keep in manual, or create spreadsheet in phone/computer.

The shut off is easier the adjust while the seed boxes are empty.

10) COOL SEASON/GRAIN BOX - SEED CUP

The 3rd box seed cups also have an adjustment lever located on the left side of the cup (when standing behind the drill). This will regulate the distance the fluted roll is from the gate inside the seed cup. Adjust this lever accordingly to accommodate your seed structure. If the seed size is large or contains large debris, then lower this lever so the seed is not constricted with the fluted roll when trying to exit the seed box and cup.

Fig. 30-3

1) Clean the seed cups by opening the feed gate all the way. This is accomplished by moving lever (A) down all the way.

2) Set the lever (A) into one of the following positions:

   B - Wheat, oats, barley, rye, flax, rice, and similar seeds.

   C - Small peas and common beans.

   D - Large peas, soybeans, kidney beans, corn, and lima beans.

   E - Clean out

3) Make sure all the seed cups are set the same to prevent uneven output rates.

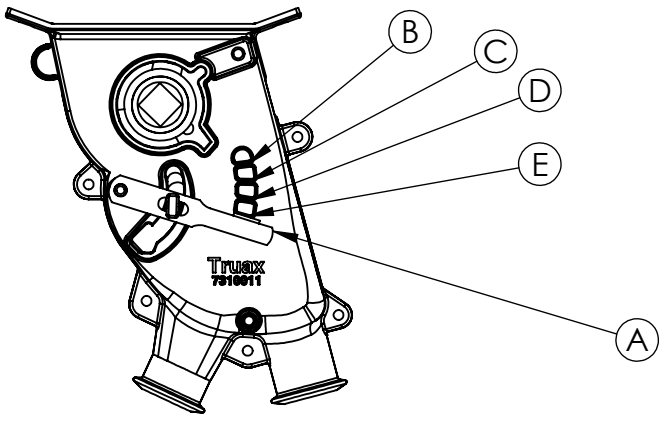


Fig. 30-4

11) JUMBO/GRAIN BOX - BULK POUNDS METHOD (See page 30-3)

- Weight/Acre in Grams
- Weight/Acre in Ounces
- Weight/Acre in Pounds

FOR TABLES ON PAGES 30-14 THRU 30-18:

The Truax OTG 2 box grain drills can use the same small box charts that are used to the grass drills. When calibrating the large capacity/jumbo grain box there is an added variable because the output can be in part controlled by the derailluer cone sprocket. Use the following charts to determine the output for differing derailluer cone sprocket settings. Setting number 1 is the lowest output (far right sprockets) and setting number 5 is the highest output (far left sprockets). In each cell there are two numbers which represent **bulk pounds per acre. The left number is the low output 54 tooth clutch sprocket and the right number is the high output 30 tooth clutch sprocket.**

For manual/illustration purposes, the calibration was performed using the third box shifter settings of 4, 8, 12, 16. Other settings can be used.

OUTPUT IN BULK POUNDS PER ACRE: NOT IN POUNDS PLS!

ALL TABLES USED AS A GUIDE TO OUTPUT. CAUTION: THE OUTPUT RATES ARE VARIABLE DEPENDING ON THE INDIVIDUAL CONDITIONS!

CALIBRATION

Cone Sprocket Setting: 1

(SEE PAGE 30-13)

(LARGE CAPACITY/JUMBO GRAIN BOX)

	54 Tooth Sprocket/30 Tooth Sprocket			
3rd Box Shifter Number	**4**	**8**	**12**	**16**
Annual Wild Flower Mix (Ernst Seeds)	4.0 / 7.3	8.1 / 14.6	12.4 / 22.3	15.7 / 28.2
Brome Grass	1.8 / 3.3	3.7 / 6.7	6.2 / 11.2	8.0 / 14.5
Big Bluestem (Sharp Bros Seed)	1.7 / 3.0	3.9 / 7.0	6.2 / 11.2	7.7 / 13.8
Canadian Wild Rye	1.2 / 2.2	2.7 / 4.9	4.4 / 8.0	6.0 / 10.8
Dryland Aggressive Mix 1 (Pawnee Buttes Seed)	1.7 / 3.0	4.3 / 7.8	7.8 6.4 / 11.5	8.2 / 4.7
Economy CRP Mix (Osenbaugh Seeds)	1.3 / 2.4	2.8 / 5.1	4.7 / 8.5	5.6 / 10.0
Eastern Gama Grass	5.2 / 9.3	11.3 / 20.3	19.8 / 35.7	23.9 / 43.0
Indian Grass	1.8 / 3.2	4.1 / 7.3	6.5 / 11.6	8.0 / 14.4
Native Prairie Mix (Pawnee Buttes Seed)	1.8 / 3.3	3.7 / 6.6	5.9 / 10.5	7.9 / 14.2
Orchard Grass	2.7 / 4.8	5.0 / 8.9	7.9 / 14.2	10.1 / 18.2
Prem. Irrig. Pasture Mix 1 (Pawnee Buttes Seed)	2.3 / 4.1	4.7 / 8.5	7.4 / 13.2	9.2 / 16.6
Purple Top	1.7 / 3.0	3.9 / 7.0	6.0 / 10.7	7.6 / 13.6
Riparian Buffer Mix (Ernst Seeds)	1.5 / 2.6	3.6 / 6.4	6.0 / 10.7	7.3 / 13.2
Rye Grass	4.4 / 7.8	7.8 / 14.1	12.5 / 22.5	16.3 / 29.3
Side Oats Grama (Roundstone Seed)	0.6 / 1.2	1.4 / 2.5	2.2 / 3.9	2.9 / 5.2
Virginia Wild Rye (Roundstone Seed)	1.3 / 2.4	3.0 / 5.4	4.4 / 8.0	5.7 / 10.3
Barley, Haybet	8.1 / 14.5	16.1 / 29.0	27.9 / 50.2	36.0 / 64.9
Beardless Triticale	7.6 / 13.8	20.9 / 37.7	36.1 / 65.0	45.9 / 82.5
Buck Wheat	7.2 / 13.0	14.8 / 26.7	26.6 / 47.8	33.2 / 59.8
Flax	7.2 / 13.0	16.3 / 29.3	26.2 / 47.2	35.3 / 63.5
Oats, Monida	4.5 / 8.2	13.4 / 24.1	22.0 / 39.6	28.1 / 50.5
Soybeans	8.1 / 14.6	20.9 / 37.6	36.4 / 65.5	47.4 / 85.2
Spring Wheat	9.3 / 16.8	21.9 / 39.3	38.0 / 68.3	47.9 / 86.2
Winter Rye	9.1 / 16.4	20.4 / 36.7	34.6 / 62.2	43.5 / 78.3

CALIBRATION

Cone Sprocket Setting: 2

(SEE PAGE 30-13)

(LARGE CAPACITY/JUMBO GRAIN BOX)

	54 Tooth Sprocket/30 Tooth Sprocket			
3rd Box Shifter Number	**4**	**8**	**12**	**16**
Annual Wild Flower Mix (Ernst Seeds)	7.4 / 13.4	14.9 / 26.9	22.9 / 41.3	29.0 / 52.1
Brome Grass	3.4 / 6.1	6.9 / 12.3	11.5 / 20.6	14.8 / 26.7
Big Bluestem (Sharp Bros Seed)	3.1 / 5.5	7.2 / 13.0	11.5 / 20.6	14.2 / 25.5
Canadian Wild Rye	2.2 / 4.0	5.0 / 9.0	8.2 / 14.8	11.0 / 19.9
Dryland Aggressive Mix 1 (Pawnee Buttes Seed)	3.1 / 5.5	8.0 / 14.4	11.8 / 21.3	15.1 / 27.1
Economy CRP Mix (Osenbaugh Seeds)	2.5 / 4.5	5.2 / 9.4	8.7 / 5.7	10.3 / 18.5
Eastern Gama Grass	9.5 / 17.1	20.8 / 37.4	36.6 / 65.9	44.1 / 79.3
Indian Grass	3.2 / 5.8	7.5 / 13.5	11.9 / 21.5	14.8 26.6
Native Prairie Mix (Pawnee Buttes Seed)	3.4 / 6.1	6.8 / 12.2	10.8 / 19.5	14.5 / 26.2
Orchard Grass	4.9 / 8.8	9.2/ 16.5	14.5 / 26.2	18.7 / 33.6
Prem. Irrig. Pasture Mix 1 (Pawnee Buttes Seed)	4.3 / 7.7	8.7 / 15.6	13.6 / 24.5	17.1 / 30.7
Purple Top	3.1 / 5.5	7.1 / 12.9	11.0 / 19.8	13.9 / 25.1
Riparian Buffer Mix (Ernst Seeds)	2.7 / 4.9	6.6 / 11.8	11.0 / 19.8	13.5 / 24.4
Rye Grass	8.0 / 14.5	14.5 / 26.1	23.1 / 41.6	30.1 / 54.1
Side Oats Grama (Roundstone Seed)	1.2 / 2.1	2.5 / 4.6	4.0 / 7.2	5.4 / 9.7
Virginia Wild Rye (Roundstone Seed)	2.4 / 4.4	5.5 / 9.9	8.2 / 14.8	10.6 / 19.0
Barley, Haybet	14.9 / 26.8	29.7 / 53.5	51.5 / 92.6	66.5 / 119.8
Beardless Triticale	14.1 / 25.4	38.6 / 69.6	66.7 / 120.0	84.7 / 152.4
Buck Wheat	13.3 / 23.9	27.4 / 49.2	49.0 / 88.3	61.3 / 110.4
Flax	13.4 / 24.0	30.0 / 54.0	48.4 / 87.1	65.1 / 117.2
Oats, Monida	8.4 / 15.1	24.7 / 44.5	40.7 / 73.2	51.8 / 93.3
Soybeans	15.1 / 27.0	38.6 / 69.5	67.2 / 120.9	87.5 / 157.4
Spring Wheat	17.2 / 31.0	40.4 / 72.6	70.1 / 126.1	88.5 / 159.2
Winter Rye	16.8 / 30.2	37.7 / 67.9	63.8 / 114.9	80.4 / 144.7

CALIBRATION

Cone Sprocket Setting: 3

(SEE PAGE 30-13)

(LARGE CAPACITY/JUMBO GRAIN BOX)

	54 Tooth Sprocket/30 Tooth Sprocket			
3rd Box Shifter Number	**4**	**8**	**12**	**16**
Annual Wild Flower Mix (Ernst Seeds)	12.6 / 22.7	25.3 / 45.5	38.8 / 69.8	49.0 / 88.2
Brome Grass	5.7 / 10.3	11.6 / 20.9	19.4 / 34.9	25.1 / 45.2
Big Bluestem (Sharp Bros Seed)	5.2 / 9.4	12.2 / 22.0	19.4 / 34.9	24.0 / 43.2
Canadian Wild Rye	3.8 / 6.8	8.5 / 15.3	13.9 / 25.0	18.7 / 33.7
Dryland Aggressive Mix 1 (Pawnee Buttes Seed)	5.2 / 9.4	13.5 / 24.3	20.0 / 36.0	25.5 / 45.9
Economy CRP Mix (Osenbaugh Seeds)	4.2 / 7.6	8.8 / 15.8	14.8 / 26.6	17.4 / 31.3
Eastern Gama Grass	16.1 / 29.0	35.2 / 63.4	62.0 / 111.6	74.6 / 134.3
Indian Grass	5.5 / 9.9	12.7 / 22.9	20.2 / 36.4	25.0 / 45.0
Native Prairie Mix (Pawnee Buttes Seed)	5.7 / 10.3	11.5 / 20.7	18.3 / 32.9	24.6 / 44.3
Orchard Grass	8.3 / 14.9	15.5 / 27.9	24.6 / 44.3	31.6 / 56.9
Prem. Irrig. Pasture Mix 1 (Pawnee Buttes Seed)	7.2 / 13.0	14.7 / 26.5	23.0 / 41.4	28.9 / 52.0
Purple Top	5.2 / 9.4	12.1 / 21.8	18.6 / 33.5	23.6 / 42.5
Riparian Buffer Mix (Ernst Seeds)	4.6 / 8.3	11.1 / 20.8	18.6 / 33.5	22.9 / 41.2
Rye Grass	13.6 / 24	24.5 / 44.1	39.1 / 70.4	50.9 / 91.6
Side Oats Grama (Roundstone Seed)	2.0 / 3.6	4.3 / 7.7	6.8 / 12.2	9.1 / 16.4
Virginia Wild Rye (Roundstone Seed)	4.1 / 7.4	9.3 / 16.7	13.9 / 25.0	17.9 / 32.2
Barley, Haybet	25.2 / 45.4	50.3 / 90.5	87.1 / 156.8	112.6 / 202.7
Beardless Triticale	23.9 / 43.0	65.4 / 117.7	112.8 / 203.0	143.3 / 257.9
Buck Wheat	22.5 / 40.5	46.3 / 83.3	83.0 / 149.4	103.8 / 186.8
Flax	22.6 / 40.7	50.8 / 91.4	81.9 / 147.4	110.2 / 198.4
Oats, Monida	14.2 / 25.6	41.8 / 75.2	68.8 / 123.8	87.7 / 157.9
Soybeans	25.4 / 45.7	65.3 / 117.5	113.7 / 204.7	148.0 / 266.4
Spring Wheat	29.1 / 52.4	68.3 / 122.9	118.6 / 213.5	149.7 / 269.5
Winter Rye	28.4 / 51.1	63.8 / 114.8	108.0 / 194.4	136.0 / 244.8

CALIBRATION

Cone Sprocket Setting: 4 (SEE PAGE 30-13)

(LARGE CAPACITY/JUMBO GRAIN BOX)

	54 Tooth Sprocket/30 Tooth Sprocket			
3rd Box Shifter Number	**4**	**8**	**12**	**16**
Annual Wild Flower Mix (Ernst Seeds)	21.3 / 38.4	42.8 / 77.1	65.7 / 118.2	82.9 / 149.3
Brome Grass	9.6 / 17.4	19.6 / 35.3	32.8 / 59.1	42.5 / 76.5
Big Bluestem (Sharp Bros Seed)	8.8 / 15.8	20.6 / 37.2	32.8 / 59.1	40.6 / 73.1
Canadian Wild Rye	6.4 / 11.6	14.4 / 25.9	23.5 / 42.3	31.6 / 57.0
Dryland Aggressive Mix 1 (Pawnee Buttes Seed)	8.8 / 15.8	22.8 / 41.1	33.8 / 60.9	43.2 / 77.7
Economy CRP Mix (Osenbaugh Seeds)	7.1 / 12.8	14.9 / 26.8	25.0 / 45.1	29.4 / 53.0
Eastern Gama Grass	27.2 / 49.0	59.6 / 107.2	104.9 / 188.9	126.2 / 227.2
Indian Grass	9.3 / 16.8	21.5 / 38.7	34.2 / 61.5	42.3 / 76.2
Native Prairie Mix (Pawnee Buttes Seed)	9.6 / 17.4	19.5 / 35.0	31.0 / 55.7	41.6 / 74.9
Orchard Grass	14.0 / 25.3	26.2 / 47.2	41.6 / 74.9	53.5 / 96.3
Prem. Irrig. Pasture Mix 1 (Pawnee Buttes Seed)	12.2 / 21.9	24.9 / 44.8	38.9 / 70.1	48.9 / 88.0
Purple Top	8.8 / 15.8	20.5 / 36.9	31.5 / 56.7	39.9 / 71.9
Riparian Buffer Mix (Ernst Seeds)	7.8 / 14.0	18.8 / 33.8	31.5 / 56.7	38.8 / 69.8
Rye Grass	23.0 / 41.4	41.5 / 74.6	66.2 / 119.1	86.1 / 155.0
Side Oats Grama (Roundstone Seed)	3.4 / 6.1	7.3 / 13.1	11.5 / 20.7	15.4 / 27.7
Virginia Wild Rye (Roundstone Seed)	6.9 / 12.5	15.7 / 28.3	23.5 / 42.3	30.3 / 54.5
Barley, Haybet	42.6 / 76.8	85.1 / 153.2	147.4 / 265.3	190.6 / 343.0
Beardless Triticale	40.4 / 72.8	110.7 / 199.2	190.9 / 343.6	242.5 / 436.5
Buck Wheat	38.1 / 68.5	78.4 / 141.0	140.5/ 252.8	175.7 / 316.2
Flax	38.2 / 68.8	86.0 / 154.7	138.6 / 249.5	186.5 / 335.7
Oats, Monida	24.0 / 43.3	70.7 / 127.3	116.4 / 209.6	148.4 / 267.1
Soybeans	43.0 / 77.4	110.5 / 198.9	192.4 / 346.3	250.5 / 450.8
Spring Wheat	49.2 / 88.6	115.6 / 208.1	200.7 / 361.3	253.3 / 456.0
Winter Rye	48.1 / 86.5	108.0 / 194.3	182.8 / 329.0	230.2 / 414.3

CALIBRATION

Cone Sprocket Setting: 5 (SEE PAGE 30-13)

(LARGE CAPACITY/JUMBO GRAIN BOX)

	54 Tooth Sprocket/30 Tooth Sprocket			
3rd Box Shifter Number	**4**	**8**	**12**	**16**
Annual Wild Flower Mix (Ernst Seeds)	39.4 / 70.9	79.1 / 142.3	121.3 / 218.3	153.1 / 275.6
Brome Grass	17.8 / 32.1	36.3 / 65.3	60.6 / 109.1	78.4 / 141.2
Big Bluestem (Sharp Bros Seed)	16.3 / 29.3	38.1 / 68.6	60.6 / 109.1	75.0 / 135.0
Canadian Wild Rye	11.9 / 21.4	26.6 / 47.8	43.4 / 78.2	58.4 / 105.2
Dryland Aggressive Mix 1 (Pawnee Buttes Seed)	16.3 / 29.3	42.2 / 75.9	62.5 / 112.5	79.7 / 143.4
Economy CRP Mix (Osenbaugh Seeds)	13.1 / 23.6	27.5 / 49.5	46.3 / 83.3	54.4 / 97.9
Eastern Gama Grass	50.3 / 90.6	110.0 / 198.0	193.8 / 348.8	233.1 / 419.6
Indian Grass	17.2 / 30.9	39.7 / 71.4	63.1 / 113.6	78.1 / 140.6
Native Prairie Mix (Pawnee Buttes Seed)	17.8 / 32.1	35.9 / 64.7	57.2 / 102.9	46.9 / 138.4
Orchard Grass	25.9 / 46.7	48.4 / 87.2	76.9 / 138.4	98.8 / 177.8
Prem. Irrig. Pasture Mix 1 (Pawnee Buttes Seed)	22.5 / 40.5	45.9 / 82.7	71.9 / 129.4	90.3 / 162.6
Purple Top	16.3 / 29.3	37.8 / 68.1	58.1 / 104.6	73.8 / 132.8
Riparian Buffer Mix (Ernst Seeds)	14.4 / 25.9	34.7 / 62.4	58.1 / 104.6	71.6 / 128.8
Rye Grass	42.5 / 76.5	76.6 / 137.8	122.2 / 219.9	159.1 / 286.3
Side Oats Grama (Roundstone Seed)	6.3 / 11.3	13.4 / 24.2	21.3 / 38.3	28.4 / 51.2
Virginia Wild Rye (Roundstone Seed)	12.8 / 23.1	29.1 / 52.3	43.4 / 78.2	55.9 / 100.7
Barley, Haybet	78.8 / 141.8	157.2 / 282.9	272.2 / 489.9	351.9 / 633.4
Beardless Triticale	74.7 / 134.4	204.4 / 367.9	352.5 / 634.5	447.8 / 806.1
Buck Wheat	70.3 / 126.6	144.7 / 260.4	259.4 / 466.9	324.4 / 589.9
Flax	70.6 / 127.1	158.8 / 285.8	255.9 / 460.7	344.4 / 619.9
Oats, Monida	44.4 / 79.9	130.6 / 235.1	215.0 / 387.0	274.1 493.3
Soybeans	79.4 / 142.9	204.1 / 367.3	688.3 / 639.6	462.5 / 832.5
Spring Wheat	90.9 / 163.7	213.4 / 384.2	370.6 / 667.1	467.8 / 842.1
Winter Rye	88.8 / 159.8	199.4 / 358.9	337.5 / 607.5	425.0 / 765.0

12) CALIBRATION PROCEDURE (SEED PER ROW FOOT)

To calculate the number of seeds per row foot/pound of a specified crop, use the following formula:

When:

1 acre = 43,560 square feet
A = number of seeds per pound
B = number of seeds per square foot/pound per acre
C = planting width of drill **(USE ACTUAL WIDTH OF DRILL YOU ARE CALIBRATING)**
D = number of seeds per one (1) row foot per pound
E = number of rows planted by drill

A/43,560 = B
(C/E) x B = D

For Example: Using big bluestem, which has 165,000 seeds per pound and a OTG-7512 Drill, which has a 7.5 foot planting width and plants twelve (12) rows.

A = 165,000 seeds per pound
C = 7.5 feet **(EXAMPLE)**
E = 12 drill openers or rows
B = 165,000/43,560 = 3.8 seeds per square foot
D = (7.5 ft/12) x 3.8 = 2.5 seeds per one (1) row foot/pound

This figure is actual or bulk seeds per row foot/pound. When planting Pure Live Seed (PLS), divide "D" by the PLS percent of your seed lot.

For Example: Your seed lot of big bluestem has a PLS percent of 60% (0.60).

2.5/0.60 = 4.2 actual or bulk seeds per row foot/pound

This figure represents one PLS pound of seed. Multiply by the desired planting rate per acre to obtain the correct number of seeds per foot of row.

For Example: Your desired planting rate for big bluestem is 8 PLS pounds per acre.

4.2 x 8 = 33.6 actual or bulk seeds per row foot for an eight (8) PLS pound seeding rate.

In the above example, 34 seeds per row foot would be required to achieve the desired seeding rate.

13) CALIBRATION PROCEDURE (SAMPLE BAG PER LAND AREA)

1) Select or measure a known field area (1-2 acres).

2) Put the proper quantity of seed (PLS) in the seed boxes and drill the known field area.

3) Check periodically while drilling to see if there is enough material to seed the area.

4) Adjust the drill to achieve the desired seeding rate.

14) SEED MIXES INFORMATION

Annual Wildflower Mix - Ernst Conservation Seeds Inc.

Ernst Conservation Seeds Inc.
8884 Mercer Pike
Meadville, PA 16335

Annual Wildflower Mix		Lot # ERNMX-157-130429
Item	**Purity (%)**	**Germ (%)**
Cosmos	9.99	98.0
Sulphur Cosmos	9.99	92.0
Rocket Larkspur	9.99	96.0
Scarlet Flax	9.99	94.0
Cornflower (Bachelors Button)	5.96	87.0
Annual Gaillardi (Indian Blanket)	5.93	82.0
Bachelor's Button Tall Mixed Cornflower	5.91	76.0
Sweetwilliam	5.89	86.0
Common Norlin Flax	5.86	83.0
Wallflower	4.99	
California Orange Poppy	3.99	90.0
Blakeyed Susan	3.99	96.0
Tree Mallow	2.00	70.0
Sweet Alyssum	2.00	90.0
Annual Baby's Breath	1.99	88.0
Catchfly	1.99	95.0
Calendula	1.98	84.0
Bishop's Flower	1.00	78.4
Clarkia	1.00	88.0
Corn Poppy, Red	1.00	86.0
Corn Poppy/Shirley Mix	1.00	90.5
Painted Daisy	0.99	72.0
Spurred Snapdragon (Northern Lights)	0.99	75.0
Plains Coreopsis	0.94	96.0

Riparian Buffer Mix - Ernst Conservation Seeds Inc.

Ernst Conservation Seeds Inc.
8884 Mercer Pike
Meadville, PA 16335

Riparian Buffer Mix	**Lot# ERNMX-178-140311**	
Item	Purity (%)	Germ (%)
Virgina Wildrye, PA Ecotype	19.65	94.0
Indiangrass, PA Ecotype	14.20	16.0
Big Bluestem, 'Niagara'	13.41	22.0
Deertongue, 'Tioga'	9.86	3.0
Switchgrass, 'Carthage' NC Ecotype	8.98	44.0
Partridge Pea, PA Ecotype	5.99	50.0
Blue Vervain, PA Ecotype	4.00	93.0
Autum Bentgrass, PA Ecotype	3.96	90.0
Blackeyed Susan, Coastal Plan NC Ecotype	3.00	95.5
Oxeye Sunflower, PA Ecotype	2.99	95.0
Soft Rush	2.00	1.0
Giant Ironweed, PA Ecotype	1.81	8.0
Boneset, Pa Ecotype	1.33	25.0
Common Sneezeweed, PA Ecotype	1.01	13.0
Blue False Indigo, Southern WV Ecotype	1.00	90.0
Joe Pye Weed, PA Ecotype	1.00	21.0
Great Blue Lobelia, PA Ecotype	0.91	31.0
Wild Bergamot, PA Ecotype	0.50	42.0

Showy Northeast Native Wildflower & Grass Mix- Ernst Conservation Seeds Inc.

Ernst Conservation Seeds Inc.
8884 Mercer Pike
Meadville, PA 16335

Showy Northeast Native Wildflower & Grass Mix		Lot# ERNMX-153-140307
Item	**Purity (%)**	**Germ (%)**
Sideoats Grama, 'Butte'	37.04	92.4
Virgina Wildrye, PA Ecotype	14.85	96.0
Indiana Grass, PA Ecotype	8.95	22.0
Autumn Bentgrass, Albany Pine Bush-NY Ecotype	2.99	82.0
Partride Peac, PA Ecotype	3.99	50.0
Tall White Beardtongue, PA Ecotype	3.50	2.0
Marsh (Dense) Blazing Star (Spiked Gayfeather)	2.99	31.0
Purple coneflower	2.90	95.00
Lanceleaf Coreopsis, Coastal Plain NC Ecotype	2.00	85.0
Blackeyes Susanm Coastal Plain NC Ecotype	2.00	95.5
Blue False Indigo, Souther WV Ecotype	1.99	90.0
Oxeye Sunflower, PA Ecotype	1.99	95.0
Ohio Spiderwort, PA Ecotype	1.98	3.0
Smooth Blue Aster, MN	1.94	91.0
New England Aster, PA Ecotype	1.67	75.2
Butterfly Milkweed	1.00	88.0
Browneyed Susan, WV Ecotype	0.99	84.0
Hairy Beardtongue	0.97	40.0
Early Goldenrod, PA Ecotype	0.91	33.0
Wild Bergamot, PA Ecotype	0.50	42.0
Orange coneflower, Northen VA Ecotype	0.50	1.0
Wild Senna, VA & WWV Ecotype	0.50	1.0
Maryland Senna	0.50	52.0

Dryland Aggressive Mix #1 - Pawnee Buttes Seed Inc.

Pawnee Buttes Seed Inc.
605 25th St. P.O. Box 100 Greeley, CO 80632

PBSI. Dryland Aggressive Mix#1		PB-35125-14	
Species	**Purity (%)**	**Germ (%)**	**% Mix**
Revenue, Slender Wheatgrass	28.66	97	30
Luna, Pubescent Wheatgrass	14.84	91	15.24
Bozoisky Select Cort Russian Wildrye	9.22	95	9.66
Lincoln, Smooth Bromegrass	9.06	97	9.58
Arnba, Western Wheatgrass	6.55	91	6.96
AC Mallard Select, Green Needlegrass	5.53		5.58
Lincoln, Smooth Bromegrass	4.83	85	
Lodorm, Green Needlegrass	4.41	98	4.42
Bozoisky, Russian Wildrye	3.18		3.26
Arnba, Western Wheatgrass	2.93	95	3.04
Shoshone Wildrye Vavilov Siberian Wheatgrass	2.5	90.5	3.23
Bozoisky, Select Cert Russian Wildrye	2.03	86	2.08
Dahuria, Wildrye	1.5	85	1.53
Manchar, Smooth Bromegrass	0.08	95	0.08

Native Prairie Mix - Pawnee Buttes Seed Inc.

Pawnee Buttes Seed Inc.
605 25th St. P.O. Box 100 Greeley, CO 80632

PBSI. Native Prairie Mix		PB-35101-14	
Species	**Purity (%)**	**Germ (%)**	**% Mix**
Western Wheatgrass Arnba, Western Wheatgrass	43.62	91	46.36
Green Needlegrass	95.84	96	26.05
Buffalograss	12.46	91	12.51
Sideoats Grama	7.97	80	11.71
Blue Grama	2.21	96	2.47
Sand Dropseed	0.91	94	0.91
Inert	5.81		
Crop	1.38		
Weed	0		

CALIBRATION

Economy CRP Mix - Osenbaugh Grass & Wildflower Seeds

Osenbaugh Grass & Wildflower Seeds
11009 542nd St., Lucas, IA 50151

Kind	PLS Pounds	Seeds per Sq. Ft.	Purity	Genn	Total lbs.
Roundtree Big Bluestem	5.0000	3.67	88.50	88.00	6.4202
IA Eco Canada Wildrye	0.5000	0.19	98.91	97.00	0.5212
Holt Indiangrass	0.5000	0.44	93.78	94.00	0.5672
Little Bluestem	0.2500	0.28	81.36	90.00	0.3414
IA Eco Rough Dropseed	1.1500	2.53	98.91	34.00	1.2238
Slender Wheat Grass	1.7500	0.89	98.99	88.00	2.0089
IA Eco Virginia Wildrye	3.0000	0.93	88.83	90.00	3.5550
Rosana Western Wheatgr	1.2500	0.66	91.17	90.00	1.4586
Butte Sideoats Grama	0.1000	0.04	91.27	76.00	0.1218
Inert			100	0.00	24.0000
Total Soft Seeds	**13.5000**	**9.63**			**40.2180**
Trailblazer Switchgrass	3.7500	3.86	99.96	90.00	3.9078
VNS June Grass	0.4050	5.95	79.88	92.00	0.5511
VNS Purple Top	2.5000	4.78	99.75	14.00	2.5316
PA Eco Common Fox Sedg	0.8000	5.88	99.32	32.00	0.9589
Western Yarrow	0.1750	2.29	98.26	92.00	0.1936
IA Eco Evening Primrose	0.1750	1.16	99.16	52.00	0.1801
Old Field (gray) Goldenro	0.0500	1.10	75.14	3.00	0.0731
VNS Foxglove Beardedtor	0.1750	1.67	88.45	95.00	0.2083
IA Eco Prairie Cinquefoil	0.0500	0.84	99.48	94.00	0.0523
Canada Goldenrod	0.0050	0.11	87.40	95.00	0.0060
IA Eco Brown-eyed Susan	0.1000	0.32	98.69	37.00	0.1152
IA Eco Black-Eyed Susan	0.0750	0.51	99.77	93.00	0.0792
VNS Patridge Pea	1.0000	0.20	99.93	8.00	1.0878
VNS White Prairie Sage	0.0250	0.46	93.11	99.00	0.0271
VNS Seedbox	0.0150	1.43	97.18	66.00	0.0178
IA Eco Sneezeweed	0.0050	0.05	94.52	54.00	0.0054
Total Hard Seeds	**9.3050**	**30.59**			**9.9953**
Grand Total	**22.805**	**40.22**	**96.83**	**48.3**	**50.2131**

CALIBRATION

Prairie 3 Plus - Stock Seed Farms

Stock Seed Farms
28008 Mill Road, Murdock, NE 68407

Prairie 3 Plus Prairiegrass Mixture		LOT P63+314-1
Kind	**Purity (%)**	**Germ (%)**
Sideoats Grama	40.01	90
Little Bluestem	30.06	94
Buffalograss	8.73	93
Blue Grama	8.38	96
Total Purity = 87.18 %		
% of PLS = 81.08 %		
1PLS = 1.23 Bult		

Prairie 7 - Stock Seed Farms

Stock Seed Farms
28008 Mill Road, Murdock, NE 68407

Prairie 7 Prairie Grass Mix			
Purity	**Kind**	**Germ**	**Dormant**
16.57	Big Bluestem	80	8
15.71	Indian Grass	52	40
15.13	Little Bluest3em	70	26
11.37	Sideoats Grama	65	30
11.29	Virgina Wildrye	96	0
4.24	Blue Grama	40	45
4.02	Switch Grass	62	32
Total Viable: 92			
Lot No: P7-314-1			
% of PLS = 72.06 %			

CALIBRATION

Premium Irrigated Pasture Mix #1 - Pawnee Buttes Seed Inc

Pawnee Buttes Seed Inc.
605 25th St. P.O. Box 100 Greeley, CO 80632

PBSI. Prem. Irrig. Past. Mix #1		PB-34982-14	
Species	**Purity (%)**	**Germ (%)**	**% Mix**
Fleet, Meadow Bromegrass	79.93	88	75
Paiute, Cert, Orchardgrass	11.98	91	12.5
Niva, Cert Orchardgrass	11.87	97	12.5
Inveert	2.08		
Crop	0.15		
Weed	0		

Scorched Earth Recovery Mix - Native American Seed

Native American Seed
3791 N US Hwy 377, Junction TX 76849

Scorched Earth Recovery Mix			Lot #181601042613	
Kind	**% Mix by wt**	**Test Date**	**Germ (%)**	**Total Germ (%)**
Sideoata Grama	17.46	8/13	96	96
Prairie Wildrye	11.94	4/14	94	97
Little Bluestem	9.62	8/13	14	99

Indian Blanket 11.25%, Buffalograss 3.88%, Midway Mix 3.65%, Purple Prairie clover 3.52%, Indiangrass 3.40%, Cutleaf Daisy 3.23%, Tall Dropseed 3.12%, Switchgrass 2.99%, Plains Coreopsis 2.88%, Texas Yellow Start 2.59%, Sand Lovegrass 2.04%, Green Sprangletop 1.94%, Virginia Wildrye 1.93%, Huisache Daisy 1.89%, Lemon Mint 1.85%, Plains Bristlegrass 1.66%, Illinois Bundleflower 1.49%, Gayfeather 1.46%, Texas Bluebonnet 1.19%, White Prairie Clover 1.11%, Prairie Verbena 1.02%, Common Sunflower .69%, Sand Dropseed .47%, Arizona Cottontop .40%, Curly Mesquite .36%, Red Three awn .28%, Purple Three Awn .25%, Texas Cupgrass .25%, Texas Wintergrass .09%, White Tridens .09%, Cane Bluestem .01%
Purity = 86.52%

Minnesota CP25 - Millborn Seeds

Millborne Seeds Inc.
1334 Western Ave. Brookings, SD 57006

See pages 30-7 & 30-8 for seeding charts.

The seed mix information was unavailable at the time of printing. It will be inserted for the next edition of the manual.

Minnesota CRP - Millborn Seeds

Millborne Seeds Inc.
1334 Western Ave. Brookings, SD 57006

See pages 30-7 & 30-8 for seeding charts.

The seed mix information was unavailable at the time of printing. It will be inserted for the next edition of the manual.

South Dakota CRP - Millborn Seeds

Millborne Seeds Inc.
1334 Western Ave. Brookings, SD 57006

See pages 30-7 & 30-8 for seeding charts.

The seed mix information was unavailable at the time of printing. It will be inserted for the next edition of the manual.

Little Bluestem - Sharp Bros Seed

Sharp Bros, Seed Company
1005 S. Sycamore Healy, KS 67850

See Pages 30-7 & 30-8 for seeding charts.

The seed mix information was unavailable at the time of printing. It will be inserted for the next edition of the manual.

Side Oats Gama - Sharp Bros Seed

Sharp Bros, Seed Company
1005 S. Sycamore Healy, KS 67850

See Pages 30-7 & 30-8 for seeding charts.

The seed mix information was unavailable at the time of printing. It will be inserted for the next edition of the manual.

Big Bluestem - Sharp Bros Seed

Sharp Bros, Seed Company
1005 S. Sycamore Healy, KS 67850

See Pages 30-10 and 30-14 thru 30-18 for seeding charts.

The seed mix information was unavailable at the time of printing. It will be inserted for the next edition of the manual.

Big Bluestem - Roundstone Seed

Roundstone Native Seed, LLC
9764 Raider Hollow Road Upton, KY 42784

See Pages 30-7 and 30-8 for seeding charts.

The seed mix information was unavailable at the time of printing. It will be inserted for the next edition of the manual.

Side Oats Grama - Roundstone Seed

Roundstone Native Seed, LLC
9764 Raider Hollow Road Upton, KY 42784

See Pages 30-10 and 30-14 thru 30-18 for seeding charts.

The seed mix information was unavailable at the time of printing. It will be inserted for the next edition of the manual.

Virgina Wild Rye - Roundstone Seed

Roundstone Native Seed, LLC
9764 Raider Hollow Road Upton, KY 42784

See Pages 30-10 and 30-14 thru 30-18 for seeding charts.

The seed mix information was unavailable at the time of printing. It will be inserted for the next edition of the manual.

Special thanks to the following seed companies for providing Truax Company with a wide variety of mixes and monocultures to create our calibration tables

Ernst Conservation Seeds Inc. 8884 Mercer Pike Meadville, PA 16335 1-800-873-3321 http://www.ernstseed.com/	**Millborn Seeds Inc.** 1335 Western Ave. Brookings, SD 57006 605-697-6306 http://www.millbornseeds.com/
Native American Seed 3791 N. US Hwy 377 Junction, TX 76849 1-800-728-4043 https://www.seedsource.com/	**Osenbaugh's Prairie Seed Farms** 11009 542nd St. Lucas, IA 50151 1-800-582-2788 http://www.prairieseedfarms.com/
Pawnee Buttes Seed Inc. 605 25th Street Greeley, CO 80632 970-356-7002 http://www.pawneebuttesseed.com/	**Roundstone Native Seed, LLC** 9764 Raider Hollow Road Upton, KY 42784 270-531-3034 https://www.roundstoneseed.com/
Sharp Bros. Seed Company 1005 S. Sycamore Healy, KS 67850 620-398-2231 http://www.sharpseed.com/	**Stock Seed Farms, Inc.** 28008 Mill Road Murdock, NE 68407 402-876-3771 http://www.stockseed.com/

15) SEED PASSAGEWAY

Seed passageways for all boxes should be cleaned of cobwebs, etc. at the beginning of the season and checked periodically during use. Both the fluffy box and the cool season grain box use convoluted rubber hoses that are subject to plugging from small stems and chaff getting caught in the convolutions. Care must be taken when planting trashy, fluffy seed to watch for plugging of the seed tubes.

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. Before proceeding to drill after a plug, be sure to clean all debris from the seed passageway down to and including the furrow opener.

Backing the drill up with the planters down in the working position may cause a plug to occur. **DO NOT BACK THE DRILL UP WHEN THE OPENERS ARE IN THE PLANTING POSITION.** Plugging will also occur when a hose is kinked for a period of time and then straightened (which allows a slug of seed down the seed tube all at once).

Generally, hand collected seed must be cleaned before planting through a double disc drill. A broadcast planter such as the Truax Trillion, Pull Type Broadcast Seeder, or Seed Slinger can plant extremely dirty seed. Drill seeders such as the OTG need to have the seed commercially cleaned.

Sun and heat will at times collapse seed tubes and thereby cause plugging.

16) OPERATING SPEED

Operate the drill 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 drill and seed to soil contact. 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. Seeds tend to be "tossed" out of the furrow when the drill is operated too fast. When no-tilling, reduce the ground speed of the drill by 1/3.

17) DRILL 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.

18) SEED PLACEMENT & OPENER DEPTH

The depth of seed placement is dependent on 8 factors:

1) Diameter of metal depth bands.

2) Diameter and condition of opener discs.

3) Style of no-till coulters.

4) Depth of placement of no-till coulters.

5) Seed bed cover.

6) Pre-tillage of seed bed and post-tillage firming of seed bed before drilling.

7) Placement and tension of press wheel torsion spring. (part #10961 page 90-5)

8) Style of press wheel: Standard 7" V" press wheel (part#701093A1), optional 2" wide press wheel (part#01093A3), optional double 1" wide pinch wheels (part #1093PWA), and angular mounted cast iron press wheels (part #10941).

For the most part, the final seed placement will depend on a combination of the above factors and may be overshadowed by the specific soil types and moisture conditions found on a site.

Depth Bands: The five different diameter depth bands, 12-1/2", 12", 11-1/2", 10-1/2", and 9-1/2" when installed on planting discs will allow different amounts of exposed blade to create a narrow "V" slot for the seed to be deposited in to. For example, the standard band (12") when installed on a 13-1/2 new disc blade will allow 3/4" of exposed blade. This band/blade combination when used to plant in to firm, tilled seed bed will deposit the seed at about 3/8" to 1/2" deep.

Opener Discs: The standard opener disc on DTG drills is 13-1/2" new and when wear and usage reduces this to less than 13-1/8" - 13-3/16" the blades should be replaced because the depth of seed placement will be affected.

No-Till Coulters: The four styles of no-till blades will provide differing amounts of litter disturbance in front of the planting discs. The depth of seed placement is in part a reflection of the disturbance the no-till coulter makes in the litter and root mat prior to having the double disc with depth band deliver the seed in to the soil envelope. If the litter is not penetrated, and the seed is not deposited in to mineral soil, there will be less germination and establishment. a) The 13-1/2" Trash Plow blade, (#5301) is mounted at an angle to vertical and at an angle to line of travel. This blade combination is the most aggressive and is ideally suited to sod seeding, roadside sites and other difficult conditions. Care must be exercised when using it on sod sites so that ribbons of sod aren't brought up with little soil to cover the seed. Also, care must be exercised on sites where you go from bare ground to sod conditions because the blade will cut deep in to bare ground with resulting poor placement of the seed. b) The 18" Trash Plow blade (#5302) is mounted perpendicular to the ground and parallel to the line of travel. This results in a minimum of litter disturbance and is ideally suited to heavy residue conditions typically found when planting corn ground or similar. c) The 18" flat blade with a 2 4 wave ripple edge, mounted on a caster style shank creates the least disturbance and therefore is suited to sites subject to erosion and small amounts of litter. d) The 18" flat blade with a 1 3 wave ripple edge, mounted on a caster style shank is suited to sites that would tend to "snow plow" if one of the concave Trash Plows were used.

No Till Coulters - Depth of Placement: Increased penetration of the double discs can be achieved by lowering the no-till coulters that run ahead of the double discs. A simple change of depth bands will not get deeper seed placement if the bands are held up and ride on top of litter. Therefore lowering the no-tills to a deeper position than the standard placement will allow the double discs with depth bands to run lower and place the seed deeper.

Seed Bed Cover: Corn clods, bare ground, sod all affect the ability of the double disc openers to create a furrow in the soil to receive the newly planted seed. A combination of opener discs with depth bands, leading no-till coulters and operator finesse/skills will determine the success of seed placement.

Seed Bed Tillage: Cost of labor, loss of moisture, and erosion control are all served by reduced tillage and in turn the amount and type of tillage affect the seed placement. Seed planted through a double disc opener with depth bands in to a seedbed that has been worked by a leading no-till coulter to expose mineral soil will provide labor, moisture loss and erosion control benefits. Similarly, prepared seed beds that have been post tillage rolled, and firmed will provide the best depth of seed placement of planted seeds. Increased economics can be achieved and as well as reduced erosion when the leading press wheel, (part# 4211) is mounted on the caster style no-till mount. This units rolls and firms a 4" band in front of the double disc planter while leaving the 3-1/2" strip between rows loose and friable to allow moisture absorption.

Press Wheel Tension: The position of the spring tang (part# 109617 page 90-5) on the boot casting, (part# 08887 page 90-5) will affect the down pressure the press wheel exerts on the soil surface.

Press Wheel Styles: a) The standard "V" press wheel, (part# 01093A1) presses a firm "V" behind the double disc opener and does the best job of keeping the seed shallow and in firm soil to seed contact. b) The 2" wide press wheel (part# 01093a3) presses the seed deeper in to the "V" slot and fills the "V" and packs the seed deeper. c) The double 1" pinch wheel packers (part# 1093PWA) moves and covers the seeds deeper. d) The cast iron press wheel (part 10941) breaks down side walls and moves and crushes soil lumps as it covers the seed.

19)SEED FILLERS/EXTENDERS

Fillers/extenders such as vermiculite, kitty litter, rice hulls, and cotton seed hulls are good fillers/extenders when you want to reduce seeding rate. It is not recommended to use fertilizer/sand because of their corosive actions to seed meters.

20) WILDFLOWER

When sowing wildflower seed at a very low rate (grams/acre, ounces/acre), it is suggested that the grass mix be put in the seed box for a pre-determined # of acres. Then the operator will sprinkle the corresponding quantity of wildflower for the same area into the seedbox on top of the grass without further mixing of the seeds, and then proceed with planting. The stirring of the agitators will mix the wildflower in to the other seed in the box.

21) DIGITAL ACRE METER

The Danaher acre meter is field programmable. Your Truax drill digital acre meter has already been programmed to the specific specification of your drill. However, should the the need arise to reprogram the meter due to changes in seed rates or tires, the following is a guide to help you arrive at the programmed number, which is the amount of revolutions the clutch shaft will rotate when planting one acre.

Step 1: Determine the circumference (in feet) of the drive wheel.

Measure the diameter (D) of the drive wheel in inches of your drill. Enter this number into the formula for circumference (C). C = (3.14 x D)/12

Example: for a 22-1/4" wheel diameter

C = (3.14 x 22-1/4)/12 which equals 5.822 feet.

Step 2: Determine the distance (in feet) your drill needs sto travel to plant one acre.

To determine the distance, use the table below.

Drill Model	Planting Width (ft)	Distance drill needs to travel to plant 1 acre (ft)
7508	5	8,712
7512	7.5	5,808
7518	10	4,356
7516	11.25	3,872
7522	13.75	3,168

Note: The distance the drill needs to travel to plant one acre is determined by taking the square feet in one acre (43, 560 sq. ft.) and dividing it by the planting width.

Step 3: Determine the number of revolutions the drive wheel will rotate while planting one acre.

To determine this number, take the distance the drill needs to travel to cover one acre from the table above and divide it by the circumference (C) of the drive wheel (from step 1).

Example: For an OTG 7508 model

The number of drive wheel rotations in one acre = 8,712 ft divided by the circumference (C) 5.822 feet which equals 1496.39 revolutions.

Step 4: Determine the number of revolutions the clutch shaft will rotate when planting one acre.

From the table below, determine the decimal fraction number of your drill. Take this number and multiply it by the number of revolutions the drive wheel rotates when planting one acre (determine from step 3).

Drill Model	Decimal Fraction Number	Sprockets that deremine decimal fraction number
OTG MODELS	0.3333333	26 tooth sprocket at the drive wheel drives another 26 tooth sprocket locatied just above it on the drive shaft- on the other end of the drive shaft is a 18 tooth sprocket driving a 54 tooth sprocket located on the clutch. (26/26) x (18/54) = 0.3333333

Example: for OTG 7508 Model

Number of revolutions the clutch shaft will rotate when planting one acre = 0.33333 (from table above) x 1496.39 (from step 3) which equals 498.80.

The number of revolutions of the clutch shaft per one acre of planting is the number to program into the digital acre meter)rounded to nearest tenth which is 498.8)

If using output reduction, reduce the number of revolutions of the clutch shaft per one acre of planting by half.

NOTE:

If a seed mix is not shown in any charts, please contact Truax company through email and let us know the seed and we will include it in future copies of the manual. Your opinion is valuable to us.

Email: Truax1@qwestoffice.net or Truax3@qwestoffice.net

TABLE OF CONTENTS

MAINTENANCE & SERVICE

TABLE OF CONTENTS

PROPER MAINTENANCE & SERVICE

Proper maintenance and service of the drill will save time and increase the life of the drill.
Drill Model OTG-7522 is driven from both ends of the machine.

1) 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.

2) LARGE (FLUFFY) SEED BOX

Problems caused by shaft interference between the picker wheel shaft (part #2003) and the transitions (part#1033 and #10333) 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.

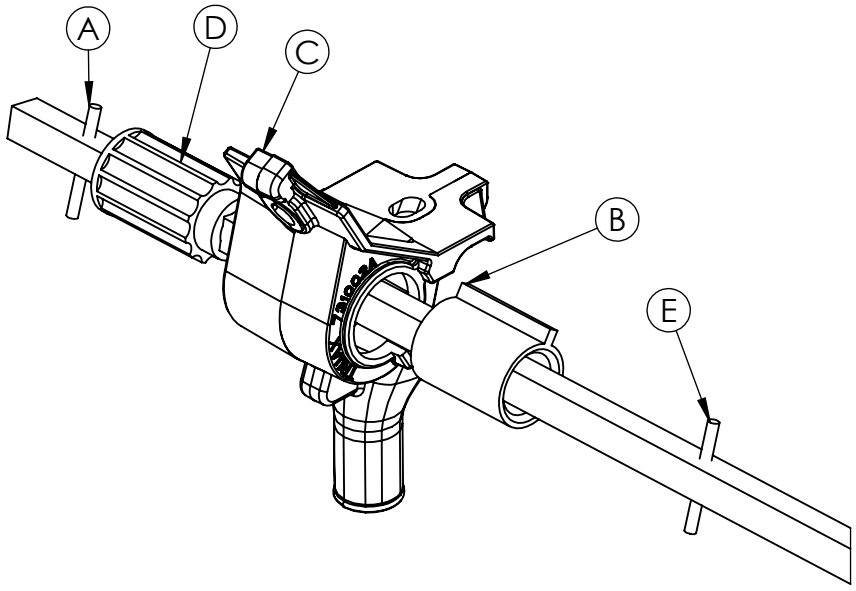
When removing or adjusting the picker wheels, (part #2002) remove the set screws entirely, as they tend to screw themselves in and tighten up again during shaft removal. Use a plastic or lead hammer when removing the shafts from the drill so the shaft ends do not become marred.

One of the most common issues is that rocks, garbage, empty seed bags, tools, bolts & nuts, and other debris get thrown into the box. This debris gets caught on the picker shaft and causes it to twist, therefore damaging it. KEEP seed and box clear of debris.

The removal of the fluffy seed box shaft is best accomplished by using a cordless "saws-all" (hacksaw) and cutting the shaft in several pieces, next to each bearing mount, and removing the pieces for further disassembly. Secure the shaft pieces in a vice before sawing beside each picker wheel. After inspection of the individual picker wheels for damage, remove the set screws before beginning reassembly. Take note of the picker wheel rotation so that they can be reinstalled in a similar manner. The picker wheel hub, or boss will always be to the right when standing at the rear of the drill looking forward. After installing new shaft, attach sprocket and align it with its drive sprocket, followed by tightening the bearing set screws. Next, align the picker wheels in the slot in the bottom of the seed box and tighten their set screws. Lastly, reinstall transitions, seed hoses, and drive chains.

3) 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.

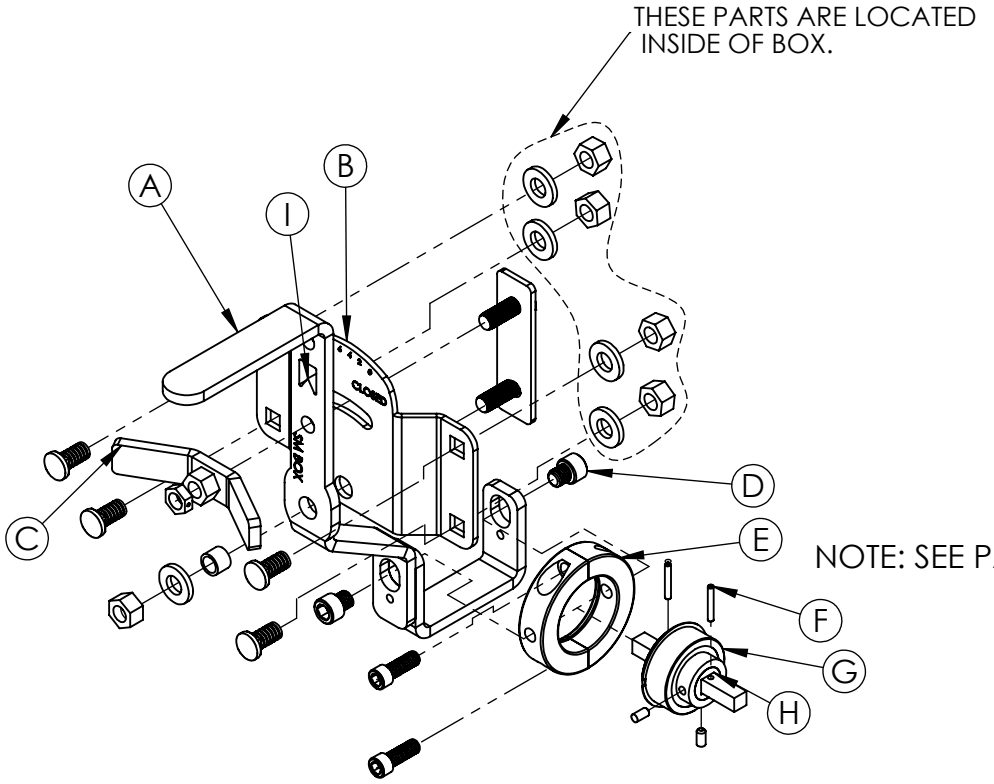


A	Roll Pin
B	Cut Off
C	Seed Cup
D	Fluted Roll
E	Roll Pin

Fig. 40-1

NOTE: SEE PAGE 90-24 FOR PART #s'

4) SMALL BOX SHIFTER



NOTE: SEE PAGE 90-26 FOR PART #s'

Fig. 40-2

A	Handle	F	Roll Pin
B	Mount	G	Bearing
C	Wing Nut	H	Sleeve-Square
D	Socket Head Cap Screw	I	Arrow
E	Collar		

The shifter assembly controls the output from the small seed box by changing the amount of fluted feed rolls that are in the metering cups. By shifting the handle (A) left more of the flutes enter in to the cups and therefore feed more seed. As the arrow (I) of the handle (A) moves across the hash marks on the mount bracket (B), the seeding rate changes. Each hash mark represents about 1/4" of movement in the position of the seed box metering shaft. Moving the handle left increases output and moving it right decreases output.

This is for the small box only. When moving the cool season shifter handle left, it decreases the output and moving it right increases the output.

5) COOL SEASON SEED BOX

On a daily basis when planting dense seed that tends to settle and compact, before starting to drill, 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.

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

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.

Star washer inside seed cup is removable.

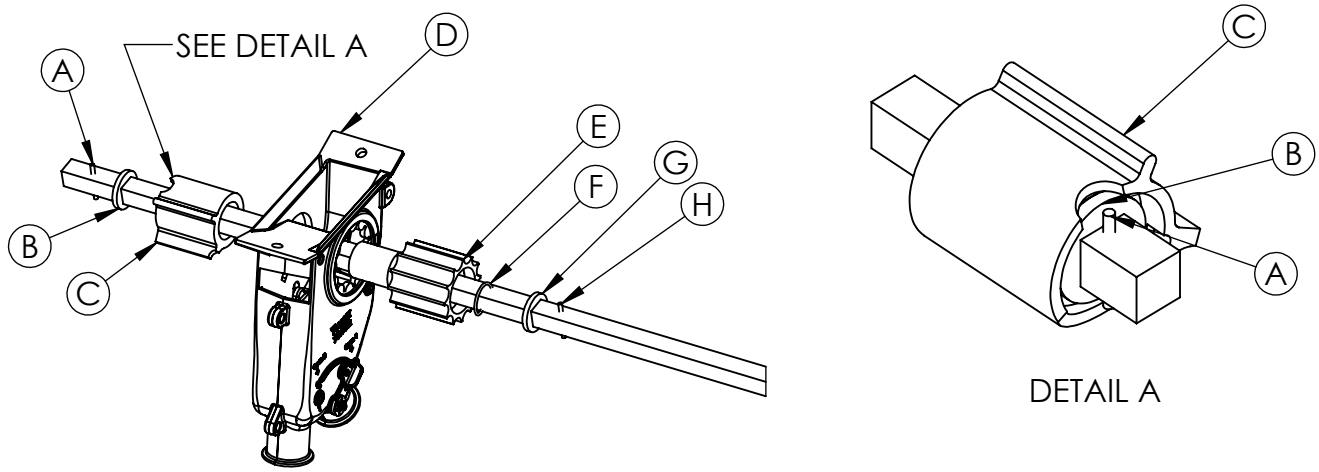
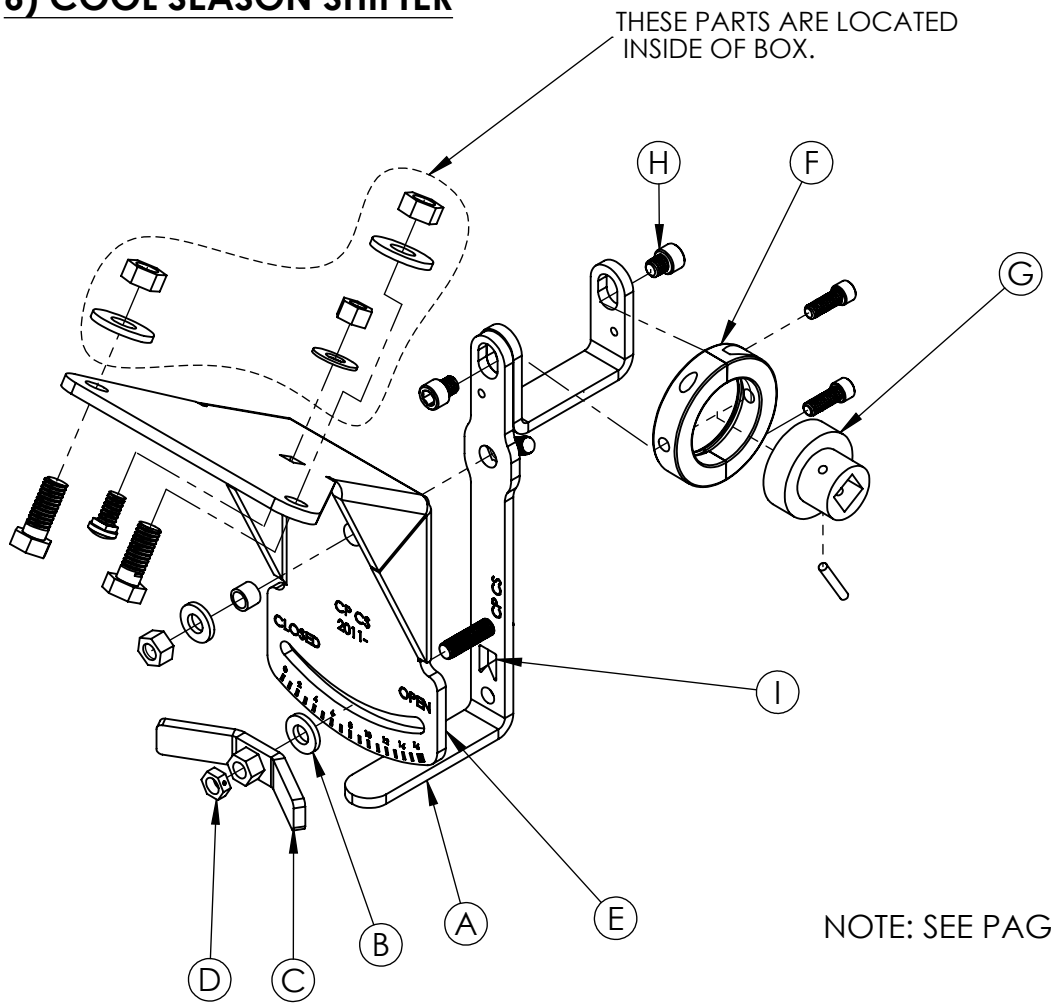


Fig. 40-3

NOTE: SEE PAGE 90-28 FOR PART #s'

A	Roll Pin	E	Fluted Roll
B	Washer	F	Spring
C	Cut Off	G	Washer
D	Seed Cup	H	Roll Pin

6) COOL SEASON SHIFTER



NOTE: SEE PAGE 90-31 FOR PART #s'

Fig. 40-4

A	Handle	F	Collar
B	Washer-Plastic	G	Bearing
C	Wing Nut	H	Socket Head Cap Screw
D	Nut	I	Arrow
E	Mount		

Moving the handle left decreases the output and moving it right increases the output.

7) COOL SEASON FEED CUP

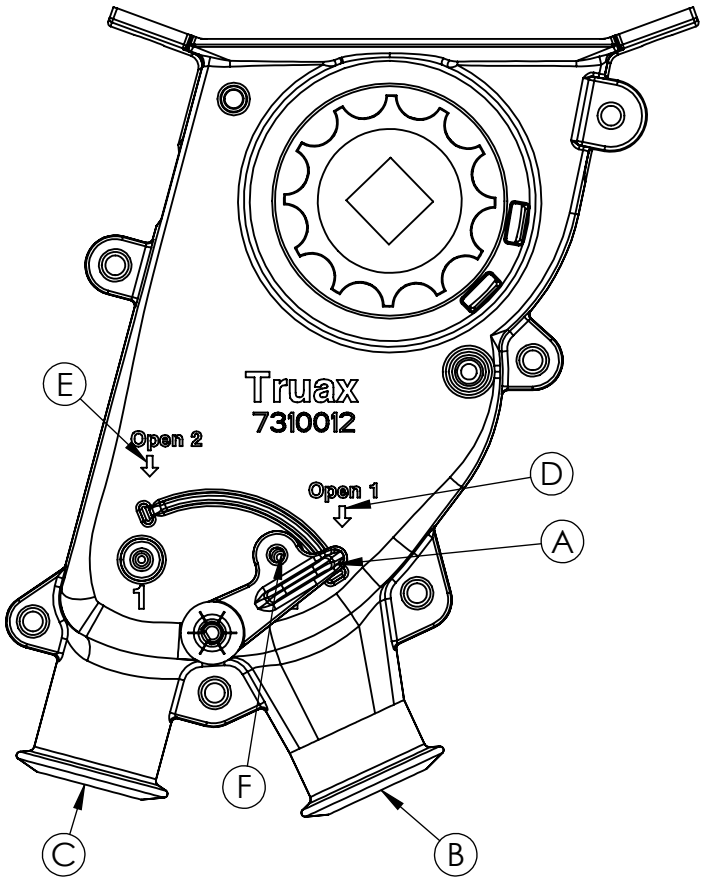


Fig.40-5

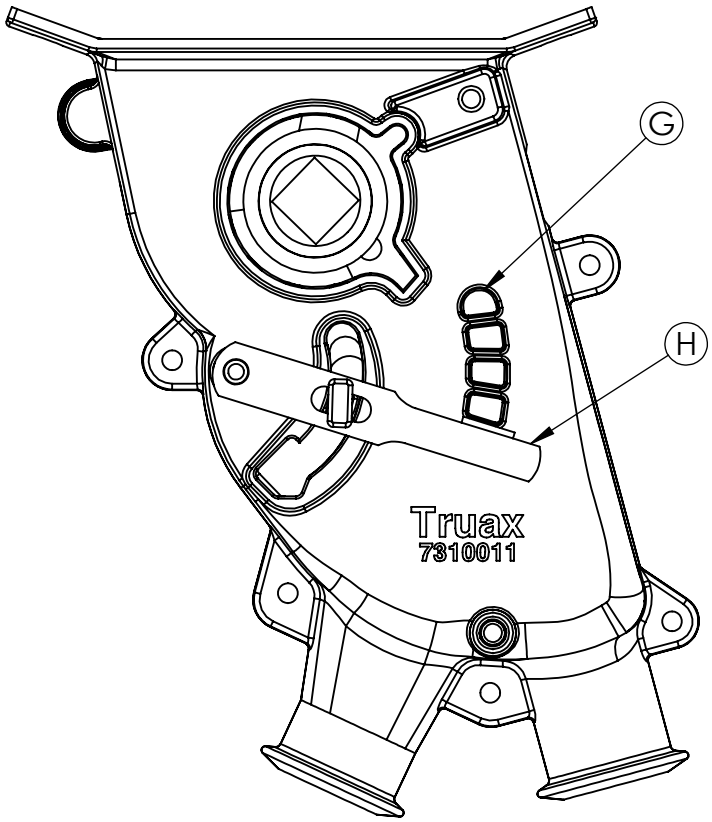


Fig. 40-6

A	Lever	E	Open Position 2
B	Spout 1	F	Screw
C	Spout 2	G	Lowest Position
D	Open Position 1	H	Lever

The dual spout meter cups are designed to be used on different models of Truax equipment and help provide as straight of a line seed drop from seed boxes to planters as possible. Depending on planter configuration, different spouts may be used on the same drill.

On the right side of the seed cup, from rear of drill, the small plastic lever (A) has a retention screw (F) holding the lever to the "Open 1" position which will direct the seed to spout 2 (C). If you want seed directed to spout 1 (B) then move retention screw to "Open 2" position.

The flow of seed as measured by the engagement of the fluted feed roll is controlled, in part, by the position of the metering lever/gate (F). If the metering lever/gate is in the lowest position (G), then all seed and material is free to fall out of the cup. The drill should be left in this, the clean out position, at the end of the season, when in storage. As the lever is moved up, the flow of seed is restricted and controlled; however, care must be exercised so that seeds such as soybeans don't get scratched or cracked.

7) COOL SEASON FEED CUP

(CONTINUED)

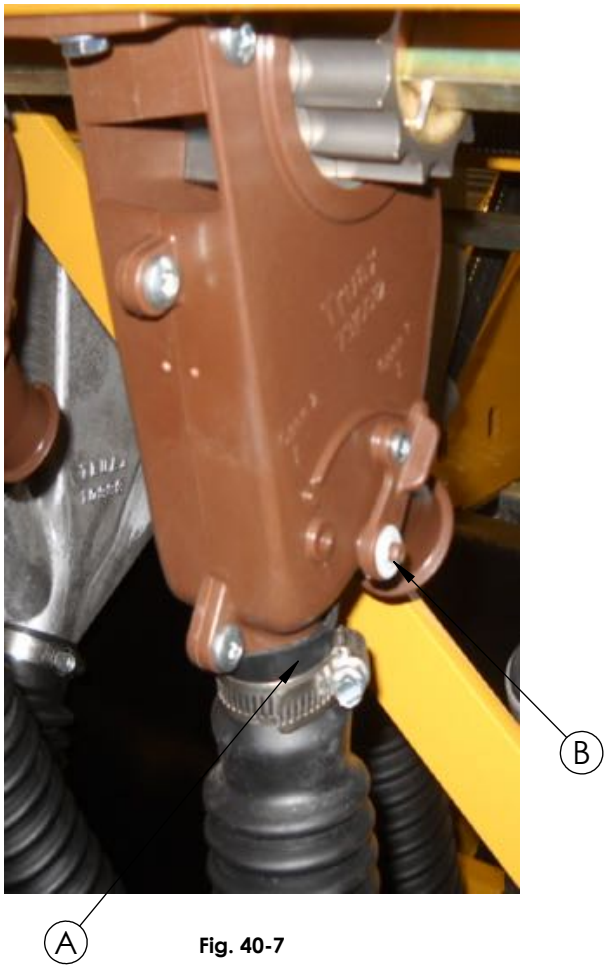


Fig. 40-7

Fig. 40-8

A	Seed Delivery Tube
B	Plastic Lever
C	Metal Lever/Gate

The choice of metering spout is made at time of drill assembly. The seed delivery tubes must be as straight as possible.

7) COOL SEASON FEED CUP

(CONTINUED)

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.

1) Open the feed gate levers.

2) Start at the end of the drill 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.

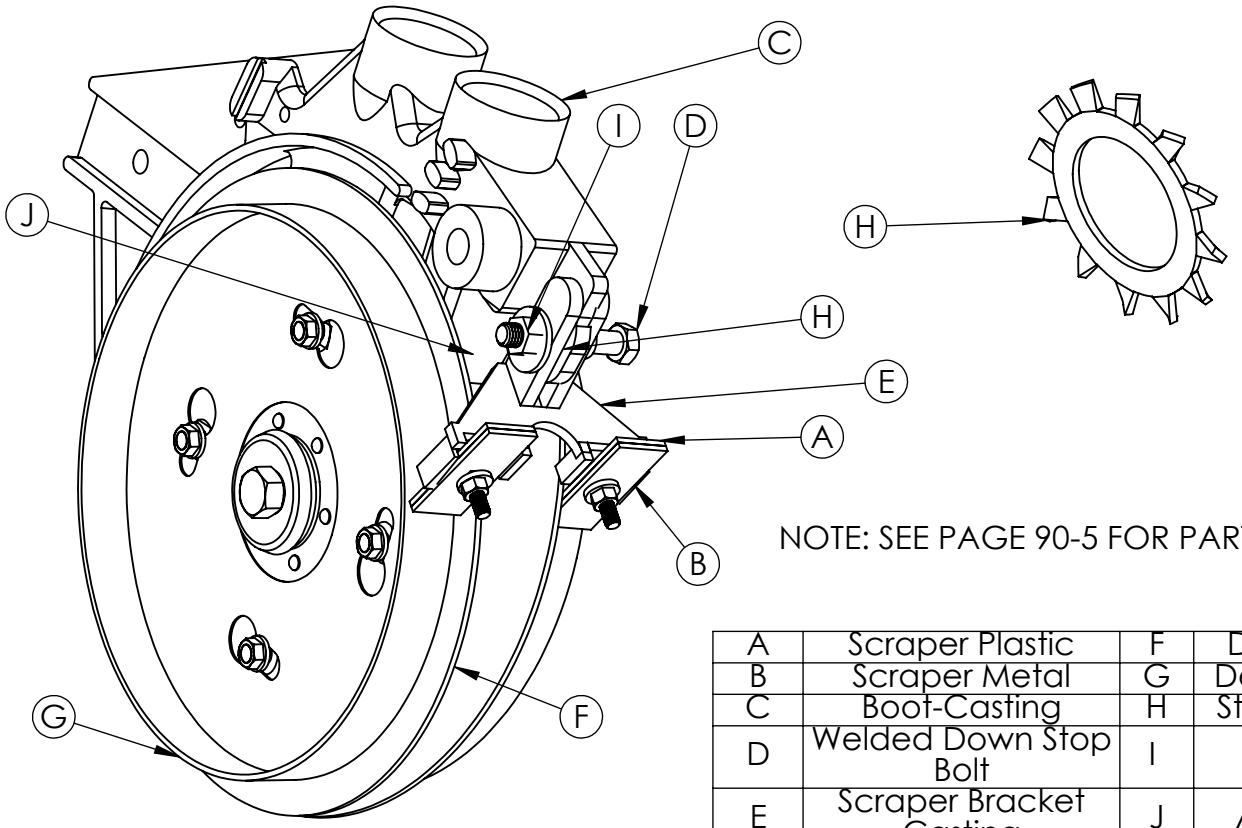
1) PLANTER INFORMATION

Depth of seed placement and soil contact of the planted seeds are the result of the position and functionally of the planters' mud scrapers. Truax drills utilize three individual mud scrapers on all opener assemblies and their care and maintenance will be reflected in the position of the seed in to the soil envelop. Scrapers should be checked daily or every 100 acres for wear and alignment.

DEPTH BAND SIZE	EXPOSED BLADE EDGE	PLANTING DEPTH	SCRAPPER ASSEMBLY #	RIGHT-HAND SCRAPER #	LEFT-HAND SCRAPER #
9-½ (#1097F)	2"	1"-(1-1/2)"	10845FA	10845F-RH	10845F-LH
10-½ (#1097D)	1-1/2"	5/8"-3/4"	10845DA	10845D-RH	10845D-LH
11-½ (#1097)	1"	1/2"-5/8"	10845A	10845-RH	10845-LH
12 (#1097C)	3/4"	3/8"-1/2"	10845CA	10845C-RH	10845C-LH
12-½ (#1097A)	1/2"	1/8"-1/4"	10845BA	10845B-RH	10845B-LH

OTG drills are manufactured with 12" depth bands as a standard.

2) REAR SCRAPER ASSEMBLY



NOTE: SEE PAGE 90-5 FOR PART #s'

A	Scraper Plastic	F	Disc Blade
B	Scraper Metal	G	Depth Band
C	Boot-Casting	H	Star Washer
D	Welded Down Stop Bolt	I	Nut
E	Scraper Bracket Casting	J	Assembly

Fig. 40-9

Poly depth band scrapers - UHMW (A) cleans the horizontal depth bands and the vertical blades above the depth band. This scraper should be installed with a 1/8" gap between it and the depth band. Scraper backing plate spring steel material (B) provides support and rigidity to the poly scraper. Install with a 3/16" gap between it and depth band (G).

The single attachment bolt (D), holds depth band scraper bracket to the boot casting (C) and is critical in preventing the bracket from rubbing on and causing the disc blades not to turn. During set up and at times of maintenance, if there is interference between the bracket (E) and discs, insert screwdriver, or other tool to rotate and lift bracket slightly upward. At the time the planters are assembled, there is a star washer (H) inserted between the ear on the scraper bracket, the boot casting (C), and the bolt (D) goes through and is tightened in place with the nut (I). This attachment prevents the scraper bracket (E) from turning and contacting the boot casting (C).

EXTREME SITE CONDITIONS: Very loose seed beds and muddy conditions cause dirt and mud to build up on top of scraper bracket (E), and drop down and around the disc blades. This in turn causes the blades to stop turning and lock in place. In these circumstances, it may be necessary to remove the entire scraper assembly (E, A,B) before returning the bolt (D) and attaching nut (I) to the boot casting (C). When returning to normal planting conditions reinstall the scraper bracket and scrapers to their original position. "O" and "I" must be reinstalled (even when "E" is removed) because they serve as the down stop for the "h" frame.

3) FRONT (VERTICAL) SCRAPER ASSEMBLY

Spring steel, spring loaded scrapers clean vertical disc blades. There are several interchangeable sizes to fit different depth bands and diameters. Standard scrapers, to fit 12" depth bands can be reversed, LH to RH to fit 11-1/2" depth bands. Simply move scraper (D) to the position of (E) and (E) to the position of (D). If scrapers are not tight against the disc blades, then tighten nut (A) one or two turns.

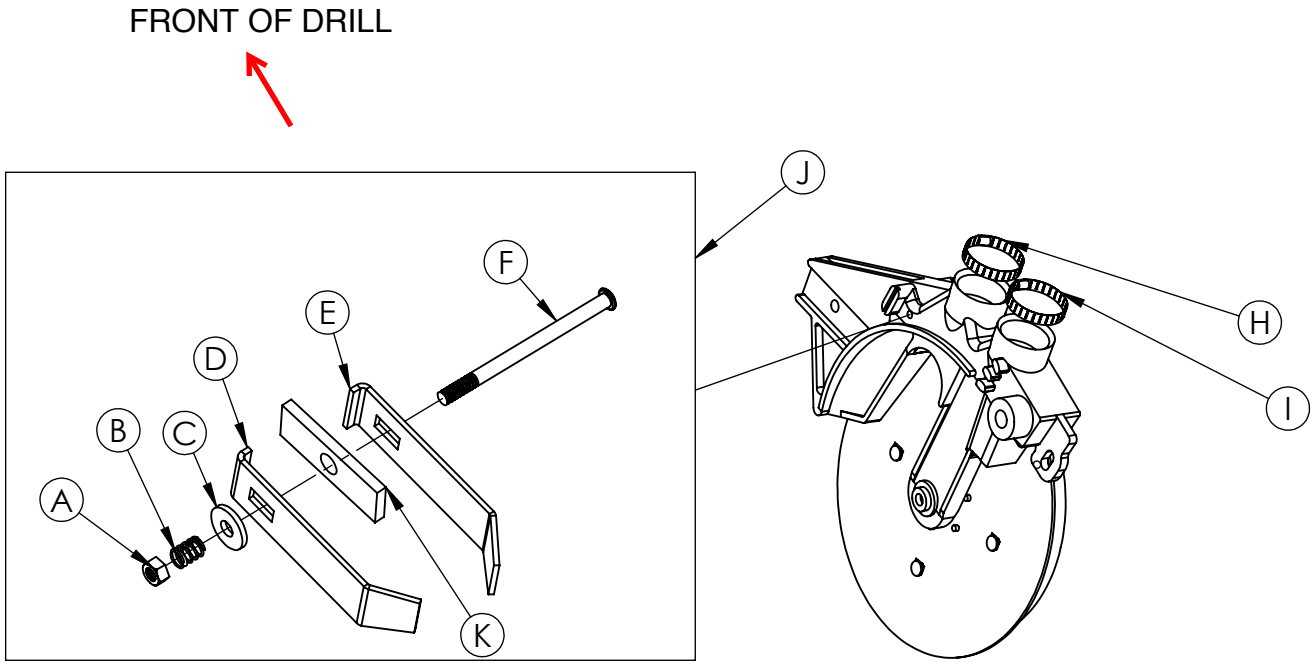


Fig. 40-10

NOTE: SEE PAGE 90-5 FOR PART #s'

A	Nut	F	Carriage Bolt
B	Spring	H	Hose Clamp
C	Washer	I	Hose Clamp
D	Sraper LH	J	Assembly
E	Scraper RH	K	Boot Casting

4) INSIDE SCRAPER ASSEMBLY

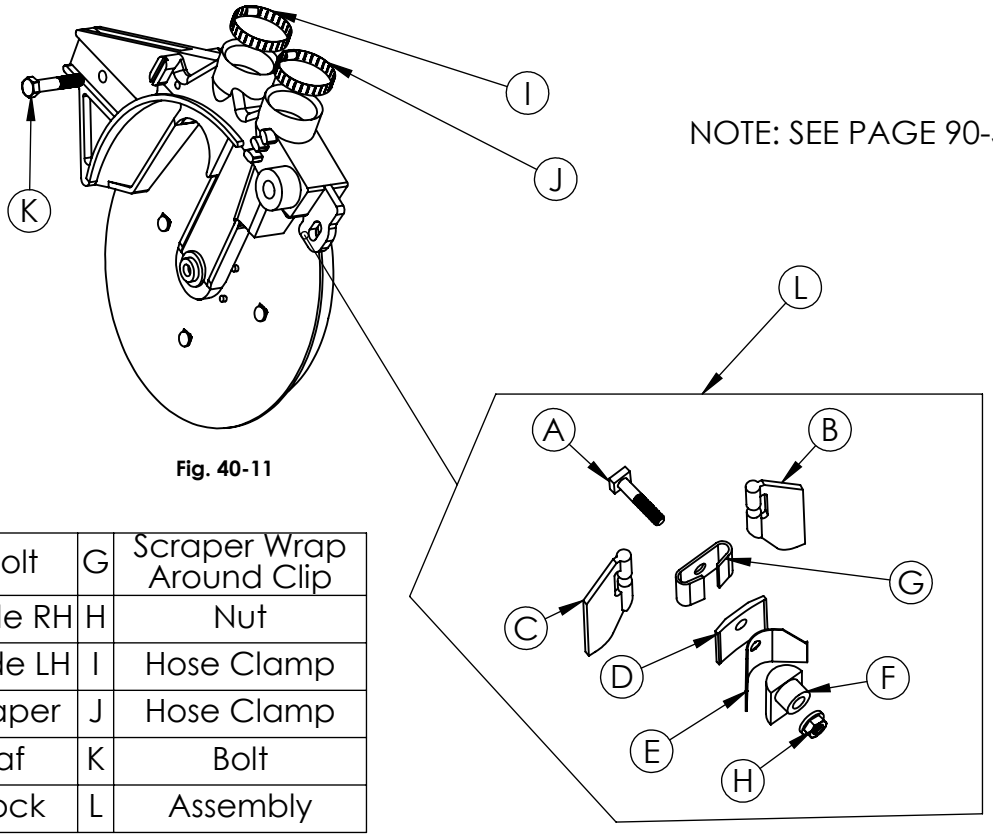


Fig. 40-11

NOTE: SEE PAGE 90-5 FOR PART #s'

A	Sq Head Bolt	G	Scraper Wrap Around Clip
B	Scraper Blade RH	H	Nut
C	Scraper Blade LH	I	Hose Clamp
D	Spacer-Scraper	J	Hose Clamp
E	Spring Leaf	K	Bolt
F	Scraper Block	L	Assembly

Spring loaded cast iron wipers clean inside of discs which prevent the blades from being spread apart when they rotate 360 degrees. To check condition of assembly, it will be necessary to remove scraper bracket assembly (L) so that you can observe the cast iron wipers (B & C) and the tightness of the scraper retaining nut (H). The wipers (B & C) should have uniform wear and be firmly against the discs. There should be 1 to 4 threads on scraper bolt (A) exposed.

The disc blades should be firmly together for a distance of 2-3/8" and be loose enough for two pieces of paper to be pulled between them. The blades should freely be turned with one hand and if not shims (1100) should be added.

The disc bolts, K-501M & K-500M should be torqued to 130-135 lbs.

PLANTERS

Installation of new scrapers is best done when the blades are being serviced.

1. Remove the planter assembly (remove two hose clamps (I&J) and one 1/4" bolt (K) that holds the planter to the lift bracket (see page 40-12).

2. Pull the entire assembly from the drill, turn upside down, and clamp boot casting in to a vise (see page 40-14).

3. From the rear of the assembly, closest to the press wheel, remove the left disc blade, this disc bolt will have a right hand thread, then remove 1/4" nut (H) and remaining parts from scraper assembly. Clean and inspect parts as you install new inside scraper assembly (see page 40-12).

4. Insert 1/4" x 2 1/2" square head bolt (A) 2" long in to the hole provided in the boot casting (see page 40-12).

5. With wipers attached to clip (G), slide on to 1/4" Bolt. Then slide the black plastic spacer (D) with flat back facing the clip on the bolt (see page 40-12).

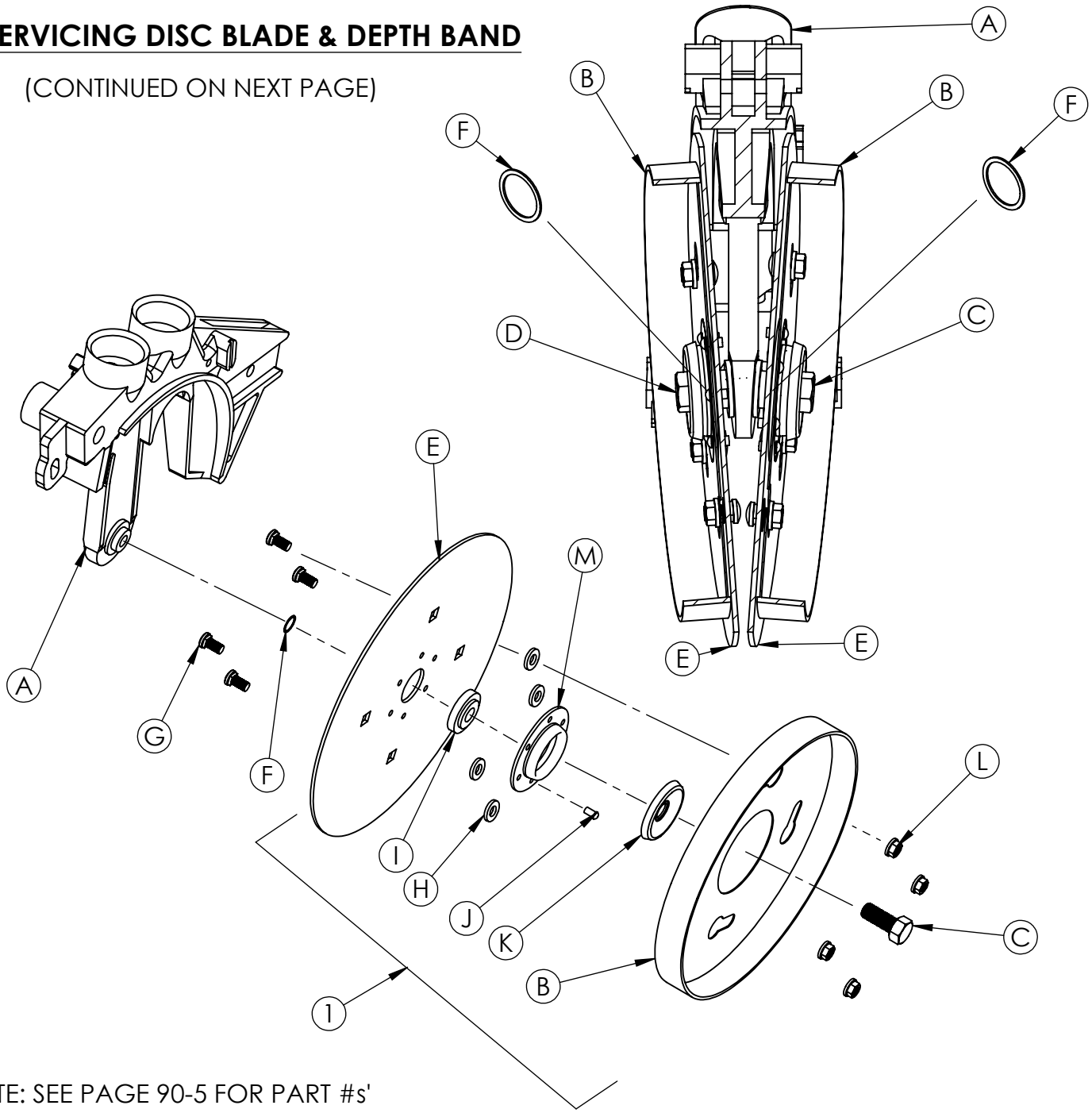
6. Then slide the flat spring (E) on to the bolt, noting the orientation of the slopes of the spring, followed by the second plastic block (F) with a rounded back (see page 40-12).

7. The flange nut (H) with a smooth back is then attached. Screw on so that there are no threads exposed on the outside (see page 40-12).

8. If both disc blades have been removed, reattach the first one with 2 bushings (#1100) under the blade as it is reattached to the boot casting. Then reattach the second blade, also with 2 bushings (#1100) under the blade. The scraper assembly should be toshed by hand to get the wipers to lay flat against the blades and hang freely. If the assembly is loose and sloppy, turn nut (H) in one or more turns. Apply a drop of green loctite (see page 40-12).

5) SERVICING DISC BLADE & DEPTH BAND

(CONTINUED ON NEXT PAGE)



NOTE: SEE PAGE 90-5 FOR PART #s'

Fig. 40-12

A	Boot Casting	F	Spacer	K	Cap
B	Depth Band	G	Carriage Bolt Short Neck	L	Nut
C	Hex Head Cap Screw RH	I	Bearing	M	Case
D	Hex Head Cap Screw LH	H	Washer	1	Assembly
E	Blade	J	Rivet		

5) SERVICING DISC BLADE & DEPTH BAND

(CONTINUED)

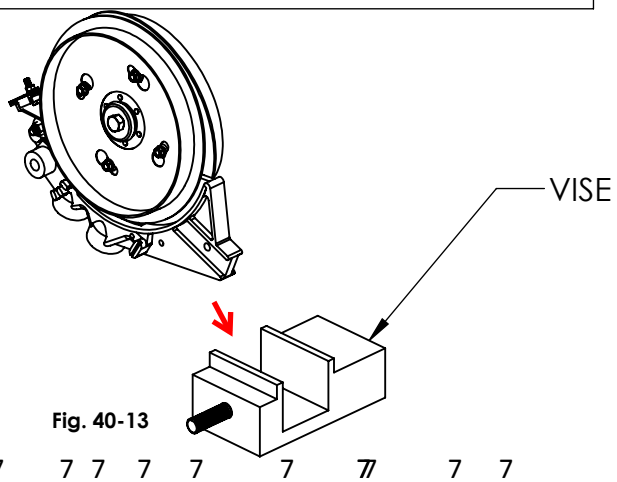


Fig. 40-13

Service of the disc blades is easiest accomplished by removing the planter assembly and placing the assembly upside down in a vice as shown. Start by removing bolt (K) and two hose clamps (I&J) as shown on page 40-12 and remove planter assembly.

Seed placement is directly affected by the disc blades, depth bands, and scrapers. Renewal or replacement of the disc blades is dependent of the diameter of the discs. New blades, item (E) on page 40-13 are 13-1/2" in diameter when new and will continue to be functional until they are worn down to less than 13-3/16" diameter. Therefore new bearings can be installed on blades this size or larger; however, when worn smaller it would not be cost effective because the blades would be too small before the bearings are worn out.

Note: Blades smaller than the 13-3/16" could be used with smaller depth bands for deeper seed placement and still be functional.

Note: Remember, the left hand disc bolt (K501M) when seen from rear of drill facing forwards, has left hand threads and must be rotated accordingly.

After blade removal, inspect scrapers for wear or damage and replace as needed, page 40-12. Again, check blades for their size - a minimum of 13-3/16". Blades can be serviced by grinding rivets (J) page 40-13 and installing new bearings and bearing cases. Old cases can be reused if the bearings have a press fit; otherwise replace both as a unit. **The bearing cases must be riveted, using #16H630 rivets (Steel), because a bolted assembly will fail within 100 acres or less.**

Depth bands must be serviced so that they lay on to the blades and are not out of round. Remove from the blades, stand on a anvil or vise, and use ball peen hammer to pound out dents. Most bands can be straightened one or two times before requiring replacement. Bands with broken welds generally will require replacing.

Reassembly begins with the servicing or replacement of inside scraper assembly, (L) page 40-12. Reinstallation of blade, case, and bearing is accomplished by inserting bolt (C) page 40-13, through cap (K) before going through the blade assembly. Before threading in to casting (A), apply several drops of lock-tite (blue) on to the threads, and put two spacers on before threading in to the casting. Before tightening, check scrapers (C & B) page 40-12 to make sure they are correctly orientated. Also check scraper spring (E) for its orientation, page 40-12. Install second blade assembly following the same procedure.

NOTE: Before proceeding again, check inside scraper assembly (L) page 40-12 to confirm it is free from binding against the disc blades.

After installation of both disc blade/depth band assemblies there should be approximately 2-3/8" of blade contact at the point the blades enter the ground. At point of contact you should be able to pull two pieces of paper between the blades. The gap should be between .006" and .060". If you cannot turn one blade at a time it is necessary to install another spacer shim on the disc bolt (K500M & K501M) before threading them into the boot casting.

Reinstall rear scraper casting, white poly scrapers and spring steel metal backing plates as per page 40-10. Follow instructions, page 40-10, to adjust scrapers to prevent interference and binding of blades and boot casting. Install outside scrapers to clean vertical disc blades. Position and adjust to provide clean disc blades. Do not over tighten nut (A) page 40-11 because it will lead to bent scrapers (D & E) page 40-11.

6) LEADING PRESS WHEELS

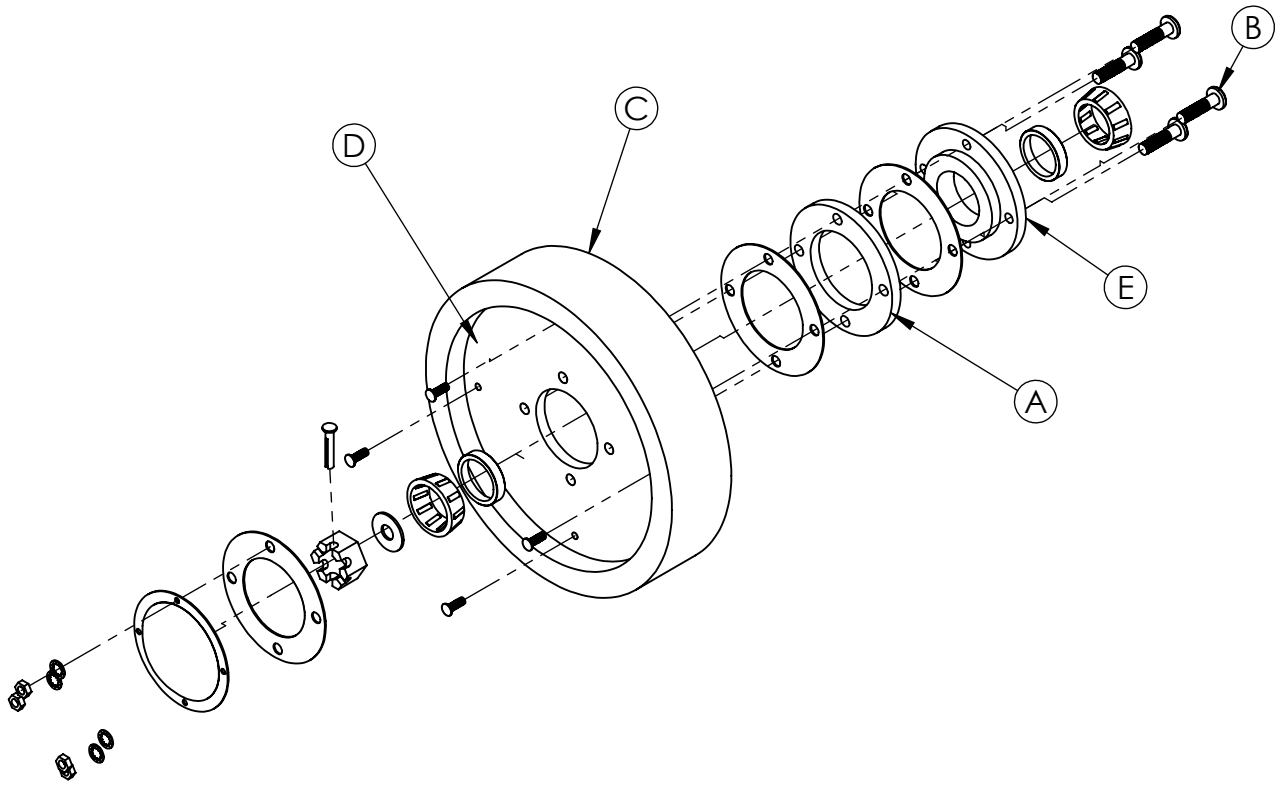


Fig. 40-14

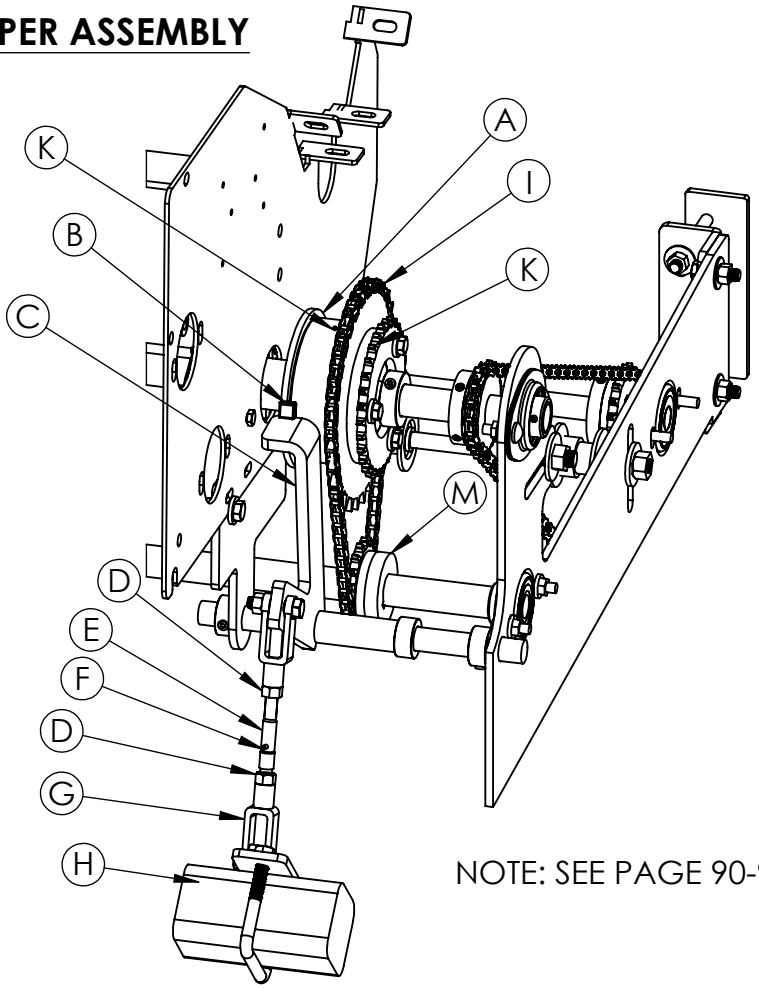
NOTE: SEE PAGE 90-67 FOR PART #s'

A	Spacer	D	Wheel
B	Carriage Bolt	E	Hub
C	Tire		

The leading press wheels are interchangeable with the caster style no-tills that use 18" flat blades, either 13 or 24 waves, on DTG drills. Their primary use is on seed beds that are too loose and must be firmed before planting. **An important advantage is that the seed bed is only firmed above the planted seed and the 3-1/2" between rows is left loose and friable for water percolation without having the rill erosion that is common to rolled fields.**

To change from no-till to leading press wheels, you must remove the four carriage bolts (B) and change to a longer length. Next add spacer (A) (either two 1/4" spacers or one 1/2" thick which spaces the press wheel away from the units leg). This is followed by adding the wheel and tire (D/C) and replacing the dust cap and nuts. When changing from a no-till blade to a leading press wheel, the bearings and seals are not removed or serviced. A grease zirk on the back of hub (E) should be serviced every 100 acres.

1) CLUTCH TRIPPER ASSEMBLY



NOTE: SEE PAGE 90-9 thru 90-15 FOR PART #s'

Fig. 40-15

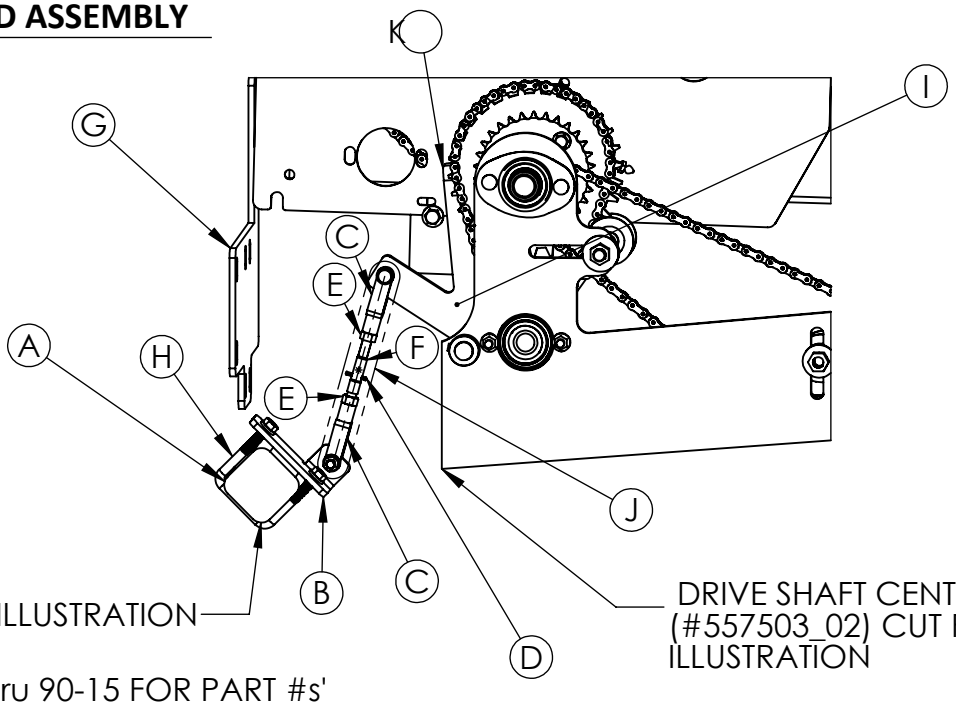
A	Clutch Housing	E	Spring	I	Sprocket
B	Tripper Dog	F	Roll Pin	J	Grease Zirk
C	Clutch Tripper	G	Clevis	K	Sprocket
D	Nut	H	Rock Shaft	L	Sprocket

The clutch is tripped and power to turn the shafts in the seed metering cups stops when the planters are hydraulically raised and the rock shaft (H) rotates and moves the tripper (C) towards the tripper dog (B) that is part of the clutch housing (A). When the planters are in the full up position, the tripper (C) should be within 1/8" of contacting the clutch housing (A). If by chance the tripper (C) contacts the tripper dog (B), there is an over ride spring (E) in the trip rod to prevent damage to the assembly. Adjustment of this gap can be gotten by loosening the two nuts (D) and turning the clevises (G) in or out to achieve the proper length.

Clutch Greasing: The grease zirk (K) for the clutch assembly is located on the left side of 54 tooth clutch sprocket (I)

Clutch Output Reduction: Increased output to all seed boxes is achieved when the chain is moved from sprocket (I) to sprocket (K). This output increase is about 45% depending on the specific seed box. Sprocket (L) needs to be moved to align with either (I) or (K) depending on which one is being used.

2) CLUTCH TRIPPER ROD ASSEMBLY



FEMALE END INSTALLED ON TOP WITH OPEN END DOWN

ROCKSHAFT VIEW FOR ILLUSTRATION

DRIVE SHAFT CENTER PLATE (#557503_02) CUT FOR ILLUSTRATION

NOTE: SEE PAGE 90-9 thru 90-15 FOR PART #s'

Fig. 40-16

A	Rockshaft	E	Nut	I	Clutch Tripper Engager
B	Clutch Tripper Bracket	F	Spring	J	Clutch Tripper Rod Assebmly
C	Clevis	G	Center Plate Support	K	Clutch Dog Tripper
D	Roll Pin	H	U-Bolt		

The clutch tripper rod assembly (J) is moved when the planters are hydraulically raised or lowered and the rockshaft (A) rotates and moves the assembly either up or down. The attachment of the clutch tripper rod assembly to the clutch tripper engager (I) is the linkage that will trip the clutch dog tripper (K) and deactivate the clutch rotation when in the transport mode and thereby stop the metering of the seed.

The clutch tripper rod assembly consists of two rods with attached clevises, a spring and a roll pin. The female rod assembly end with attached clevis must be installed on top so the open end is down. An anti-seize material should be applied to the male end before the spring is installed and the two halves are attached with the roll pin. The spring override provides flexibility in the event the clutch trip engager hits the clutch dog tripper when the planters are being raised.

Proper maintenace and lubrication of this assembly is important otherwise the clutch tripper rod assembly with attached clutch trip engager will not trip the clutch dog tripper.

3) OUTPUT REDUCTION

Coarse output reduction is achieved by moving sprocket (O)left or right to alight with either (M) or (H). The (H) to (O) combination is about 45 % the output of (M) to (O) combination.

The chain for the (H) to (O) combination is 31 links of #2040 chain with one #2040L1 offset connector link and one #2040L2 connector link. The chain for the (M) to (O) combination is 25 links of #2040 with 1 full #2040L1 or 1 offset #2040L and 1 half #2040L2 connector link.

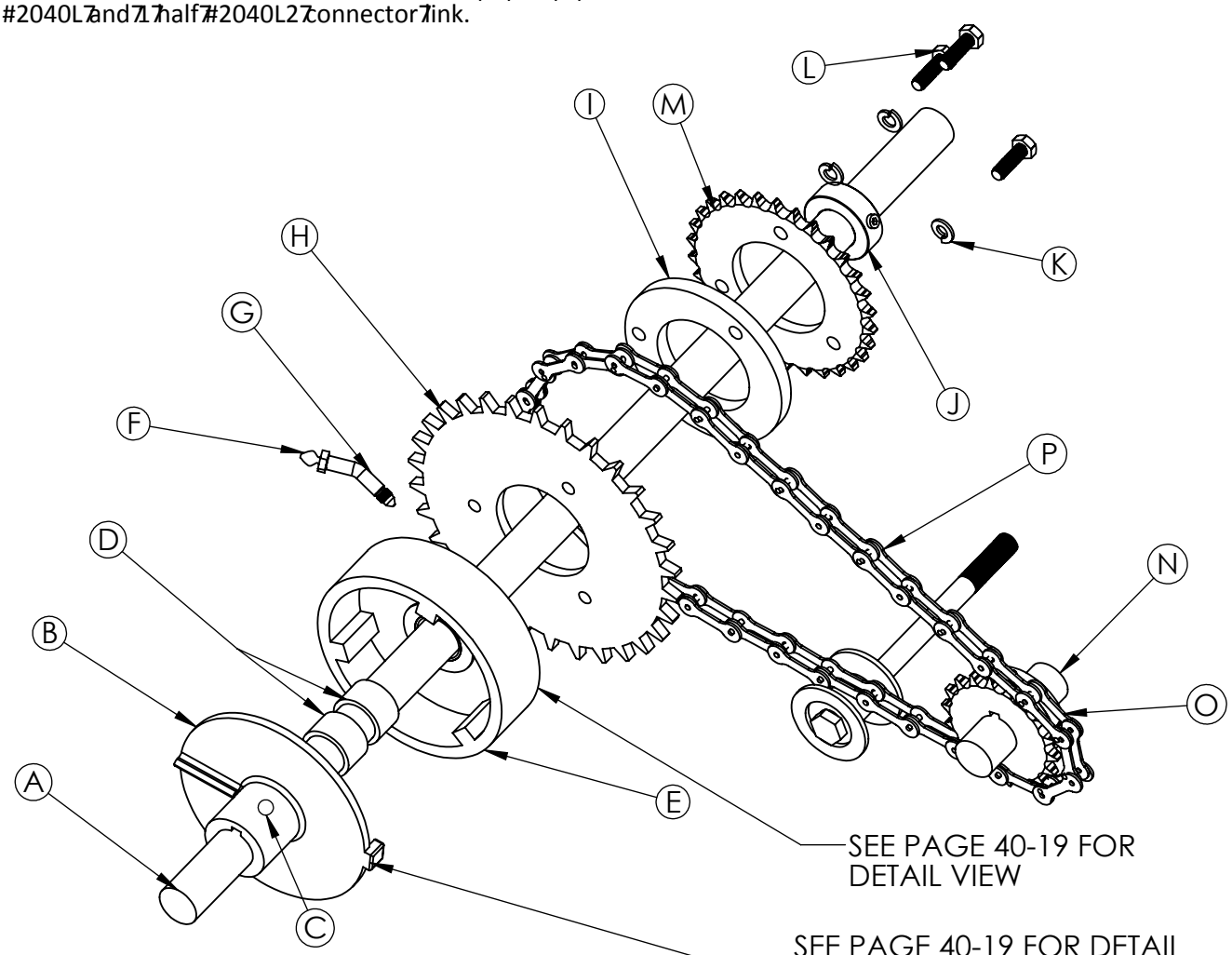


Fig. 40-17

A	Shaft	E	Clutch Hub	I	Spacer	M	Sprocket Small
B	Clutch Housing	F	Grease Zirk	J	Collar	N	Mainpower Shaft
C	Set Screw	G	Zirk Extender	K	Washer	O	Sprocket
D	Bushing	H	Sprocket Large	L	Carriage Bolt	P	Clutch Chain

4) INPUT POWER

The input power to turn shafts and seed meters on the OTG drills is gotten from a single direction clutch, items (E) & (B) The main power shaft (N) (which is powered from the drive wheel) and sprocket (O) turning the shaft through the chain (P) provide the torque to turn the clutch.

5) CLUTCH INSPECTION & SERVICE

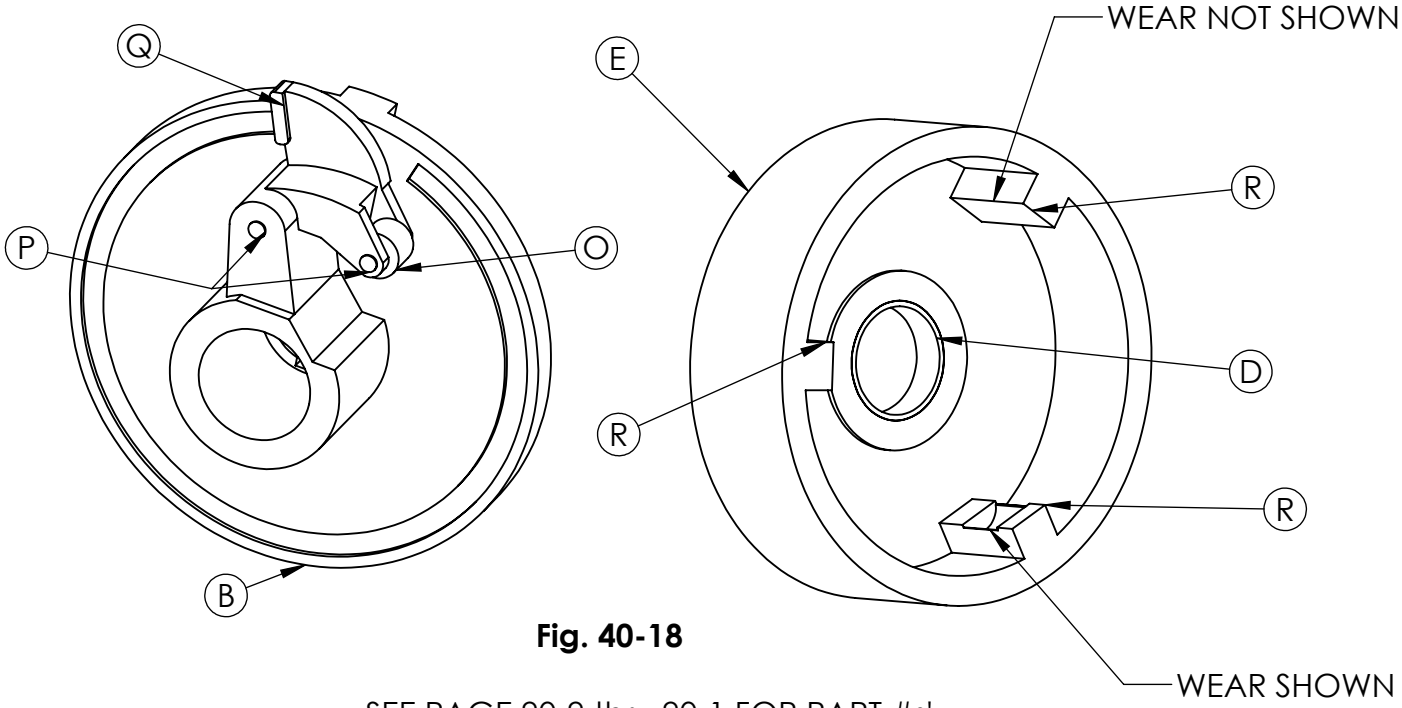


Fig. 40-18

SEE PAGE 90-9 thru 90-1 FOR PART #s'

O	Roller	E	Clutch Hub
P	Pin	D	Bushing
Q	Tripper	R	Boss
B	Clutch Housing		

NOTE: REFER TO PAGE 40-18 FOR LOCATION OF PARTS (C), (J), (T)

Inspection and Clutch Service

Failure of the clutch to turn the input power shafts can be attributed to several parts of the clutch.

- If the two bronze bushings (D) in the clutch hub (E) are worn, then the hub will wobble sufficiently so that the roller (O) in the tripper (V) will not engage the three bosses (R) in the hub (E).
- If the tracks or grooves have been worn in the three bosses (R) of the hub (E), then the roller (O) will not engage the hub and turn it. This failure is generally caused by lack of lubrication of the two brass pins (P) that the roller (O) and tripper (Q) pivot on.
- Placement of the clutch is achieved with a set screw (C) in the clutch housing and a shaft collar (J), with set screw on the outside of clutch hub (E). If either of these set screw loosen the clutch will move and malfunction.

Access to examine the clutch for wear or misalignment is achieved by removing several transitions, 10333 & 10337 and then loosening the set screw in the shaft collar on the right end of the clutch hub and sliding it to the right. After removing the clutch chain (T), slide the hub (E) to the right, this will allow you to check for wear of the three bosses (R). Any grooves or wear of these bosses indicate that the roller (O) has dragged across them and has caused undue wear to occur. This in turn will limit the clutch's ability to turn in the future without service and replacement of these parts. Lubrication of the two pins (P) will allow movement of tripper dog (Q) and roller (O) and will limit wear in the future.

A temporary "fix" can be achieved by having an "expert welder" braze the three bosses and grinding to match the un-touched area. When replacing the clutch, it's best to replace both halves - 1119 & 1120.

SPEED CHANGER & CLUTCH ASSEMBLY

6) FLUFFY BOX DERAILLEUR

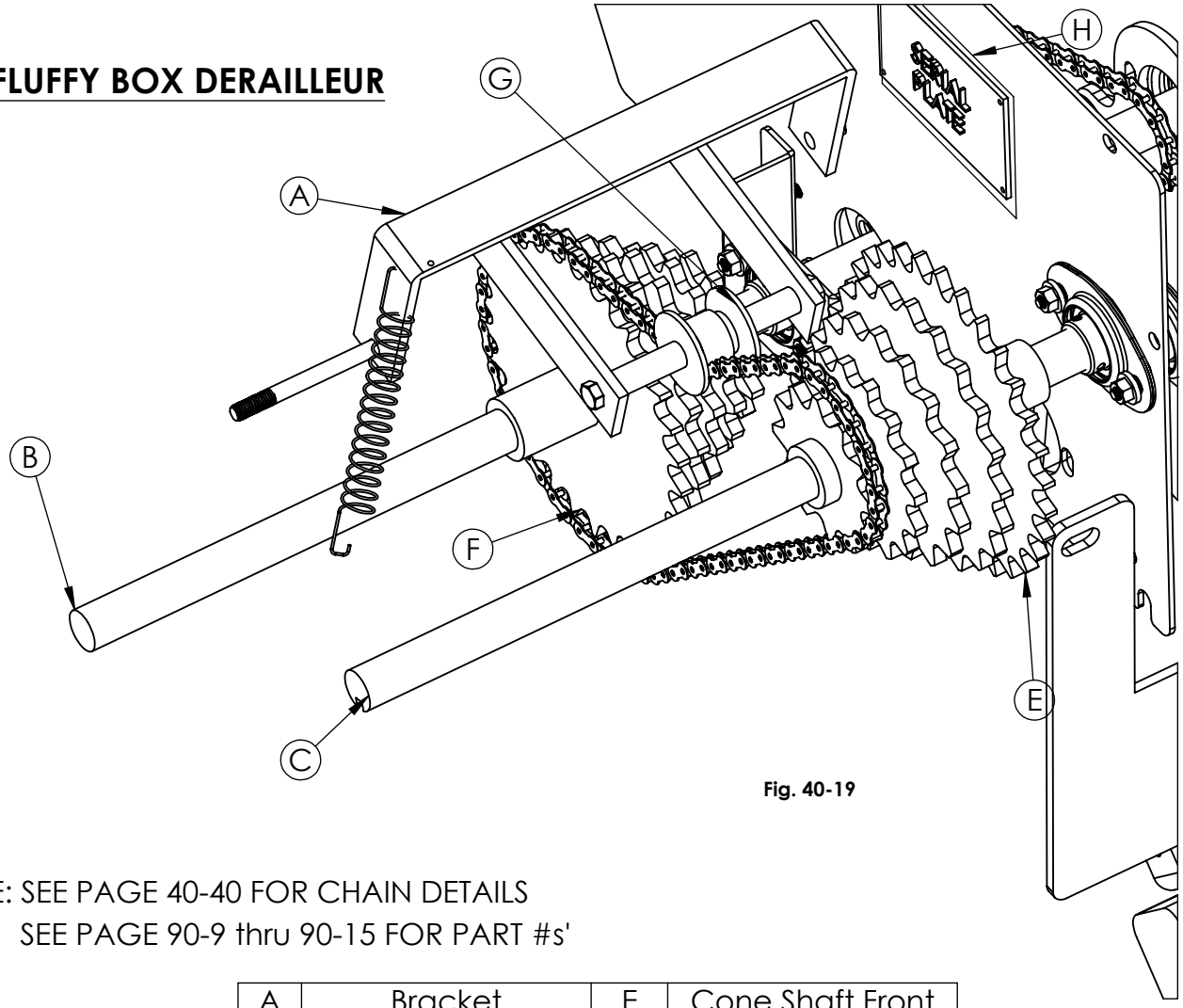


Fig. 40-19

NOTE: SEE PAGE 40-40 FOR CHAIN DETAILS
SEE PAGE 90-9 thru 90-15 FOR PART #s'

A	Bracket	E	Cone Shaft Front
B	Shaft Input	F	Cone Shaft Rear
C	Shaft Output	G	Spool
D	Chain	H	Serial Plate

The output of seed from the fluffy seed box is controlled by the rpm of the shafts turning the picker wheels and agitators. The rpm is a function of the 3 step cone sprockets (derailleur) turning the shaft (C) which turns the picker wheel shaft. The input power from the clutch through shaft (B) turns the rear cone sprocket (F) which controls the rpm of the front cone sprocket (E) as determined by the location of chain (D). The further the chain is to the right, (when viewed from the front) the slower the shaft (C) turns and hence the lower the output from the fluffy seed box.

To change sprocket combinations raise derailleur (A) so that the chain (D) can be moved to a different combination of sprockets.

IDLER ASSEMBLIES

NOTE: See "Idler Assemblies" located in the parts catalog for additional information.

The idler assemblies put tension on the chains to prevent them from "walking" off the sprockets. All idlers, using plastic rolls, are installed on the slack side of the chain. The following procedure should be followed when servicing idlers:

1) Before servicing chain idlers, be sure that the sprockets are in alignment and that the chain runs freely.

2) The idler for the fluffy seed box agitator and picker wheel must be positioned on the slack side in such a way as to allow the 3/8" bolt holding the derailleur idler assembly (part #15-7116A) to be installed in the end plate (part #103625) and still allow clearance for the chain.

MAIN FRAME

IMPORTANT: Clean drain holes in the main frame at least annually. Any water in the frame tubes may cause bulges to occur if it freezes. Drain holes are located on the bottom corners of the main frame and the bottom of all cross members.

1) The main frame has few moving parts; therefore it requires little maintenance.

2) The flex torsion knuckles are not meant to be field serviced; however, they can be adjusted to retain equal torsion forces and change alignment.

3) Refer to the "Speed Changer & Clutch Assembly Section" for information on the adjustment of the clutch tripper assembly.

TURNBUCKLE ASSEMBLY

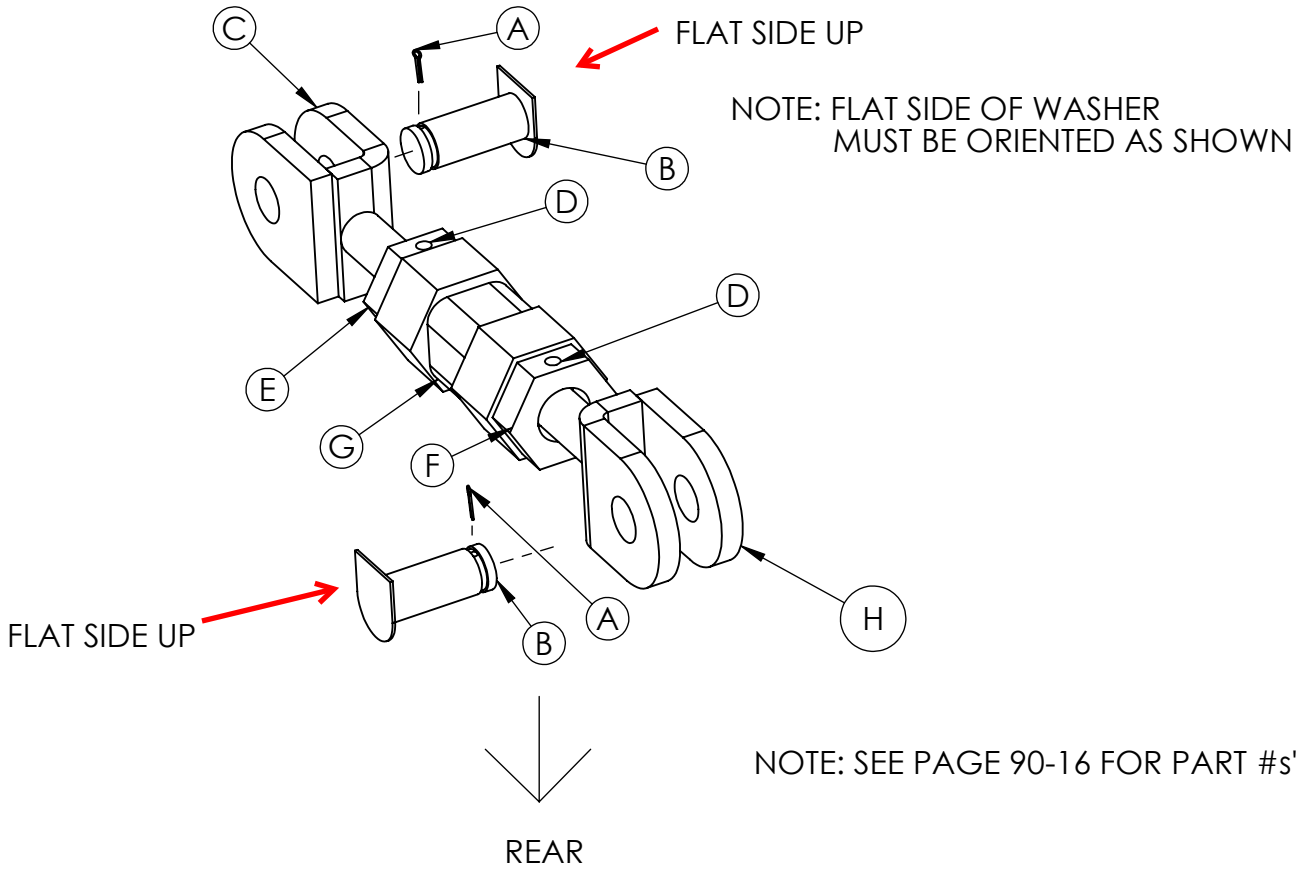


Fig. 40-20

A	Hitch Pin	E	Half Jam Nut
B	Hydraulic Pin	F	Half Jam Nut
C	Turnbuckle End	G	Turnbuckle
D	Set Screw	H	Turnbuckle End

The turnbuckle assembly provides uniform movement of the front and rear rockshafts. If one rockshaft lowers before the other, they can be restored back in to balance by loosening the two set screws (D) in the half jam nuts (E) that then be loosened. The turnbuckle (G) can then be turned and have its length changed. This in turn will affect the relative position of the rockshaft and its attached planters.

Note: If the turnbuckle is removed, be sure to reinstall the hydraulic pin (B) with welded washer in the correct orientation to prevent damage caused by contact with the lift brackets, # 10321.

IMPRINTER ASSEMBLY

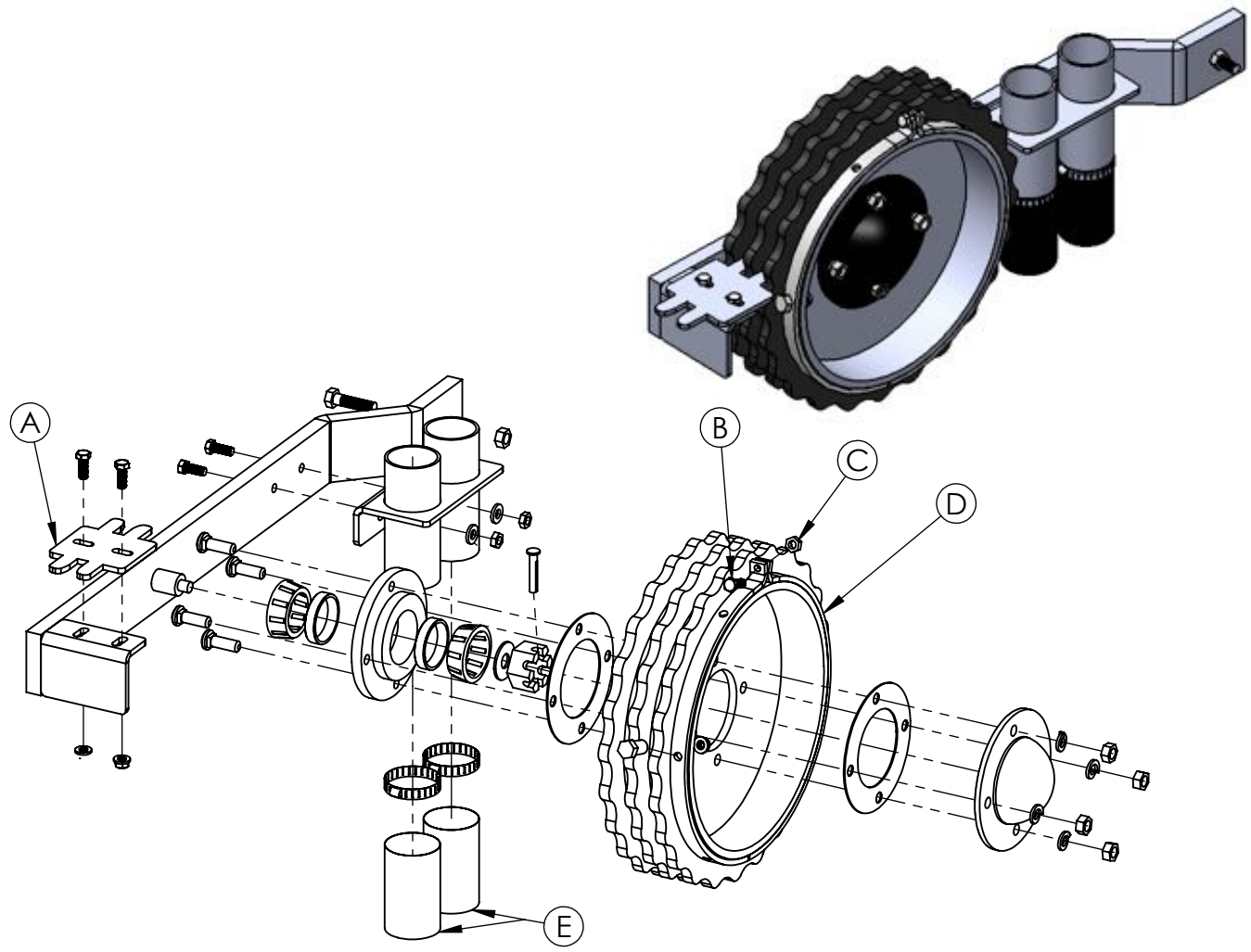


Fig. 40-21

NOTE: SEE PAGE 90-65 FOR PART #s'

A	Scraper	D	Imprinter
B	Bolt	E	Hose
C	Nut		

The Interchangeable Imprinter Assembly can be used on OTG drills when sowing species such as sagebrush that needs to be placed shallow and pressed into the soil surface.

The scraper (A) needs to be adjusted so that it keeps mud and soil off the rotating imprinter wheels. **Mud build up will prevent the wheels from making dimples in the soil surface for seeds to be deposited in too. In addition, a muddy wheel will cause the seed to stick to the mud and not fall in to the soil dimples.**

The two flexible hoses (E) direct the falling seed down to the soil surface directly in front of the imprinter and helps prevent wind from blowing the seed aside before being pressed in to the soil.

MAINTENANCE & SERVICE

LUBRICATION

1) RECOMMENDED LUBRICANTS

Moving parts and bearings on all drills require regular lubrication. For optimum life of the drill it is recommended that synthetic grease (such as Kerr-McGee Mystik JT) (Truax part #9991) be used every 100 acres 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 TYPE-QUICK CHECK	
PARTS	TYPE OF LUBRICANT
All Chains	LPS Silicone Lubricant
Feed Rolls	LPS Silicone Lubricant
Press Wheel Bearings	LPS Silicone Lubricant
Idler Bushings	LPS Silicone Lubricant
Clutch Zirk	Synthetic Grease
Spring Leveler Zirk	Synthetic Grease
No-Till Hub Zirks	Synthetic Grease
No-Till Shanks	Synthetic Grease
Leading Press Wheel Hub Zirks	Synthetic Grease
Box Hinges	LPS Silicone Lubricant
Bronze Bushings	LPS Silicone Lubricant
Double Disc Seals	Synthetic Grease
Lockout Hub	Synthetic 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 drill 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 5/8" x 4-1/2" bolts and nuts. 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 130-135 foot lbs each.

2) RECOMMENDED END WHEEL BEARING LUBRICATION SPECIFICATIONS

GREASE:

Thickener Type.....Lithium Complex
Dropping Point.....215 °C (419 °F) Minimum
Consistency.....NLGI No. 2
Additives.....EP, Corrosion & Oxidation Inhibitors
Viscosity Index.....80 Minimum

Approved Sources:

Mobil Oil.....Mobilgrease HP, Moilith AW 2
Exxon/Standard.....Ronex MP
Kendall Refining Co.....Kendall L-427
Ashland Oil Co.....Valvoline Multipurpose GM
76 Lubricants.....76 Multiplex EP
Mystik.....Mystik JT-6 Hi Temp Grease
Pennzoil Product Co.....Premium Wheel Bearing Grease 707L

3) BEARING ADJUSTMENT & HUB REPLACEMENT

If the hub has been removed or bearing adjustment is required, following adjustment procedure must be followed.

1. After placing the hub, bearings, washers, and spindle nut back on, rotate the hub assembly while slowly tightening the nut to approximately 130-135 foot lbs.

2. Then, loosen the spindle nut to remove the torque.

3. Finger tighten the spindle nut until just snug.

4. Back the spindle nut out slightly until the first castellation lines up with the cotter key hole and insert the cotter pin.

5. Bend over the cotter pin legs to secure the nut.

6. Nut should be free to move with only restraint being the cotter pin.

(Source: DEXTER AXLE)

3) ZIRK LOCATIONS

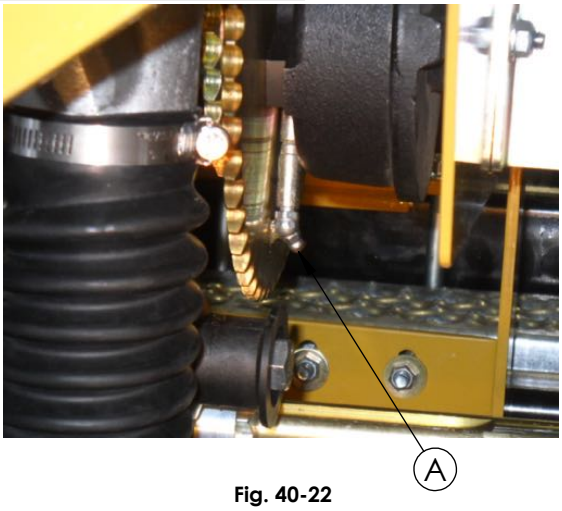


Fig. 40-22

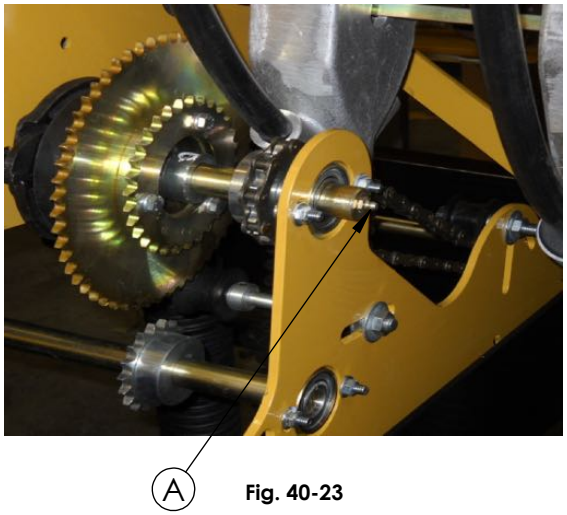


Fig. 40-23

1 **Clutch hub - as seen from rear of drill. Right of 54 tooth sprocket in clutch hub. (#55022-)**

2 **Clutch shaft (#55007 to #55021)**

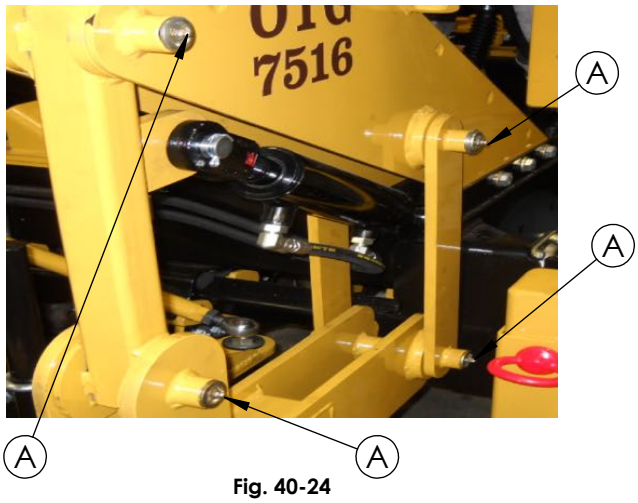


Fig. 40-24

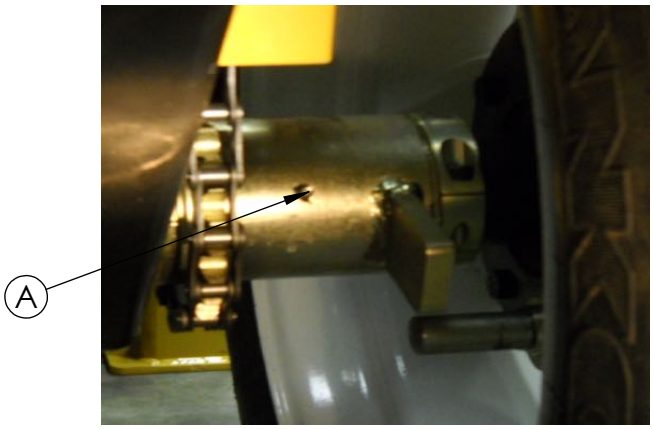


Fig. 40-25

3 **Parallelgram bars - 8 zirks**

4 **Lock-out hub**

A - Location of Zirk

The useful life of equipment is extended by diligent, timely attention to proper lubrication. The Truax DTG drills should be serviced daily or every 100 acres and have grease with NLGI performance classification of GC-LB applied. For example, T-6 brand. In addition, a silicone based aerosol lubricate should be applied to other, non greased wear points such as mid hinges, clutch tripper mechanism, rounded cover speed changer cover, calibration coupler, seed box shifter mechanisms, on a regular basis.

3) ZIRK LOCATIONS CONTINUED

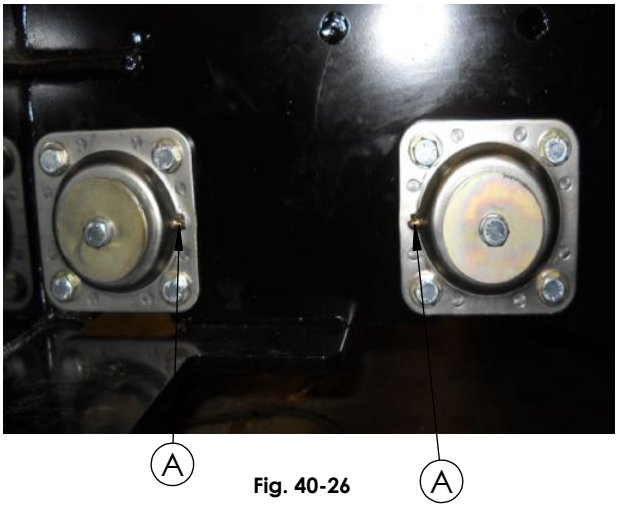


Fig. 40-26

(5) **Rockshaft Outer Bearings**

Fig. 40-27

(6) **Calibration Shaft**

The calibration shaft assembly underwent several revisions between drill serial #55001 and #55030. Therefore, close attention must be made with details on pages 90-69 thru 90-77 when ordering parts.

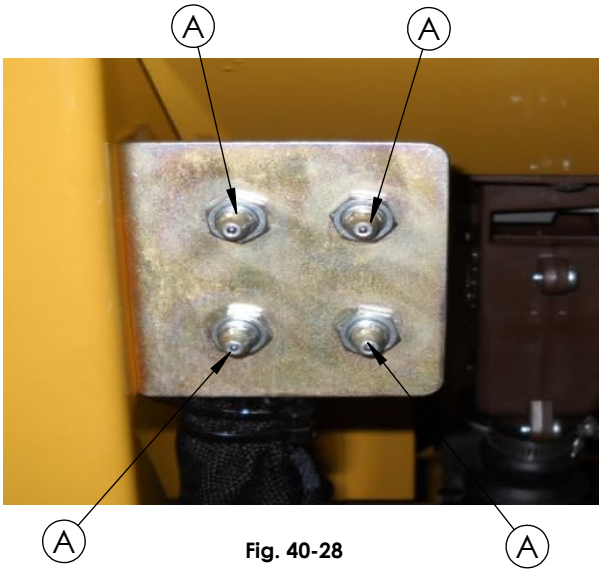


Fig. 40-28

(7) **Grease Bank**
(Inner Rock Shaft bearings only)

A-Location Of Zirk

Composite bearings used on inner Rock Shaft bearing from (#55020 to #55023)
When used, there are no grease fittings.

3) ZIRK LOCATIONS CONTINUED

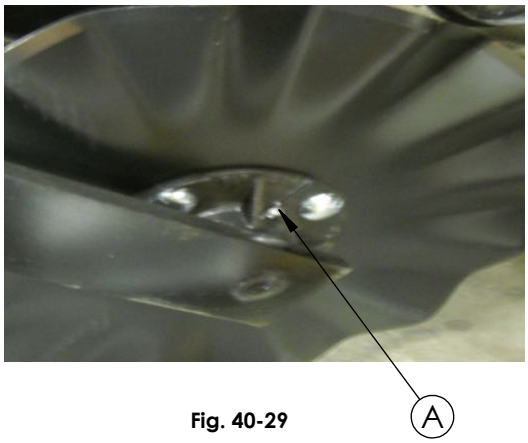


Fig. 40-29

(8) No-Till Hub

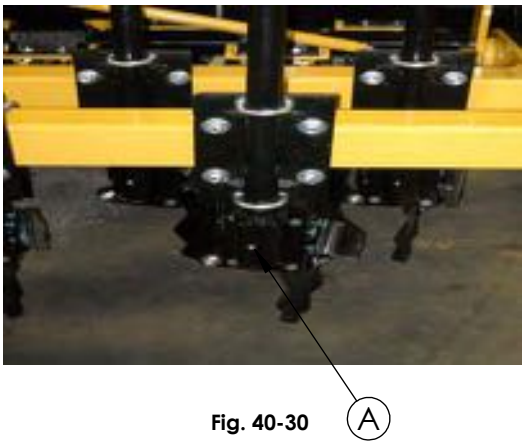


Fig. 40-30

(9) No-Till Shank

4) LUBRICATION SCHEDULE

Chains	Apply LPS Silicone Lubricant, WD-40, or equivalent. At the end of the season, remove the chains and soak them in light oil for storage purposes.
Seed Boxes	Check frequently and clean as needed. Apply LPS Silicone Lubricant, WD-40, or an equivalent lubricant to the hinges.
Speed Changer	The derailleur style of speed changer for the fluffy box requires lubrication maintenance. LPS Silicone should be applied to the idler bushing that retains tension on the chain between the two cone sprockets once a day. Also, LPS Silicone should be applied to the derailleur chain and clutch tripper rod pivot points on a daily basis.
Clutch	Grease daily with synthetic grease such as JT-6 synthetic grease (part #9991).
Idlers	All idlers have a steel bushing that should be lubricated weekly with a silicone lubricant.
Double Row Bearing	Triple lip, double row bearing requires no grease.
Press Wheel Bearings	Press wheels do not have a zirk in the press wheel bearing (part #1092AI). These should have a silicone lubricant applied several times per day for optimum life of the bearing. The bearing (part #1092AI) has been hardened to Rockwell-40 and will have slight wearing if the lubricant is not applied. There will be more wearing on the axle bolt (part #B12-4) if a silicone lubricant is not applied several times per day.
Wheel Bearings	The wheel bearings on all drills use a tapered roller bearing. When servicing these bearings, clean, check for wear, and use synthetic grease, such as JT-6 (Truax part #9991) or equivalent. Check seals for leaking.
Lockout Hub	Grease daily or every 100 acres with synthetic grease such as JT-6 synthetic grease (part #9991).
No-Till Hub	The no-till hubs have a zirk on the back that should be greased daily. Do not over grease as it may cause the seals to be forced out of position.
No-Till Shank	Drills have shank pivots that should be greased daily or every 100 acres.
No-Till Parallelogram Frame	8 Zirks (4 on each end) need to be greased daily or every 100 acres.
Grease Bank	Grease daily or every 100 acres.
Calibration Shaft	Grease daily or every 100 acres.
Rockshaft Outer Bearings	Grease daily or every 100 acres.

1) HYDRAULIC CYLINDERS

Before working on drill hydraulics, secure the drill tongue to tractor drawbar & block wheels to prevent movement. Rephasing system has been cycled at factory, only a small amount of tractor hydraulic fluid will be needed.

The hydraulic cylinders on DTG models 7508 & 7512 have rephasing cylinders used on no-till assemblies and non-rephasing cylinder used for planter assemblies. The hydraulic cylinders on DTG models 7516, 7518, and 7522 have rephasing cylinders used on planter & no-till assemblies. The larger hydraulic cylinders are always installed on the drive side for both planter & no-till assemblies. No-till hydraulic cylinders are installed with the rod end up while the planter hydraulic cylinders are installed with the rod end down.

The objective is to get both cylinders fully retracted. When cylinders stay in a fully retracted position it will mean there is no air or leaks in the system. It is important that any time the cylinders are removed or the hoses disconnected, that the proper procedure be followed when reconnecting them. After reconnecting the hoses, bleed the air from the system by cycling the system through the tractor hydraulics several times. Do not try to bleed air from the system by loosening fittings. After hooking up the hydraulic system, cycle the system so that the planters & no-tills raise and lower until they go up or down together. If this does not happen, it may be caused by either an air bubble in the system, low hydraulic fluid in the system, poor hydraulic connection, or incompatible hydraulic connectors.

After checking the hydraulic fluid level, continue to cycle the system. If after a period of time the system does not level out, there may be a problem with the cylinders or the pumping unit. The rephasing cylinders have a bypass point to allow oil to flow to the other side and there may be a stoppage at this bypass (this can't be field serviced). Something as small as a tiny chip of paint may be the cause or there may be a leaking "O" ring or seal.

The hydraulic system is filled with Anti Wear ISO Viscosity 46 hydraulic fluid during manufacture of the drill.

Upon completion of the cycling of the hydraulics, check if the tractor reservoir tank is at a proper level.

Bleeding the air from the hydraulic system is one of the most difficult mainetance projects. DO NOT remove fittings or change hoses unless necessary! Only remove fillings or hoses after planters & no-tills have been lowered to planting position.

If cylinders do not retract equally, check to see whether ends are screwed on uniformly.

Hydraulic hose quick disconnect couplers look similar-they must be an exact matched set to work properly. If there is a problem, it may be necessary to remove both male and female ends from the hoses.

2) HYDRAULIC HOSES

FOR ROCKSHAFT TIE-ROD HYDRAULIC CYLINDER ASSEMBLY & PART NUMBER SEE PAGE 90-20

HYDRAULIC TIE-ROD CYLINDER HOSES				
MDL.	TRACTOR TO VALVE	VALVE TO CYLINDER	CYLINDER TO TRACTOR	
7508	15'	3'	17'	
7512	15'	3'	17'	
	TRACTOR TO LARGE CYLINDER	CYLINDER TO CYLINDER	SMALL CYLINDER TO VALVE	VALVE TO TRACTOR
7516	20'	6'	4'	15'
7518	20'	6'	5'	15'
7522	20'	8'	5'	17'

FOR NO-TILL WELDED HYDRAULIC CYLINDER ASSEMBLY SEE PAGE 90-53

NO-TILL WELDED HYDRAULIC CYLINDER HOSES				
MDL.	TRACTOR TO LARGE CYLINDER	CYLINDER TO CYLINDER	SMALL CYLINDER TO VALVE	VALVE TO TRACTOR
7508	20'	7'	6'	15'
7512	21'	9' OR 10'	6'	15'
7516	22'	12'	8'	15'
7518	23'	14'	8'	15'
7522	27'	16'	10'	15'

3) HYDRAULIC CYLINDER LENGTH

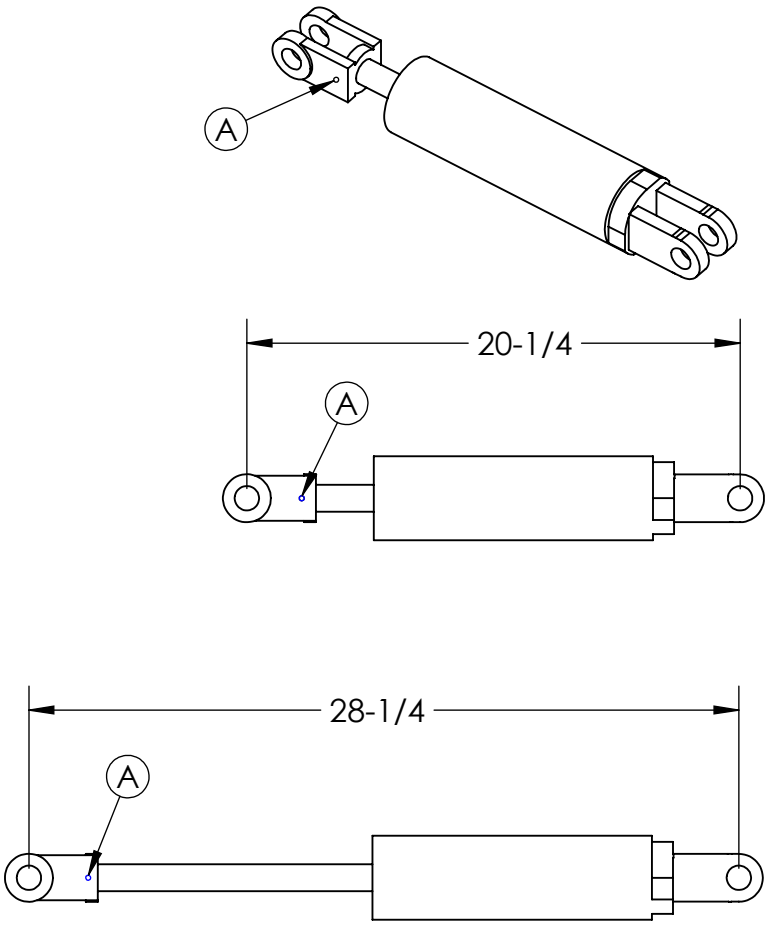


Fig. 40-31

All cylinders, both tie rod style and welded style have 8" strokes and all have a clevis that is screwed on to their moveable ends. The clevis is secured to the threaded end by a locking set screw (A) that prevents the clevis from unscrewing in use. Movement of the clevis will change the cylinder length and thereby change the degree of rotation of the attached parts. IMPORTANT: Check the clevis end and set screw for tightness!

All hydraulic cylinders, rephasing style and nonrephasing styles, in both the welded version as well as tie rod bolted styles have a extended length of 28-1/4" and a retracted length of 20-1/4".

Lengths same for all cylinders.

After serial #55005, all rockshaft cylinders are welded style on models 7516, 7518, and 7522.

HYDRAULIC CYLINDERS

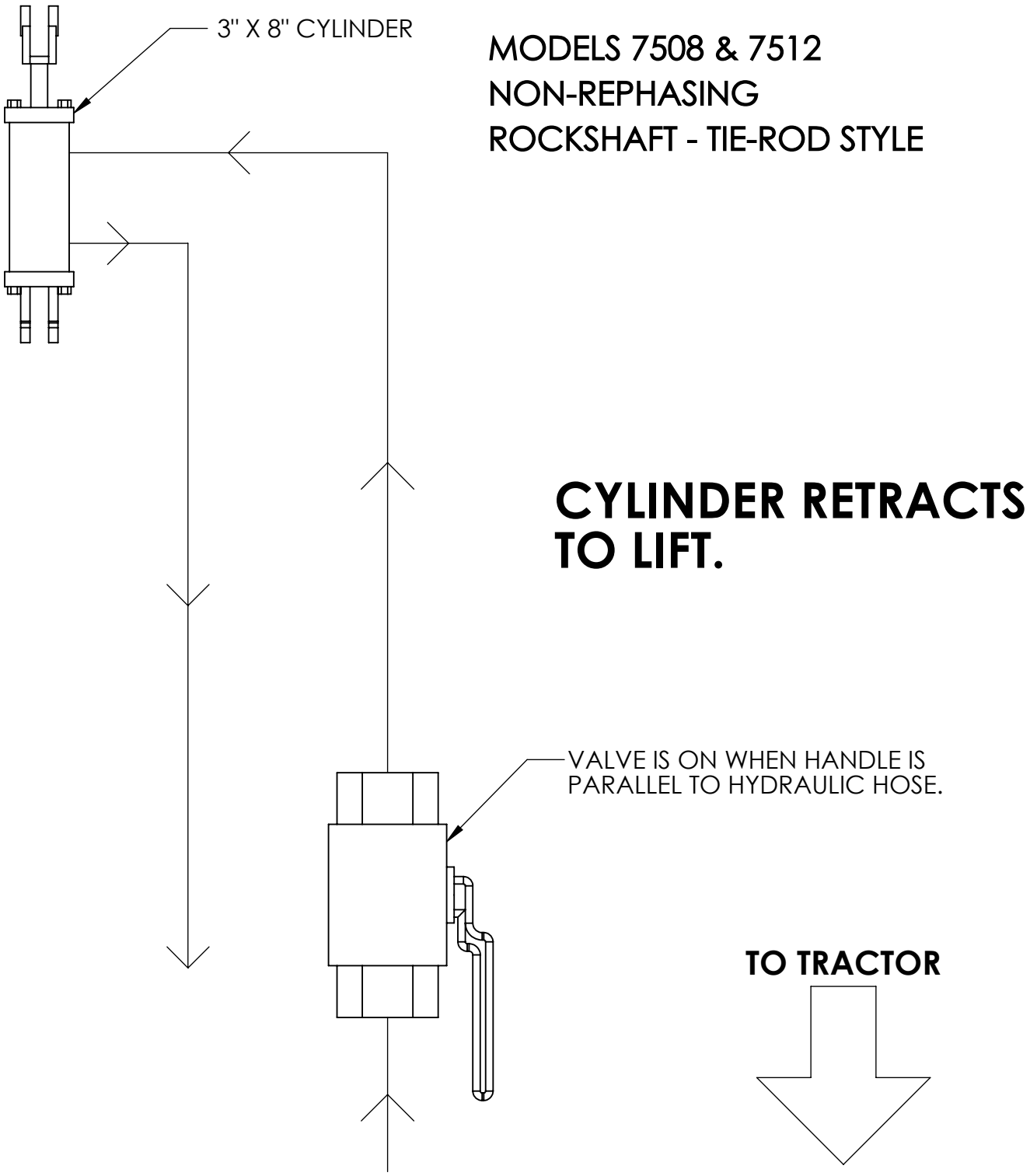


Fig. 40-32

HYDRAULIC CYLINDERS

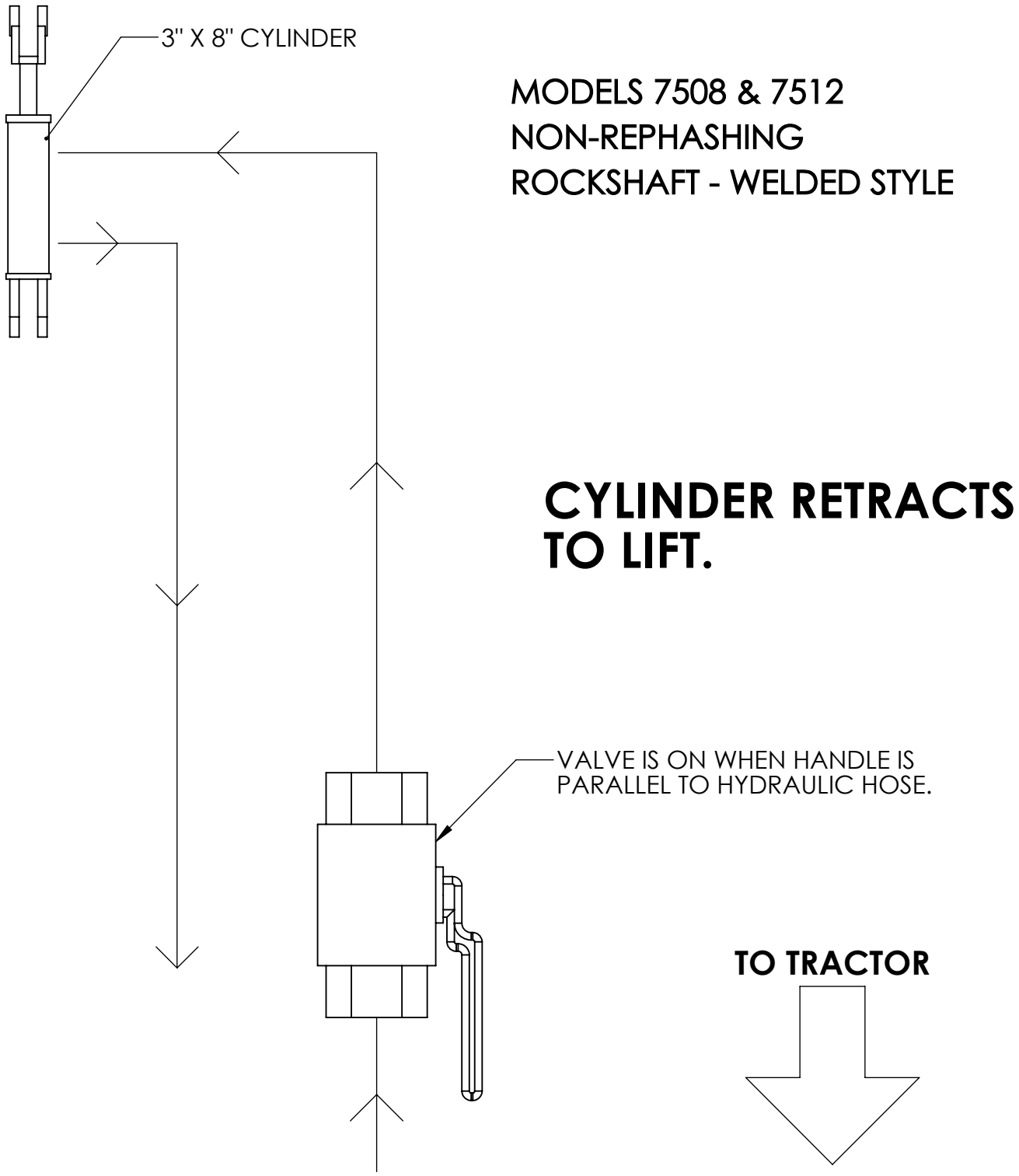


Fig. 40-32A

HYDRAULIC CYLINDERS

MODELS 7516, 7518, 7522 BOTH REPHASING ROCKSHAFT - TIE-ROD STYLE

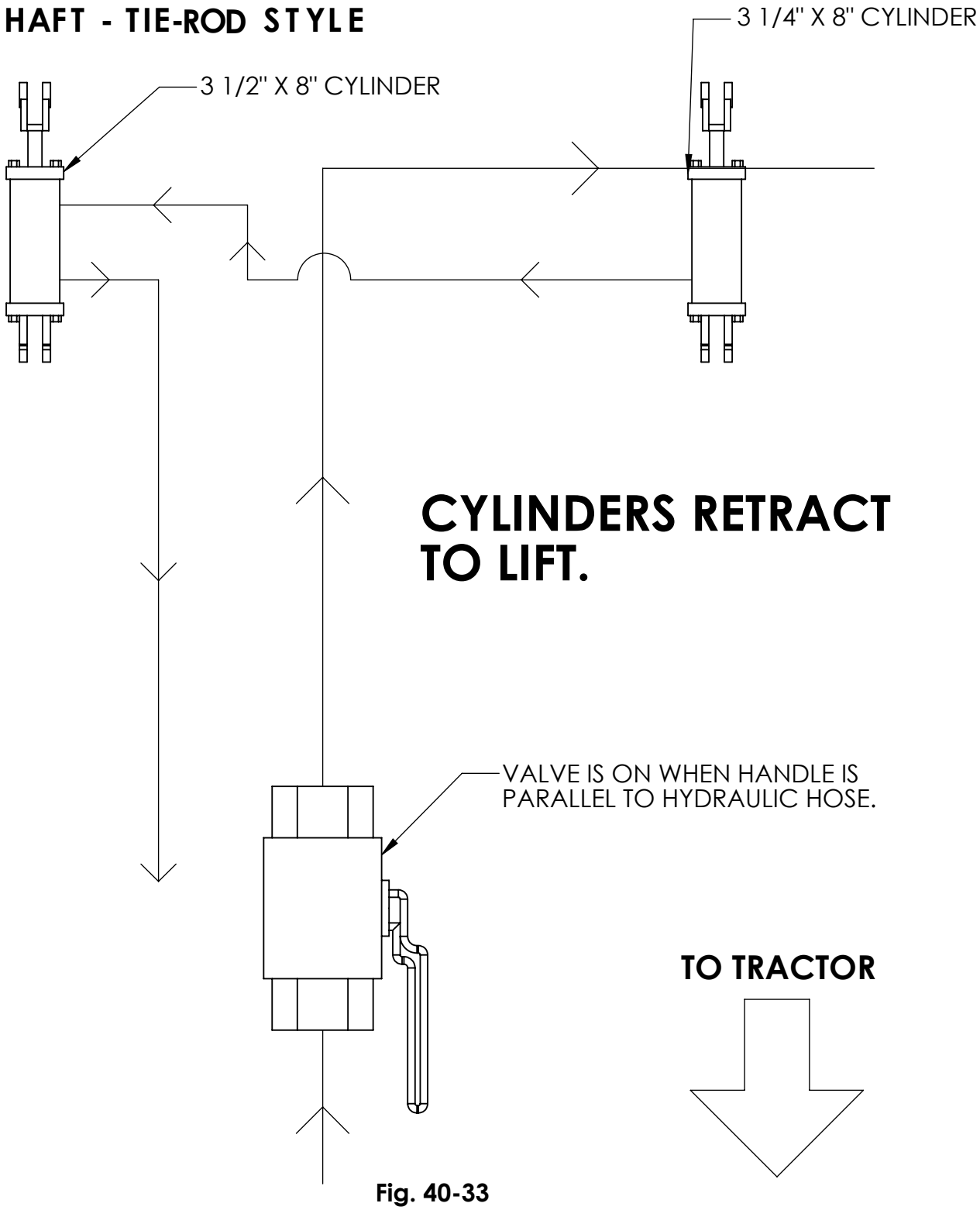


Fig. 40-33

HYDRAULIC CYLINDERS

MODELS 7516, 7518, 7522 BOTH REPHASING ROCKSHAFT - WELDED STYLE

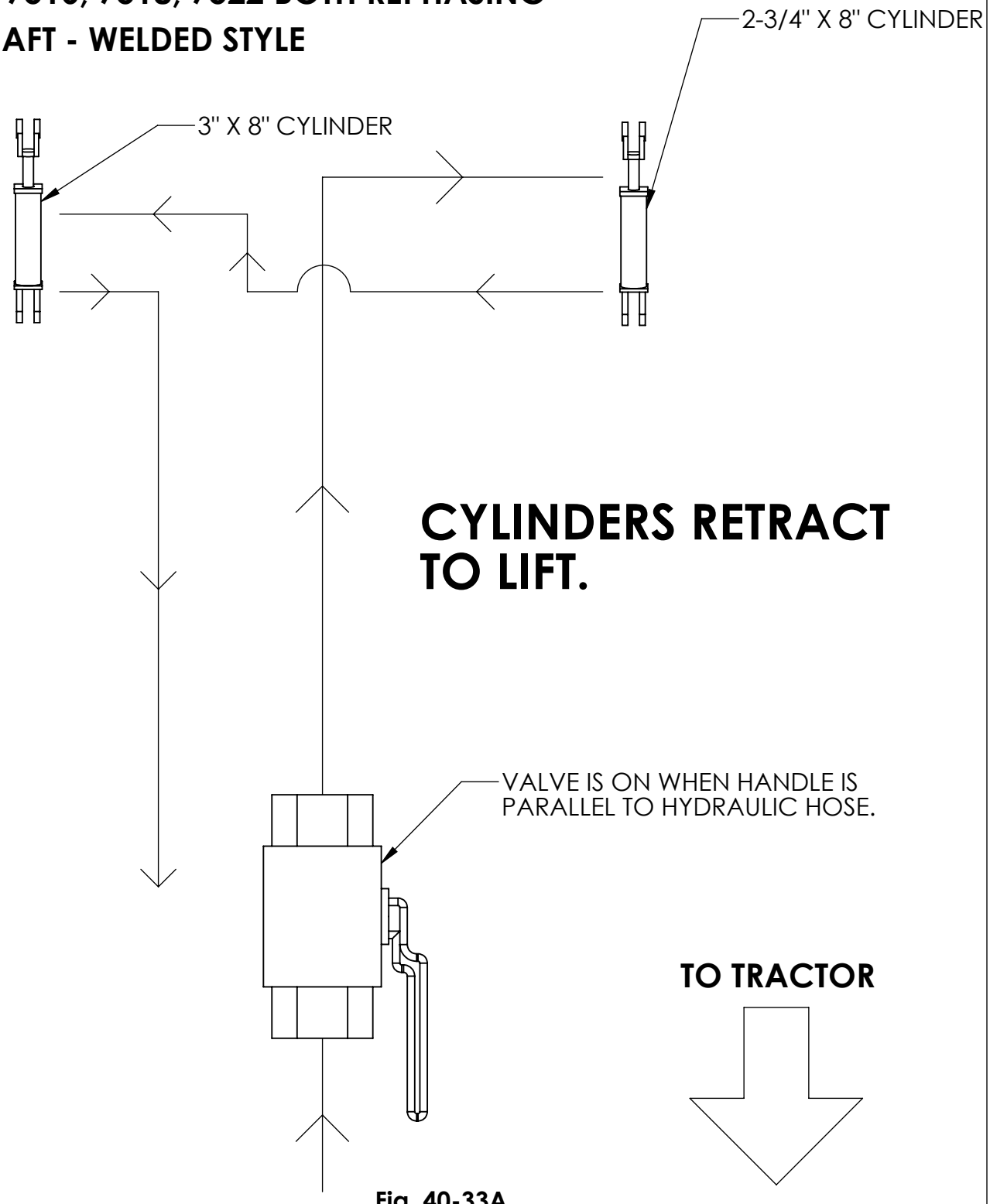


Fig. 40-33A

HYDRAULIC CYLINDERS

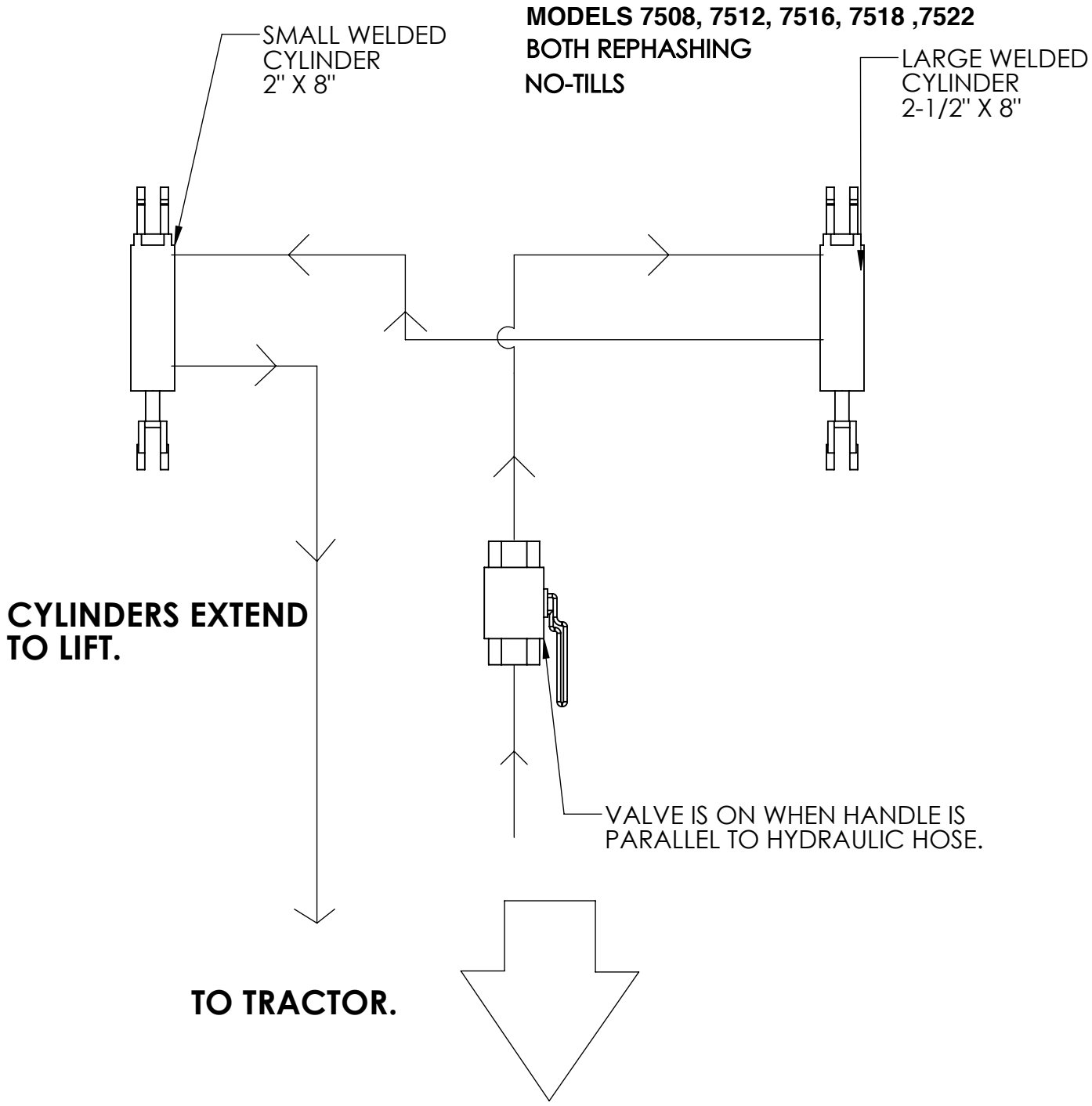


Fig. 40-34

BOLTS & WASHERS

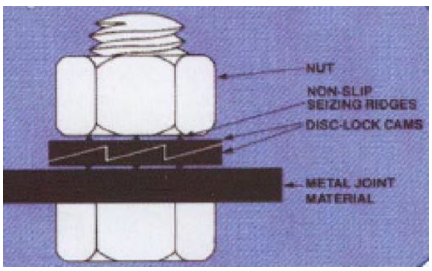
1) BOLT TORQUE

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.

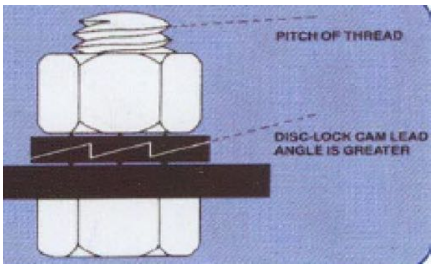
TORQUE SPECIFICATIONS				
BOLT DIAMETER	BOLT TORQUE			
	SAE 5		SAE 8	
	lb-ft	n-m	lb-ft	n-m
1/4"	9	12	12	17
5/16"	19	25	27	36
3/8"	33	45	45	63
1/2"	80	110	115	155
9/16"	115	155	160	217
5/8"	160	215	220	305
3/4"	290	390	400	540
1"	630	850	970	1320

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.

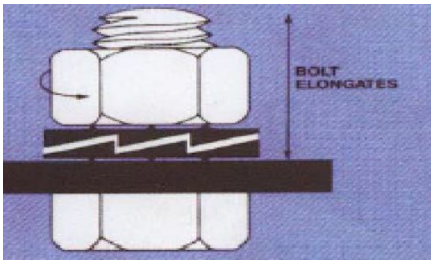
2) DISC-LOCK WASHER INSTALLATION



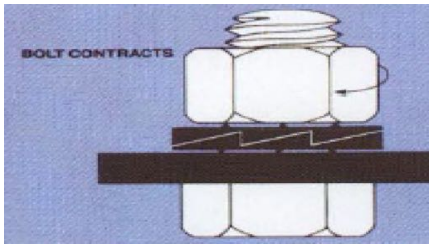
① To install the Disc-Lock Washer, simply mate the cams together and place between the nut and the joint material.



② As the nut is tightened, one half of the Disc-lock Washer is seated to join material and the other to the nut



③ When the bolt elongates due to vibration and shock, the nut will attempt to rotate loose. As one half of the Disc-Lock Washer tries to rotate with the nut, the interlocking cams work against each other. This will maintain the preload and lock the assembly.



④ As the bolt contracts, the inclined planes of the cams cause the nut to rotate back to its original position.

⑤ In common with most fasening devices, Disc-Lock Washer may be used by securing a metal plate to the joint material in such a manner that the metal plate will not rotate.

⑥ If the joint material is not metal, the Disc-Lock Washer may be used by securing a metal plate to the joint material in such a manner that the metal plate will not rotate.

⑦ A torque wrench is not required when installing Disc-Lock Washers.

⑧ An air-gun can be used when installing and removing Disc-Lock Washers.

2) DISC-LOCK WASHER INSTALLATION

(CONTINUED)

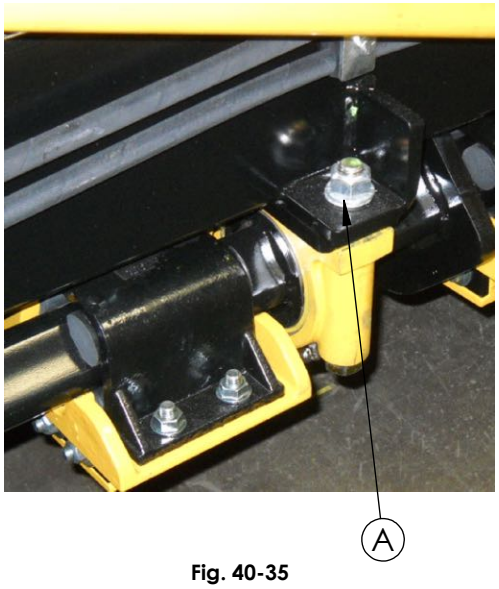


Fig. 40-35

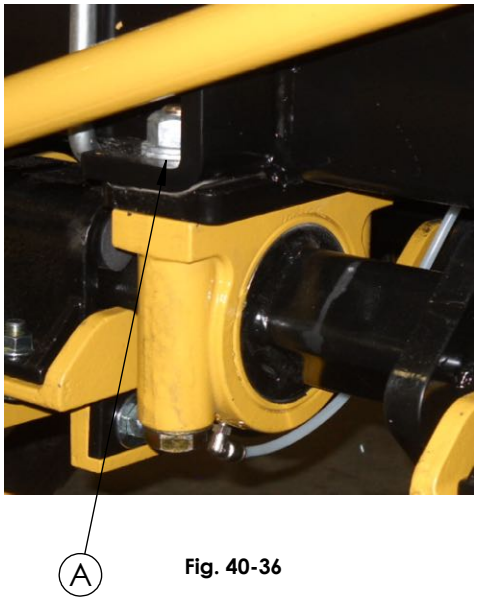


Fig. 40-36

Disc-Lock washers used on ALL pillow blocks

See Page 40-38 For Installation

CHAINS

Chain Name	Chain Part #	Connector Link(s)	Connector Link(s) Part #
Cone Sprocket (39Links)	2040D	Offset & Full Links	2040L, 2040L1
Small Seed Box (37 Links)	2040E	Half Link	2040L2
Picker Wheel (51 Links)	2040C	Full Link	2040L1
Cool Season Box Agitator (17 Links)	2040F	Offset & Full Links	2040L, 2040L1
Cool Season Box Drive (51 Links)	2040XG	Full Link or Offset and Half Links	2040L or 2040L1, 2040L2
OTG Speed Changer-Large (31 Links)	2040OTG1	Offset, Half Link	2040L, 2040L2
OTG Speed Changer-Small (25 Links)	2040OTG2	Offset, Half Link	2040L, 2040L2
OTG Calibration-Input (51 Links)	2040C	Half Link	2040L2
OTG Drive Wheel (39 Links)	2060OTG4	Full Link	2060L1

1) STORAGE & PLACING THE DRILL BACK INTO SERVICE

1) Block the wheels and detach the drill from the tractor.

2) Vacuum the seed boxes.

3) Remove the convoluted seed hoses, clean and store them in a cardboard box.

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

5) Using an air hose, blow out dust/debris from under the cool season and small box row dividers.

6) 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 front of the drill while standing at the rear.

7) Using an air hose, blow all the seed from the boxes, especially the small seed box cups and flutes.

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

9) Clean the drill with a high-pressure washer. DO NOT directly spray on hubs that have bearings installed such as the no-till hubs or double disk opener blades.

10) Using an air hose, blow all the water from the drill, including the inside of the box.

11) Paint all bare metal and rust spots. Use Cat Yellow Paint (Cat #4C-420) and Rust-Oleum Professional High Performance Enamel (Rust-Oleum gloss black #7579).

DRILL STORAGE

12) Spray all moving parts (sprockets, hinges, chains, press wheel bearings, etc) with a silicone based lubricant. Check seed box lid hinges for accumulation of dirt & debris. Clean as needed and apply LPS Silicone Lubricant, WD-40, or an equivalent lubricant. Replacement brass hinge pins (#1038HP) and two 1/16" x 1/2" cotter pins (part #CP116-6) can be ordered.

13) Grease clutch, lockout hub, rockshaft inner bearings, greasebank, No-Till hubs, No-Till shanks, calibration shaft, parallelogram pins, as applicable. See Page 40-25 for lubricants & 40-27 for zirk locations.

14) Clean & repack end wheel bearings.

15) Torque wheel nut lugs to 130-135 lbs.

16) Slide clutch collar aside and oil the clutch tripper. See page 40-18.

17) Clean, service, and adjust disc blades for proper alignment. See page 40-14.

18) Clean hydraulic hose disconnects & install rubber protectors.

19) Check hitch bolt & safety chain attachment.

20) Check, adjust and lubricate roller chains for tension & alignment.

21) Store in shed or cover with tarp.

TAIL LIGHTS

A	STRAP	E	NUT UNF
B	LOCK WASHER	F	RED LEAD WIRE
C	HALF NUT	G	BROWN LEAD WIRE
D	MACHINE WASHER	H	GROUND WIRE

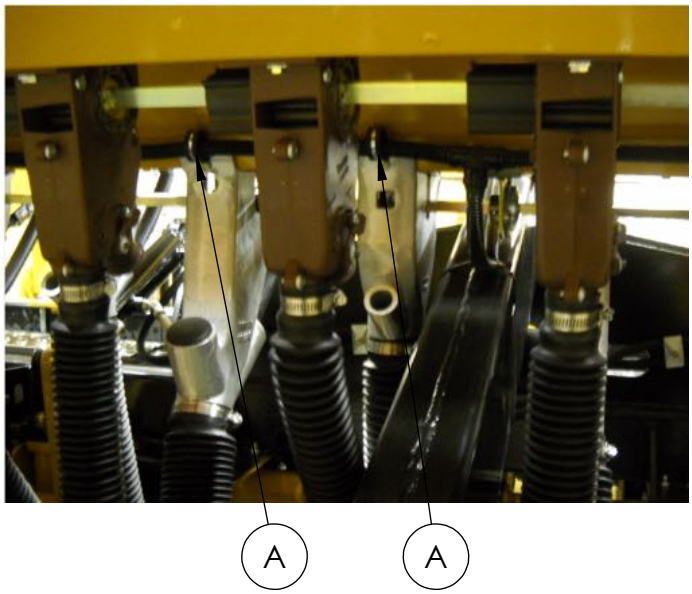


Fig. 40-37

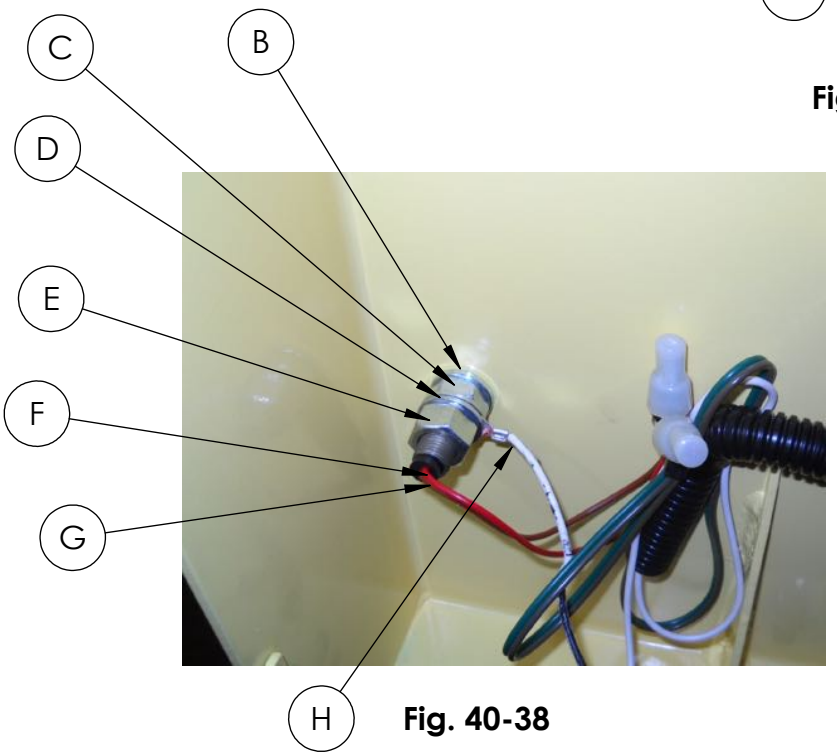


Fig. 40-38

The tail lights are bolted on the inside of both drive and non-drive sides. After inserting the mounting stud, a 1/2" lock washer (B) is installed on followed by a 1/2" half nut UNF. Then 2 machine washers (D) are installed followed by a 1/2" full nut UNF. The system is grounded in between the washers (D) by the white wire (H). Two lead wires (F & G) exit through the mounting stud. The red wire (F) is for the turn signals while the brown wire (G) is for the tail light. See Fig. 40-39 for connection.

The hose runs behind the seed cups, attached to every other cup by straps. The 2 seed cups closest to main frame (on each side) are an exception and each have a strap of their own as shown in Fig. 40-37.

TAIL LIGHTS

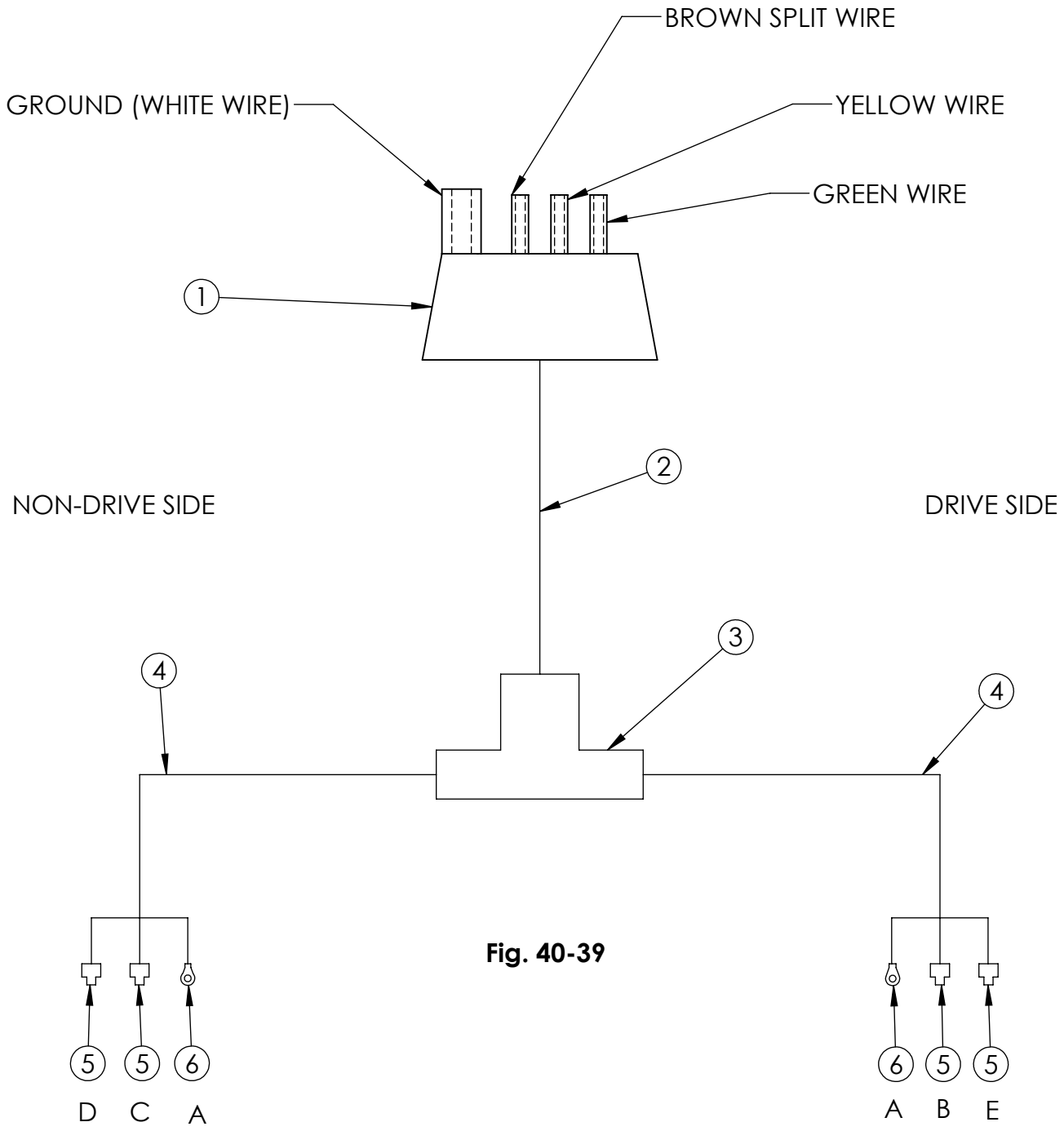


Fig. 40-39

A - WHITE WIRE - GROUND
B - GREEN WIRE - RIGHT TURN (CONNECT TO RED WIRE)
C - YELLOW WIRE - LEFT TURN (CONNECT TO RED WIRE)
D - BROWN/YELLOW WIRE - TAIL LIGHT LEFT (CONNECT TO BROWN WIRE)
E - BROWN/GREEN WIRE - TAIL LIGHT RIGHT (CONNECT TO BROWN WIRE)

TAIL LIGHTS

ITEM NO.	PART NUMBER	DESCRIPTION
1	5575920	4 Wire Trailer Harness
2	5575921	Corrugated Loom-1/2" Non-Split 240: Length Note: Same For All Models
3	5575922	Tee Fitting-1/2"
4	5575923 55759231 55759233 55759232 55759234	Corrugated Loom-1/2" Non-Split 38" Length Corrugated Loom-1/2" Non-Split 64" Length Corrugated Loom-1/2" Non-Split 80" Length Corrugated Loom-1/2" Non-Split 96" Length Corrugated Loom-1/2" Non-Split 112" Length
5	5575924	Closed End Connector
6	5575925	16-14 GA 1/2" Ring Terminal Non-Insulated (Waytek #31207)

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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, drill 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 drill 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 drill 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.
	High torque load.	Slow down when planting. **DO NOT** seed at speeds greater than 4-5 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.**
CLUTCH:		
Clutch will not function.	Worn clutch bushings.	Replace **bushings** (part #1121).
	Clutch shaft key (part #1110) missing.	Replace.
	Lever in **clutch housing** (part #1119) is stuck.	Tap lightly with hammer and apply silicone lubricant.
	Roller dog of clutch housing is contacting the detents in the clutch hub.	Grind a small amount off the corner of the three machined bosses on the **clutch hub** (part #1120).
	Clutch tripper assembly is loose or positioned wrong.	Tighten the clutch tripper assembly bolts. Loosen set screw, reposition, and retighten.
	Shaft collar has moved.	
Clutch not getting grease.	Zirk will not take grease.	Replace zirk.
	Bronze bushing in clutch has rotated so that grease holes do not align.	Rotate the bushing.

TROUBLESHOOTING

SYMPTOM	CAUSE	SOLUTION
Clutch will not disengage.	The tripper rod is too long or too short.	Rod length, clevis to clevis, on slide style floats is 13 1/4"
	Bronze bushing worn.	Replace.
	Bosses on inside of clutch housing worn (part #1120).	Replace.
	Clutch tripper collar (part #1037CLX1) is loose.	Position and retighten.
DISCS:		
Loose Discs	Worn bearings.	Service and replace.
	Incorrect number of **spacers** (part #1100 or #M15226).	Add or remove spacers until disc blades just make contact at closest point. A piece of paper should barely slide between the two blades.
	Loose rivets.	Replace and reset the rivets.
	Stretched or broken bearing case.	Replace with new case and bearing.
	Disc bolts lack Loctite.	Clean threads and apply medium strength (blue) Loctite.
	Drill was backed up with the planters in the down position.	**DO NOT back up the drill** when the planters are in contact with the ground!
Short double disc bearing life.	**Disc bolts** worn (part #K500M or K501M).	Replace if shoulder diameter of the bolt is smaller than 0.615".
	Missing **dust cap** (part #5095)	Replace the cap.
	Incorrect grease.	Use synthetic grease type **JT-6** (part #9991) or equivalent.
	Loose **disc bolt** (part #K500M & #K501M)	Apply Loctite when installing.

TROUBLESHOOTING

SYMPTOM	CAUSE	SOLUTION
Short double disc bearing life (part #JD85206) .	Worn **disc bolt** (part #K500M & #K501M).	Replace if diameter is smaller than 0.615 inches.
	Missing **spacer** (part #1100 or #M15226)	Replace the spacer.
	Broken **case** (part #M1677655)	Replace the case.
	Loose rivets in disc blade.	Replace rivets.
	Bent depth band.	Straighten or replace the depth band.
Discs wobble.	Buildup of mud on depth bands backside between blade and depth band.	Install **depth band scrapers**
	Bent depth bands.	Straighten or replace the depth bands.
	Worn or loose bearings.	Replace the **bearing** (part #JD85206).
	Bent or cracked blade.	Replace the blade.
	Loose disc bolt. The K500M bolt has right-hand threads and the K501M has left-hand threads. The shoulder diameter of the bolt should be no smaller than 0.615 inches; otherwise it should be replaced.	When reinstalling the disc bolts, it is important to clean both the bolt threads and the threads in the boot casting with solvent (such as toluene or ether). Apply a medium strength #242 Loctite to the boot threads before installing the bolt into the boot casting.
	Defective inside scraper assembly.	Replace with new **assembly** (part #AM11828)
Discs not turning.	Bent disc guard.	Replace **disc guard** (part #38880)
	Scrapers are adjusted too tight (either inside or outside).	Loosen scraper nuts.

TROUBLESHOOTING

SYMPTOM	CAUSE	SOLUTION
Discs not turning.	Drill was rolled backward when it was in the down or working position. This would cause dirt to jam between the disc blades.	Using extreme care! Hold one disc blade at a time with a vise grip, while turning its matching blade to remove the dirt between each assembly.
	Insufficient space between double discs.	Add **spacers** (part #1100 or #M15226) as needed.
	Dirt behind the depth bands.	Remove the depth band, clean, and reinstall. Service the scrapers.
Disc opener does not track.	Loose or bent assembly. The **lift bracket** (part #10321) may be bent. The flex knuckle may have walked or moved from its original position.	Align the lift brackets on 7-1/2" centers. Replace bent brackets as needed.
	The rubber cords may have deteriorated. Look for cracking or softness on the ends of cords.	Soft rubber cords should be replaced.
Boot (shoe) failure.	Casting breakage.	Replace and slow down on rocky sites.
	Loose subassemblies.	Check for loose, worn-out **disc assemblies** (part #125456C) daily and **replace**. Check for loose and worn Connex **bushing** (part #10252).
SCRAPERS:		
	Bent depth band.	Straighten or replace the depth band.
Short Scraper Life	"Ears" form on scrapers.	Break off "ears" daily with pliers.
	Excessive wear.	Reduce spring preload by backing off the nuts. This will reduce the friction of the scraper against the disc blade.
	Lost scraper assemblies.	Use **locking flanged nuts** (part #N14-FNL & part #FN516-FNL) on the scraper assemblies or apply Loctite to the installed parts.

TROUBLESHOOTING

SYMPTOM	CAUSE	SOLUTION
PRESS WHEELS:		
Press wheel springs fail.	Press wheels support too much weight.	Lower the front of the drill at the tongue clevis.
Press wheel tires come off the rims.	Excessive load on press wheel tires.	Raise the drill on sharp turns. Slow down on rocky sites. Lower the front of the drill to reduce forces on the press wheels. Change the tongue clevis position.
	Press wheel rim is bent.	Straighten rim or replace press wheel. Use drag chains in rocky conditions.
	Axle bolt tightens into the **"h" frame** (part #10251) which locks the press wheel bearing and prevents the press wheel from turning. This results in the self-destruction of the press wheel and tire.	Refer to "Set-Up & Preparation Section" for correct procedure to install the axle bolts and machinery bushings. Failure to follow correct procedure will result in continued press wheel failure. Increase frequency of application of WD-40.
SEED BOXES:		
	Dirt or rust on the exposed fluted feed or cut-off rolls.	Clean and lubricate with a dry silicone based lubricant.
Fluted-feed roll shifter levers on the small seed or cool season/grain box difficult to move.	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.

SYMPTOM	CAUSE	SOLUTION
SEED BOXES (Con't):		
	Seed cup gates are jammed with debris.	Move gate levers up and down and clean debris from the gate area with an air hose.
Fluted-feed roll shifter levers on the small seed or cool season/grain box difficult to move.	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 drill unless it is equipped with a fertilizer box attachment. Follow procedure in above item for cleaning coated seed from seed boxes.
	Missing **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 drill 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.
<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 drill, 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 26 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.
	Wrong setting of speed changer.	Move chain right.
	Wrong sprocket.	Increase the size of the jack shaft sprocket (the end above the ground wheel). OEM is 26 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, rice hulls 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.
	Brown double spout 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.	
	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.
		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 drill at posted highway speeds. **TOW AT A SPEED OF 20 MPH 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 130-135 Foot Lbs.
HYDRAULICS		
OTG hydraulic failure	Improper hose connection to hydraulic cylinders.	See Parts Catalog – Hydraulic Assemblies.
	Improper hose connection to tractor hydraulics.	See Parts Catalog – Hydraulic Assemblies.

SYMPTOM	CAUSE	SOLUTION
HYDRAULICS (Con't):		
OTG hydraulic failure	Incorrect quick disconnects on either tractor or drill.	Check compatibility as many disconnect brands do not interconnect. Also, different models of the same brand **do not** always interconnect. Relieve pressure from the tractor hydraulics before attempting to connect to the drill. It may be necessary to relieve hydraulic pressure (without disconnecting hydraulic fitting) prior to connecting the hydraulic quick disconnects.
	Dirty or damaged hydraulic quick disconnects.	Keep all hydraulic quick disconnect fittings clean and covered when not in use. Wipe clean before connecting and **do not** pound or hammer on the "ball fitting" on the "male" disconnect to relieve pressure on the line. Be aware of hydraulic pressure. Use extreme caution when working with hydraulic fluids.
	Damaged, frayed, or bent hydraulic hoses.	Hydraulic hoses that are routed between the drill from the front tower to the rear of the drill must be covered with **hose guard** (part #42221). This will protect and prevent hose damage in areas where they come in contact with the drill frame parts.
	Hydraulic system is air-locked.	Follow procedures outlined in the Maintenance and Service Section of this manual.
NO- TILL:		
No-till units do not penetrate.	Insufficient weight transfer to no-till units.	Change draw bar position on the tractor. Check for loose or worn disc blades or no-till blades.

TROUBLESHOOTING

SYMPTOM	CAUSE	SOLUTION
NO- TILL (Con't): **No-till units do not penetrate.**		Change style and size of no-till blades. Lower shanks of no-till assemblies.
	Insufficient weight transfer to no-till units.	
	Excessive field speed for field conditions.	Reduce ground speed.
	Seedbed requirements **do not** match equipment.	Sod seeding will require the 13-1/2" notched no-till blade. Fields with loose residue cover, such as winter wheat or corn residue may require the 18" notched blade. The larger blade will help prevent "snow plowing" the litter. In soybean/ intermediate and bare ground use either the 24 or 13 wave flat blades. Drilling along ditches, roadsides, swales, and other site specific conditions may require a narrower drill to allow the majority of disc openers to contact the ground at all times.
No-till planting units are not tracking.	Disc openers are out of alignment.	Straighten **lift bracket** (part #10321), if bent. Check alignment from back of drill. Rubber torsion knuckle may have moved left or right. Loosen the four **retaining bolts** (part #B38-1.25) and carefully move the knuckle back into position.
	No-till units are out of alignment.	**Clamp plates** (part #4211 or #5211) are not equally spaced. **Clamp plates** (part #4211 or #5211) may be broken or twisted. Inspect and replace as needed. **Shanks** (part #42201X, #4220X1, and #52201X) are bent or twisted. **Caution! Shanks** (part #52201X are made from spring steel and will not straighten. If bent, **they must be replaced**.

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** 30-31.
	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.	Acre meter will read 45% of actual acres planted. Multiply acre meter reading by 2 for actual acres planted.

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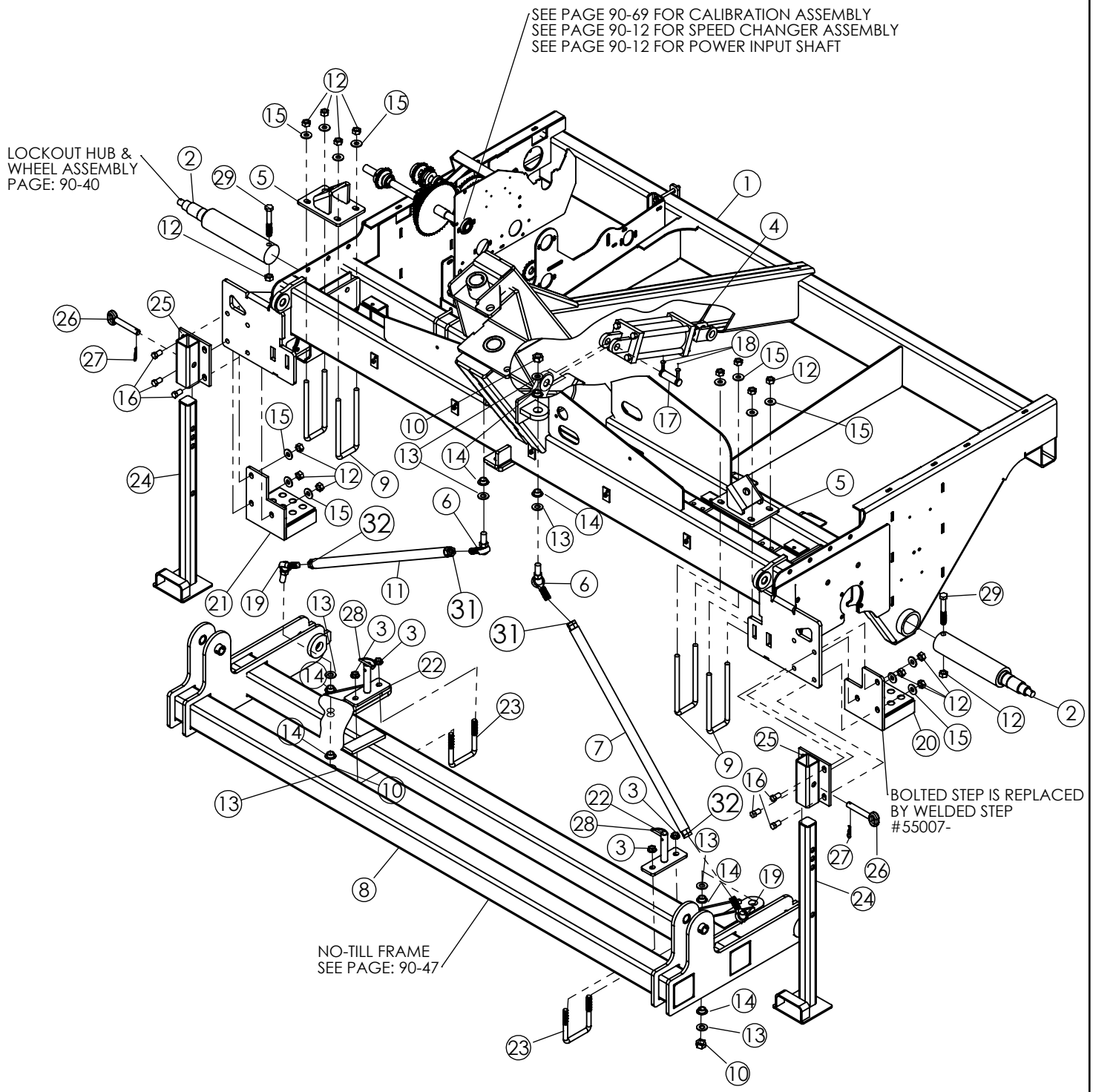
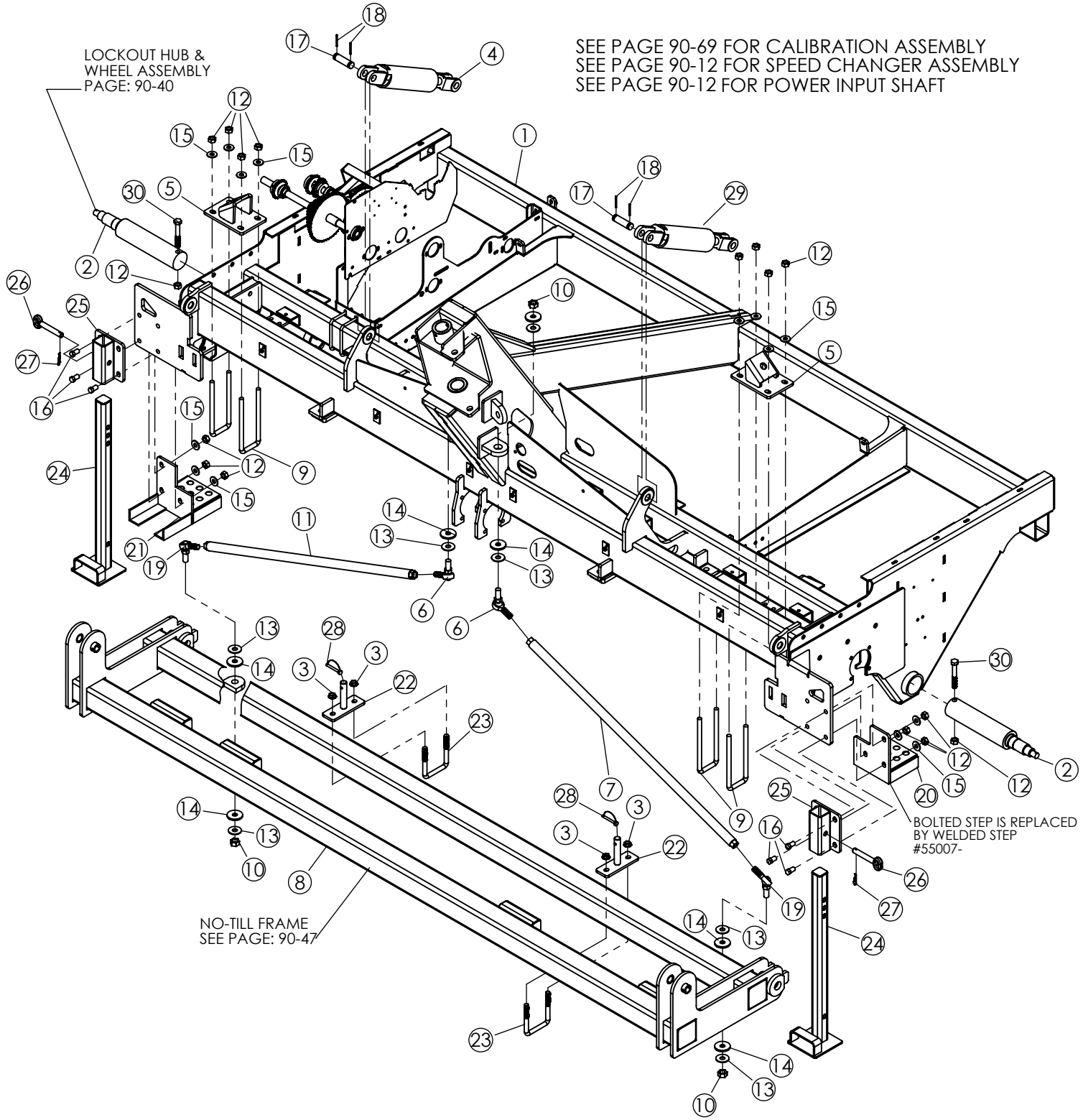


MAIN FRAME ASSEMBLY- PAGE 2 OF 2			
ITEM NO.	**S PART NUMBER**		**DESCRIPTION**
1	551036X2 551036X3	Mdl.7508 Mdl.7512	Frame-Main
2	552036D_04 552036D_05		2" x 18" Fatigue Proof CF Bar (-55004) 3" x 18" CRS - 1045 RD (55005-)
3	N58-FN-GR5		Nut-5/8"-Flanged-Grade 5
4	42260		Hydraulic Cylinder-3" x 8" Non-Rephasing Industry # 30TD08-3-648760 (3000 psi)
5	55310041		Tongue-Strut-Mount
6	6072K180		Right Hand-Ball Joint Link
7	5575806 55751516	Mdl.7508 Mdl.7512	Anti-Sway Bar-Non-Drive End
8	554200X2 554200X201 554200X3 554200X301	Mdl.7508 Mdl.7508 Mdl. 7512 Mdl.7512	No-Till Frame
9	UB58-9.75-3		U-Bolt-5/8" x 9 3/4" x 3"
10	N34-NF-GR8		Nut-3/4"-National Fine Thread-Grade 8
11	5575805 55751215	Mdl.7508 Mdl.7512	Anti-Sway Bar-Drive End
12	N58-TL-GR5		Nut-5/8"-TL-Grade 5 (-55004)
13	W34-2		Washer-3/4"ID x 2"OD
14	557515161		Bushing-Urethane
15	W58-GR5		Washer-5/8"-Grade 5 (-55004)
16	B58-1.5-GR5		Bolt-5/8" x 1.5" Grade 5
17	80111		Pin-Hydraulic-1" x 3 1/2" Standard
18	CP316-2		Cotter Pin-3/16" x 2"
19	6072K181		Left Hand-Ball Joint Link
20	557504L 557504L1		Front Walk Board Step-Non-Drive End (-55004) Front Walk Board Step-Non Drive End (55005-)
21	557504R 557504R1		Front Walk Board Step-Drive End (-55004) Front Walk Board Step-Drive end (55005-)
22	5510365		Tongue Strut Storage-15/16" Pin-OTG
23	UB58-5.25-4		U-Bolt-5/8" x 5 1/4" x 4"
24	106942 55106942		Parking Leg Stand-2 1/2" x 2 1/2" x 31" (-55004) Parking Leg Stand-3 1/2" x 3 1/2" x 31" (55005-)
25	106941 55106941		Parking Leg Stand Mount- 2 1/2" x 2 1/2" (-55004) Parking Leg Stand Mount-3 1/2" x 3 1/2" (55005-)
26	3204JHD		Hitch Pin-3/4" x 4 1/2"
27	HP116		Hair Pin-1/16"
28	4226XGO		Retainer
29	B58-3.5 B58-4.5		Bolt-5/8" x 3 1/2" Bolt-5/8" x 4 1/2"
31	JN34R		Jam Nut-3/4"-Right Hand
32	JN34L		Jam Nut-3/4"-Left Hand

MAIN FRAME ASSEMBLY- PAGE 1 OF 2

MODEL 7516, 7518 & 7522



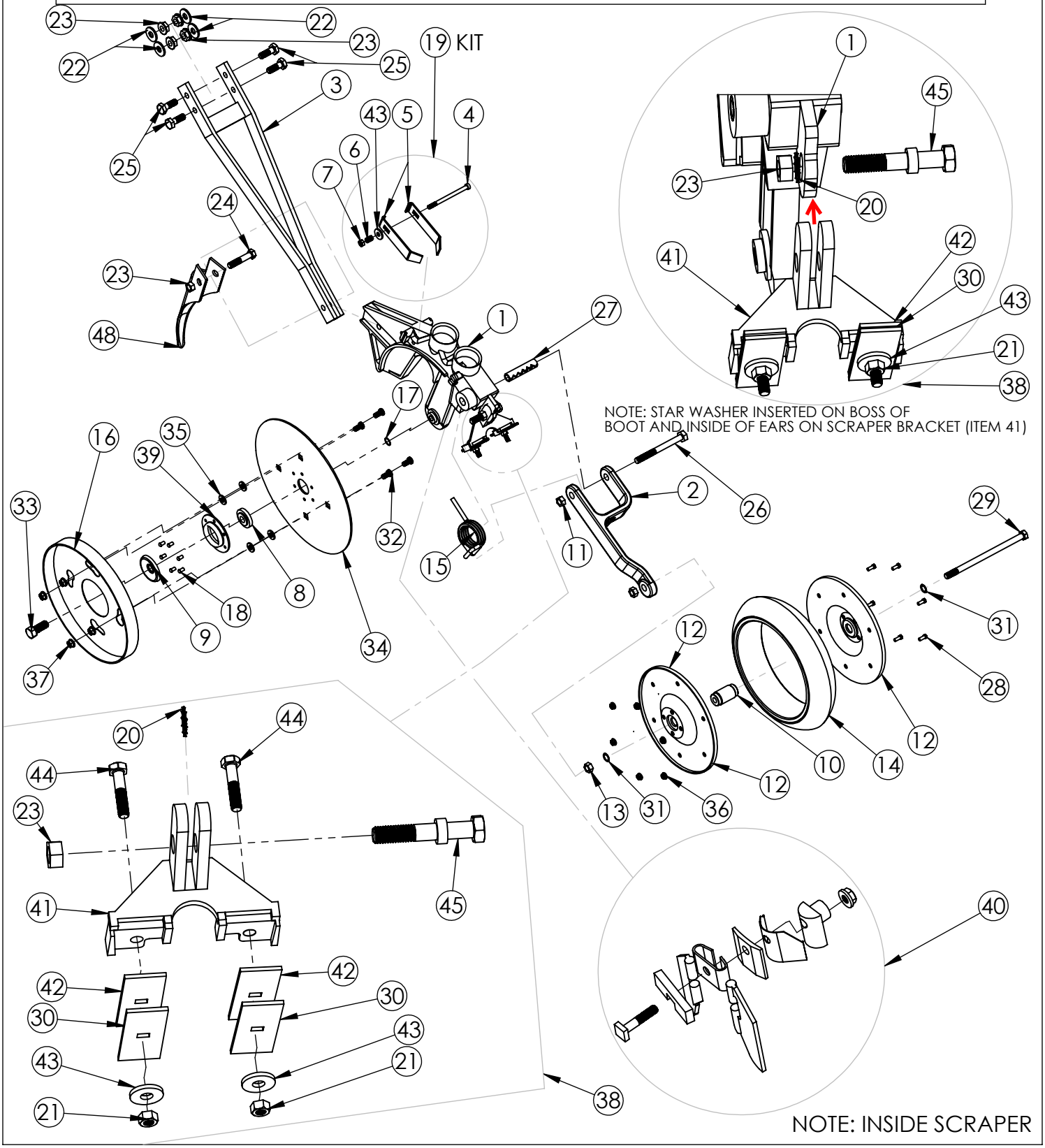
MAIN FRAME ASSEMBLY- PAGE 2 OF 3			
ITEM NO.	**S PART NUMBER**		**DESCRIPTION**
1	551036X4 551036X5 551036X6	Mdl.7516 Mdl.7518 Mdl.7522	Frame-Main
2	552036D_04 552036D_05		2” x 18” Fatigue Proof CF Bar (-55004) 3" x 18" CRS - 1045 RD (55005-)
3	N58-FN-GR5		Nut-5/8" Flanged Nut Grade 5
4	4226XND		Hydraulic Cylinder-3" x 8" Rephasing 30PL08-125-644785
5	55310041		Tongue Strut Mount
6	6072K180		Right-Hand Shank-Thread Right-Hand Stud-Thread Ball Joint Linkage
7	55751618 55751806 55752206	Mdl.7516 Mdl.7518 Mdl.7522	Anti-Sway Bar-Non-Drive End
8	554200X4 554200X401 554200X5 554200X501 554200X6 554200X601	Mdl.7516 Mdl.7516 Mdl.7518 Mdl.7518 Mdl. 7522 Mdl.7522	No-Till Frame
9	UB58-9.75-3		U-Bolt-5/8" x 9.75" x 3"
10	N34-NF-GR8		Nut-3/4" National Fine Thread-Grade 8
11	55751617 55751805 55752205	Mdl.7516 Mdl.7518 Mdl.7522	Anti-Sway Bar-Drive End
12	N58-TL-GR5		Nut-5/8" Top Locking Grade 5
13	W34-2		Washer-3/4"ID x 2"OD
14	557515161		Bushing-Urethane
15	W58-GR5		Washer-5/8" Grade 5
16	B58-1.5-GR5		Bolt-5/8" x 1.5" Grade 5
17	80122		Pin-Hydraulic-1" x 3-1/2" Standard
18	CP316-2		Cotter Pin-3/16" x 2"
19	6072K181		Left-Hand Shank-Thread Right-Hand Stud-Thread Ball Joint Linkage
20	557504L 557504L1		Front Walk Board Step-Non-Drive End (-55004) Front Walk Board Step-Non-Drive End (55005-)
21	557504R 557504R1		Front Walk Board Step-Right (-55004) Front Walk Board Step-Right (55005-)
22	5510365		Tongue Strut Storage-OTG
23	UB58-5.25-4		U-Bolt-5/8" x 5-1/4" x 4"
24	106942 55106942		Parking Leg Stand-2 1/2" x 2 1/2" x 31" (-55004) Parking Leg Stand-3 1/2" x 3 1/2" x 31" (55005 -)
25	106941 55106941		Parking Leg Stand Mount-2 1/2" x 2 1/2" x 31" (-55004) Parking Leg Stand Mount-3 1/2" x 3 1/2" x 31" (55005-)

MAIN FRAME ASSEMBLY- PAGE 3 OF 3		
ITEM NO.	**S PART NUMBER**	**DESCRIPTION**
26	3204JHD	Hitch Pin 3/4" x 4.5"
27	HP116	Hitch Pin-1/16"
28	4226XGO	Retainer
29	4226XND	Hydraulic Cylinder-2-3/4” x 8” 24LP08-112-647784
30	B58-3.5 B58-4.5	Bolt-5/8” x 3-1/2” Bolt-5/8” x 4-1/2”
31	JN34R	Jam Nut-3/4"-Right Hand
32	JN34L	Jam Nut-3/4"-Left Hand

PARTS CATALOG

ALWAYS ORDER BY PART NUMBER – NOT BY ITEM NUMBER

PLANTER ASSEMBLY PAGE 1 OF 4



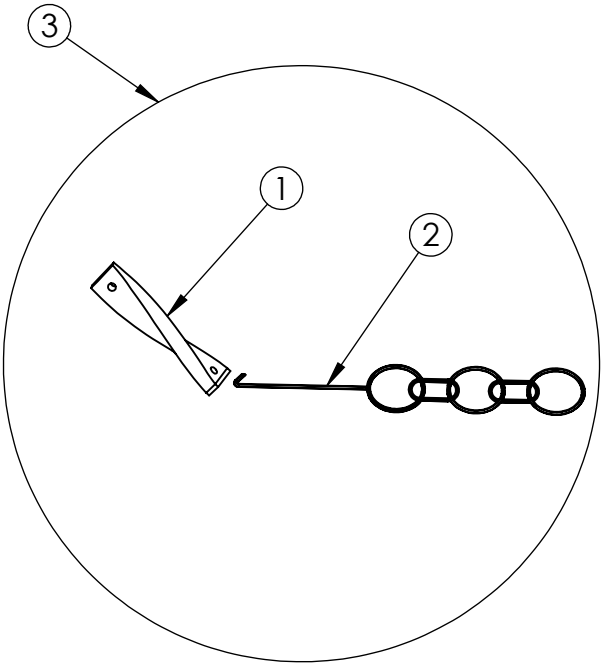
PLANTER ASSEMBLY PAGE 2 OF 4

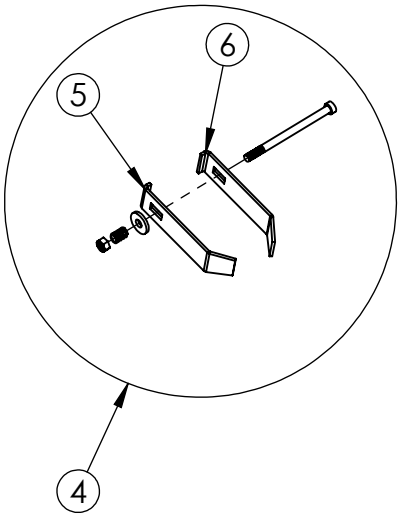
ITEM NO.	PART NUMBER	DESCRIPTION
0	KK254M55	Blade, Case, Bearing Assembly-OTG (#55001-)
	AM11128655	Case & Bearing Assembly-OTG (#55001-)
	012545C55B	Blade, Band, Case, Bearing Assembly (12-1/2" Band)-OTG (#55001-)
	012545C55C	Blade, Band, Case, Bearing Assembly (12" Band)-OTG (#55001-)
	012545C55	Blade, Band, Case, Bearing Assembly (11-1/2" Band)-OTG (#55001-)
	012545C55D	Blade, Band, Case, Bearing Assembly (10-1/2" Band)-OTG (#55001-)
	012545C55F	Blade, Band, Case, Bearing Assembly (10-1/2" Band)-OTG (#55001-)
	12900B	Planter Assembly-OTG (#55001-) (12-1/2" Band, Bearing, Boot, Lift Bracket, Scraper Assemblies, Seed Hose #5534441)
	12900C	Planter Assembly-OTG (#55001-) (12" Band, Bearing, Boot, Lift Bracket, Scraper Assemblies, Seed Hose #5534441)
	12900	Planter Assembly-OTG (#55001-) (11-1/2" Band, Bearing, Boot, Lift Bracket, Scraper Assemblies, Seed Hose #5534441)
	12900D	Planter Assembly-OTG (#55001-) (10-1/2" Band, Bearing, Boot, Lift Bracket, Scraper Assemblies, Seed Hose #5534441)
	12900F	Planter Assembly-OTG (#55001-) (9-1/2" Band, Bearing, Boot, Lift Bracket, Scraper Assemblies, Seed Hose #5534441)
1	0888	Boot(Shoe)-Black
2	10251	“h” Frame-Black
3	10321	Lift Bracket
4	CB516-4.5	Carriage Bolt-5/16" x 4-1/2"
5	10845B-LH	Scraper-Left Hand (12-1/2" Band)
	10845B-RH	Scraper-Right Hand (12-1/2" Band)
	10845C-LH	Scraper-Left Hand (12 " Band)
	10845C-RH	Scraper-Right Hand (12" Band)
	10845D-LH	Scraper-Left Hand (10-1/2" Band)
	10845D-RH	Scraper-Right Hand (10-1/2" Band)
	10845F-LH	Scraper-Left Hand (9-1/2" Band)
	10845F-RH	Scraper-Right Hand (9-1/2" Band) See page 90-8 for 11-1/2"
6	1087	Spring-Scraper
7	N516-FNL	Nut-5/16" Flanged Locking Nut
8	JD85206	Double Row Bearing (SHOUP #6916) (JDs' #AA59196 #107858)
9	5095P	Bearing-Cap-Plastic (-55004) (SHOUP #88218) (JD #A78218)
	5095	Bearing-Cap-Steel (55005-)
10	1092A1	Bearing-Non Regreasable
11	N12-CLJN	Nut-1/2" Clincher-Jam
12	1093AC	Rim-Press Wheel
13	N12-JN	Nut-1/2" Jam
14	1094	Tire-Press Wheel (1-3/4" x 10")
15	10961	Spring-Torsion

PLANTS ASSEMBLY PAGE 3 OF 4		
ITEM NO.	**PART NUMBER**	**DESCRIPTION**
16	1097 1097C 1097C* 1097A 1097F 1097D	Depth Band-11 1/2" Diameter Depth Band-12" Diameter Depth Band-12" Diameter with 3-3/4" Center Hole Depth Band-12-1/2" Diameter Depth Band-9-1/2" Diameter Depth Band-10-1/2" Diameter
17	1100	Spacer-5/8" ID 3/4" OD (ID# M15226)
18	16H630	Rivets-1/4" x 7/16"
19	10845CAB 10845CAC 10845CA 10845CAD 10845CAF	Scraper Assembly-Outside (12-1/2" Band) Scraper Assembly-Outside (12" Band) Scraper Assembly-Outside (11-1/2" Band) Scraper Assembly-Outside (10-1/2" Band) Scraper Assembly-Outside (9-1/2" Band)
20	SW12	Star Washer-1/2"
21	N516-CL	Nut-5/16" Clinch
22	W12	Washer-1/2"
23	N12-CL	Nut-1/2" Clinch
24	B12-2.5	Bolt-1/2" x 2-1/2"
25	B12-1.5	Bolt-1/2" x 1-1/2"
26	B12-5.25	Bolt-1/2" x 5-1/4"
27	10252	Bushing-Connex-Boot Casting-3/4" OD 1/2" ID 3 -1/4" L
28	B14-.625	Bolt-1/4" x .625"
29	B12-4	Bolt-1/2" x 4"
30	109953	Scraper-Hardened Steel (02/15/02-)
31	MB12-.125	Machine Bushing-1/2" x .125" Thickness
32	CB38-.75	Carriage Bolt-3/8" x .75" Short Neck
33	K501M K500M	Hex Head Cap Screw 5/8"-11 x 1-3/4" LH Hex Head Cap Screw 5/8"-11 x 1-3/4" RH
34	K202M	Blade Only (.137" Thickness 2006-)
35	LW38-PN	Lock Washer-3/8" Push Nut
36	N14-FN	Nut-1/4"-Flange
37	Nut38-FN	Nut-3/8"-Flange
38	10995C	Scraper Assembly-Depth Band (Plastic & Hardened Metal 2002-)
39	M1677655	Case For Bearing
40	AM11828	Scraper Assembly-Inside (parts not serviced individually)
41	10996A	Scraper-Bracket-Cast Iron (1996-)
42	10995	Scraper-Plastic
43	W516	Washer-5/16"
44	B516-1.25	Bolt-5/16" x 1-1/4"
45	1201	Bolt-1/2” x 3” With Welded Collar

PLANTER ASSEMBLY PAGE 4 OF 4

COVERING CHAIN OPTION





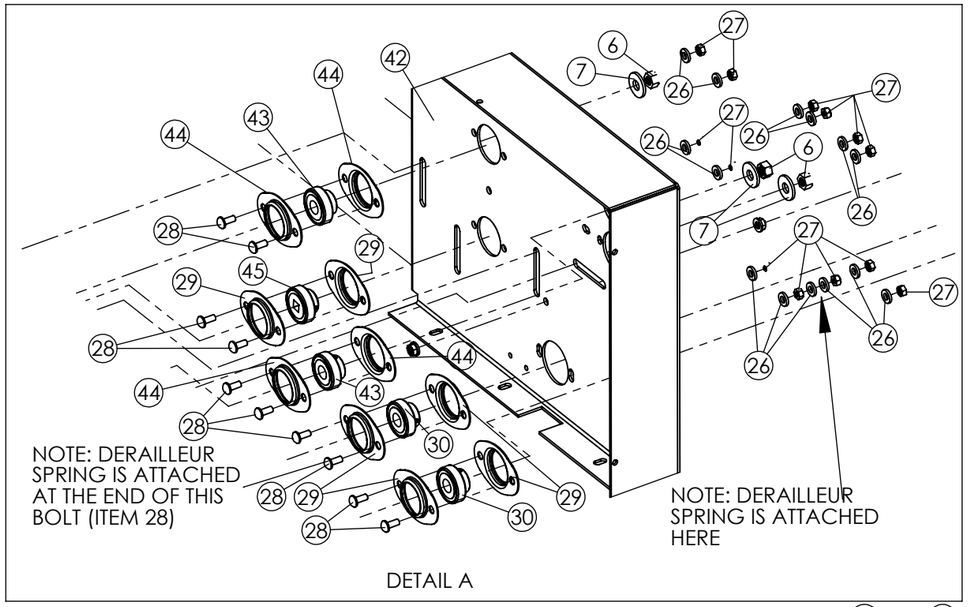
NOTE: 12" SCRAPERS REVERSED FOR 11-1/2" BAND
BEVELLED EDGE DOWN

ITEM NO.	PART NO.	DESCRIPTION
1	1093C2	Drag Chain Mount
2	1093C	Drag Chain Kit
3	1093CC	Drag Chain Assembly
4	10845CA	Scraper Assembly-Outside
5	10845-LH	Scraper-Left Hand (11-1/2" Band)
6	10845C-RH	Scraper-Right Hand (11-1/2" Band)

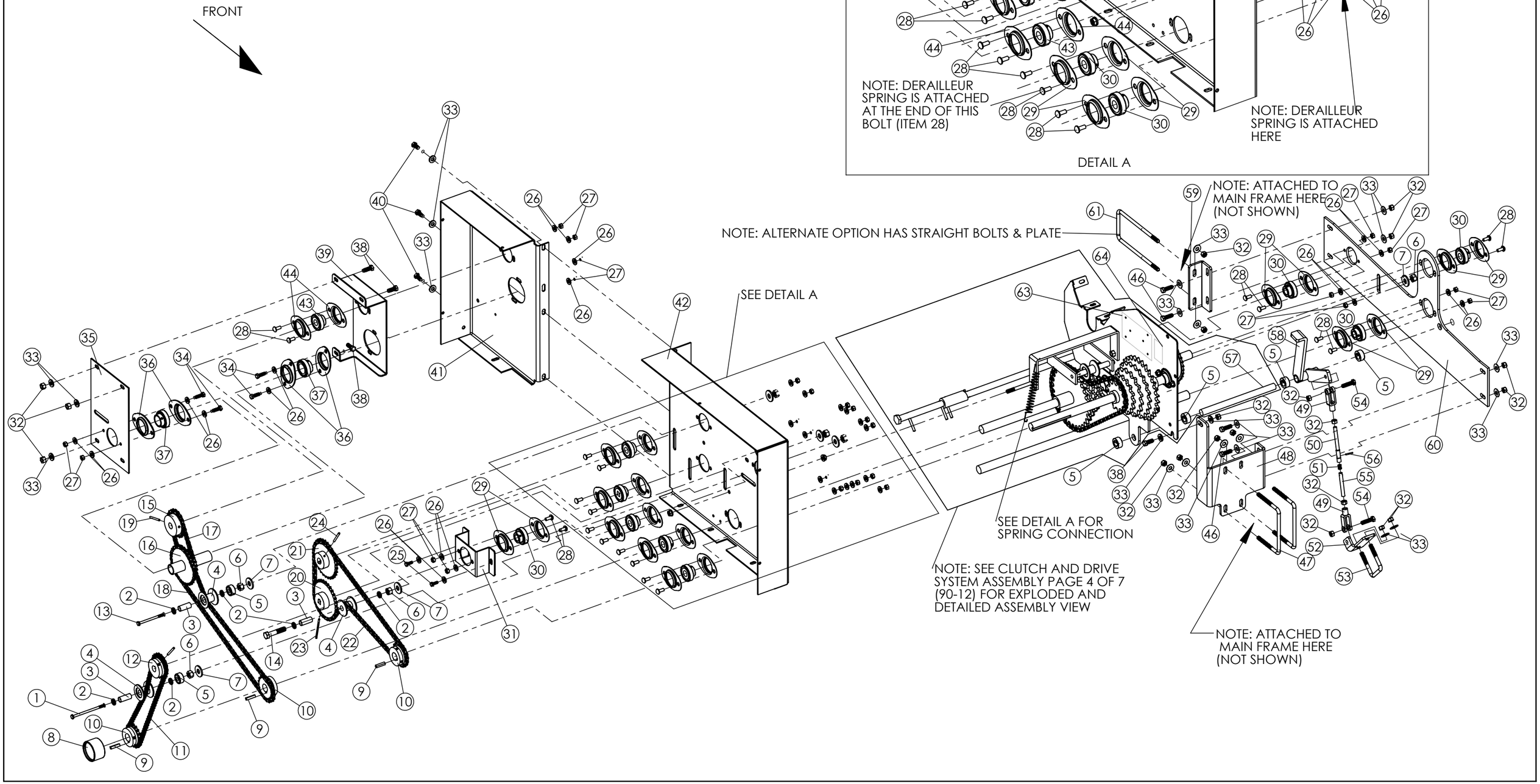
PARTS CATALOG

ALWAYS ORDER BY PART NUMBER – NOT BY ITEM NUMBER

CLUTCH AND DRIVE SYSTEM ASSEMBLY - PAGE 1 OF 7



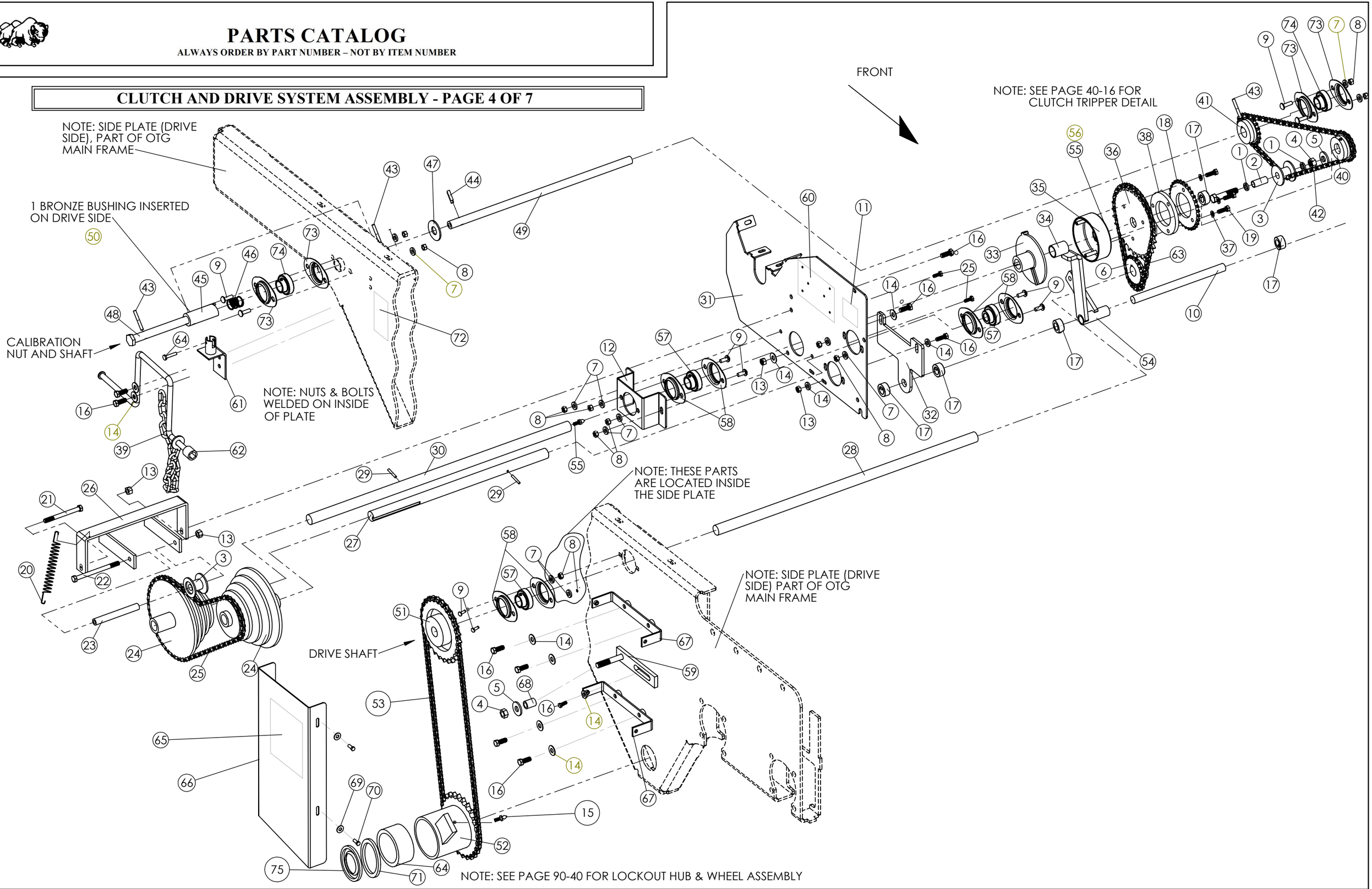
DETAIL A



CLUTCH & DRIVE ASSEMBLY PAGE 2 OF 7		
ITEM NO.	**S PART NUMBER**	**DESCRIPTION**
1	B12-4.5	Bolt-1/2" x 4-1/2" Grade 5
2	1040B	Machine Bushing-3/4" OD 1/2" ID 1/16" TH
3	1041A2	Bushing-Idler Spool 3/4" OD 1/2" ID 1-5/32" L
4	1041A	Spool-Plastic
5	1040C	Collar-1/2" ID 3/4" OD (w/set screw)
6	N12	Nut-1/2"
7	W12	Washer-1/2"
8	060012	Acre Meter - Digital
9	1110	Key-Square-1/4" x 1/4" x 1-1/4"
10	1045A	Sprocket-1" Round Bore (40B18)
11	2040E 2040L2	Chain-37 Links-Small Box Half-Link
12	1055 1054A (optional)	Sprocket-3/4" Round Bore (40B20) Small Box Sprocket-3/4" Round Bore (40B30) Small Box
13	B12-3.5	Bolt-1/2" x 3-1/2"
14	B12-2.5	Bolt-1/2" x 2-1/2"
16	3095X 3095X1	Sprocket-Double (30/20) Sprocket-Double (36/20)
17	2040F 2040L 2040L1	Chain-17 Links-Agitator Offset Link Full Link
18	2040XG 2040L 2040L1 2040L2	Chain-51 Links-Cool Season Offset Link Full Link Half Link
19	RP316-2	Roll Pin-3/16 x 2"
20	1055A1 1055A2 (optional)	Sprocket-1/2" Square Bore (40B30) Sprocket-1/2" Square Bore (40B36)
21	1054A 1055 (optional)	Sprocket-3/4" Bore (40B30) Sprocket-3/4" Bore (40B20)
22	2040C 2040L1	Chain-52 Links-Warm Season Full Link
23	CP516-3	Cotter Pin-5/16" x 3"
24	RP316-2.5	Roll Pin-3/16" x 2-1/2"
25	B516-.75	Bolt-5/16" x 3/4"
26	W516	Washer-5/16"
27	N516	Nut-5/16"
28	CB516-.75	Carriage Bolt-5/16" x 3/4"
29	3007A	Bearing-Flangettes-1"-52 MST
30	1037	Bearing-1" Round Bore

CLUTCH & DRIVE ASSEMBLY PAGE 3 OF 7		
ITEM NO.	**S PART NUMBER**	**DESCRIPTION**
31	103626	Support-Bearing
32	N38	Nut-3/8"
33	W38	Washer-3/8"
34	CB516-1	Bolt-5/16" x 1"
35	3177	Bearing Support Plate
36	3181	Bearing-Flangettes-1-1/4"-62 MST
37	3175	Bearing-1-1/4" Spherical
38	B38-1GR5	Bolt-3/8" x 1" Grade 5
39	3176	Bearing Support-Cool Season Box
40	B14-.75	Bolt-1/4" x 3/4"
41	1036241	End Plate-RH CS
42	103624	End Plate-RH
43	1007	Bearing-3/4" Round Bore
44	1007A	Bearing-Flangettes-3/4"-47 MST
45	2007	Bearing-1/2" Square Bore
46	B38-1.25	Bolt-3/8" x 1-1/4"
47	UB38-5-4.25	U-Bolt-3/8" x 5" x 4-1/4"
48	557505	OTG Front Center-Support Plate
49	3069	Yoke-Clevis-3/8 UNF
50	1118X1	Clutch Tripper-Female
51	S-38	Clutch Tripper-Spring-3/8"
52	1118BBX5	Clutch Tripper-Bracket
53	UB38	U-Bolt-3/8" x 3" x 3"
54	B38-1.5	Bolt-3/8" x 1-1/2"
55	1118X2	Clutch Tripper-Male
56	RP18-.875	Roll Pin-1/8" x 7/8"
57	5575026C	Clutch Tripper Shaft- 1" OD 10 1/2" L
58	5575026 55750261	OTG Tripper OTG Tripper-Non-Typical
59	1036222 10362221	Angle Iron Support-Center Plate Angle Iron Support-Center Plate Non-Typical
60	557503_02	Drive Shaft Center Plate
61	UB38-8-4	U-Bolt-3/8" x 8" x 4"
62	W14	Washer-1/2”
63	10755	Serial Plate
64	1046C12	Decal-Patent Information

CLUTCH AND DRIVE SYSTEM ASSEMBLY - PAGE 4 OF 7



CLUTCH & DRIVE ASSEMBLY PAGE 5 OF 7

ITEM NO.	S PART NUMBER	DESCRIPTION
1	1040B	Machine Bushing -3/4" OD 1/2" ID 1/16" TH
2	1041A2	Bushing-Idler Spool-3/4" OD 1/2" ID 1-5/32" TH
3	1041A	Spool-Plastic
4	N12	Nut-1/2"
5	W12	Washer-1/2"
6	1045A	Sprocket-1" Round Bore (40B18)
7	W516	Washer-5/16"
8	N516	Nut-5/16"
9	CB516-.75	Carriage Bolt-5/16" x 3/4"
10	5575026C	Clutch Tripper Shaft- 1" OD 10-1/2" L
11	1046C12	Decal-Patent Information
12	103626	Support-Bearing
13	N38	Nut-3/8"
14	W38	Washer-3/8"
15	1093DD	Zirk-1/4"-28
16	B38-1	Bolt-3/8" x 1" Grade 5
17	1040C	Collar-1/2" ID ¾" OD (w/set screw)
18	1044	Sprocket-Clutch-40A30
19	B516-1	Bolt-5/16" x 1 "
20	10462	Derailleur Spring
21	B38-4GR5	Bolt-3/8" x 4" Grade 4
22	B38-6GR5	Bolt-3/8" x 6" Grade 5
23	1041A3	Bushing Sleeve
24	13-201	Cone Gear Sprocket
25	2040D 2040L 2040L1	Cone Sprocket Chain Offset Link Full Link
26	15-7117	Bracket-Derailleur
27	15-711	Shaft-1” OD Output 20-1/4" Length
28	5510375	Shaft-1" OD 33" Length – Power In
29	RP316-1.25	Roll Pin-3/16" x 1-1/4"
30	5575902 5575901	Shaft-1" OD Clutch 29" Length Shaft-1" OD Clutch 33" Length
31	1036255A	Center Plate Hanging OTG
32	5575021	OTG Tripper Mount
33	1119	Clutch Housing w/Dog Trip & Set Screw
34	1121	Clutch Bushing-1-1/8" OD 1" ID 1/2" L (Requires 2)

CLUTCH & DRIVE ASSEMBLY PAGE 6 OF 7		
ITEM NO.	**S PART NUMBER**	**DESCRIPTION**
35	1120	Clutch Hub
36	1144A	Clutch Sprocket (40A54)
37	W516-LW	Washer-5/16" Lock Washer
38	5575038	Spacer-Sprocket-3 Bolt
39	5575903	Calibration Wrench Chain
40	40B18	Sprocket-1" Round Bore (40B18)
41	1057AB	Sprocket-3/4" Round Bore (40B16)
42	2040C 2040L2	OTG Calibration-Input-51 Links Half Link
43	RP316-2	Roll Pin-3/16" x 2"
44	RP14-1	Roll Pin-1/4" x 1"
45	5575040	Calibration Coupler
46	551085B2612	Calibration Shaft Spring
47	W34	Washer-3/4"
48	5575042	Calibration Drive Nut-3/4" x 7-1/4" CR RD 1018
49	5575041	Calibration Shaft-3/4" x 20-7/8" CR RD 1018 Note: See Page 90-69 For Calibration Detail
50	55751027	Bushing-Bronze Oil Light-3/8" ID 1/2" OD 1/8" L
51	2299K720	Drive Wheel Sprocket-Large (60B26)
52	551085B29 55336140	Lockout Hub - 2" Axle (-55004) Lockout Hub - 3" Axle (55005-)
53	2060OTG4 2060L1	OTG Drive Wheel-39 Links Full Link
54	5575026 55750261	OTG-Tripper OTG Tripper-Non-Typical
55	1093DD	Zirk-1/4"-28
56	1093DD1	Zirk Extender
57	3007	Bearing-1” Round Bore
58	3007A	Bearing-Flangettes-52 MST
59	553237X	Idler Support-OTG
60	10755	Serial Plate

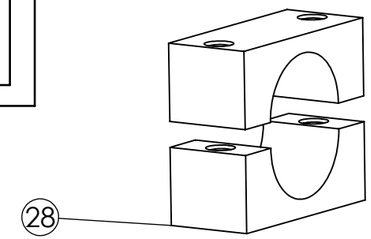
CLUTCH & DRIVE ASSEMBLY PAGE 7 OF 7		
ITEM NO.	**S PART NUMBER**	**DESCRIPTION**
61	5575998 557599	Calibration Bracket-1 Piece (-55007) Calibration Bracket-2 Piece (55008-)
62	5575999 5575905	Calibration Wrench-15/16" Socket Calibration Wrench-5/8" Socket
63	2040OTG1 2040L1 2040L2	OTG Speed Changer Chain-Large-31 Links Offset link Half Link
64	1085B21 551085	Bearing-Lockout Hub-2" ID (Industry # BR324120) (-55004) Bearing-Lockout Hub-3" ID (Industry # MD-48) (55005-)
65	1046C2	Decal-Drive Chain
66	5575027	Chain Guard-Drive Chain-OTG
67	5575027A	Chain Guard-Bracket-OTG
68	6087	Idler-Spool-White-Polly-Center-Recess
69	W14	Washer-1/4"
70	B14-.75	Bolt-1/4" x 3/4"
71	55750133	Seal-Lockout 3" Requires 2
72	1046C17	Decal-Calibration
73	1007A	Bearing-Flangettes-3/4" 47 MST
74	1007	Bearing-3/4" Round Bore
75	551138C	Seal-8 Bolt Hub-OTG

PARTS CATALOG

ALWAYS ORDER BY PART NUMBER – NOT BY ITEM NUMBER

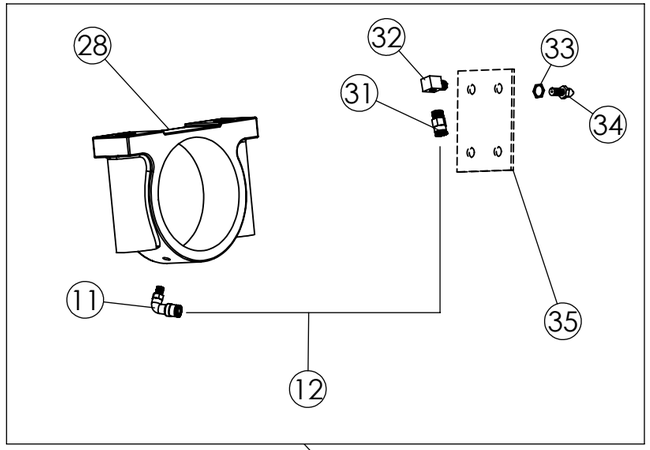
ROCKSHAFT ASSEMBLY- PAGE 1 OF 4

COMMON FOR MODELS 7508 & 7512

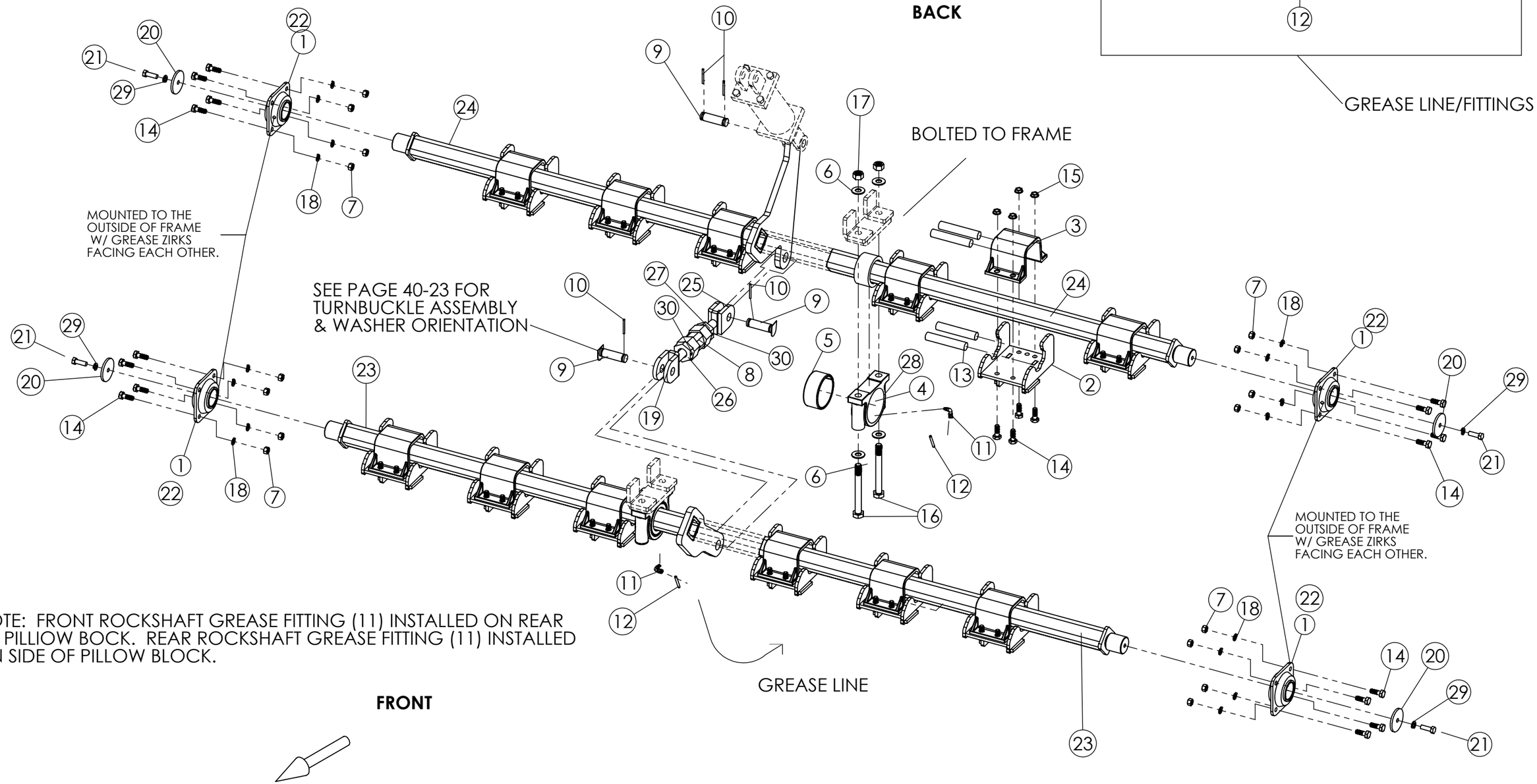


NOTE: 2 PIECE PILLOW BLOCK (-55004)
GREASE ZIRKS LOCATED ON REAR
SIDE OF PILLOW BLOCKS

BACK



GREASE LINE/FITTINGS

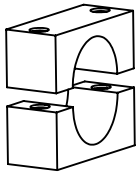


ROCKSHAFT ASSEMBLY- PAGE 2 OF 4			
ITEM NO.	**S PART NUMBER**		**DESCRIPTION**
1	55211RBA-1		Bearing-2 3/16”-Rivet Flange
2	55813		Stroke Control-Base Plate
3	103220		Clamp-Half-Knuckle
4	5589103		Bearing-Rockshaft-Pillow Block
5	5510255 55102551		Connex Bushing-4.5”OD 4”ID 2”L Composite Bushing (#55020 to #55023)
6	GDP-108		Disc-Lock Washer-3/4"
7	N12-TL-GR5		Nut-1/2"-TL-Grade 5
8	5575012		Turnbuckle Center Hub
9	80111		Pin-1" x 3 1/2"
10	CP316-2		Cotter Pin-3/16" x 2"
11	3244053		Grease Fitting-1/4”-90 Deg
12	55338151		Grease Line-Nylon 1/4”OD .18”ID .035” TH
13	42202X		Rubber-1 3/8" 5 1/2”-Cord-80 Duro
14	B12-1.5-GR5		Bolt-1/2" x 1-1/2"-Grade 5
15	N12-FN-GR5		Nut-1/2"-Flanged Nut-Grade 5
16	B34-7-GR8		Bolt-3/4" x 7"-Grade 8
17	N34-GR8		Nut-3/4"-Grade 8
18	W12-GR5		Washer-1/2"-Grade 5
19	5575010R		Turnbuckle End-Right Hand
20	6085		Washer-Cap
21	B12-1.5		Bolt-1/2" x 1-1/2”-Grade 5
22	1093DD1		Zirk-1/4”-Push Style
23	5575804 55751212	Mdl.7508 Mdl. 7512	Rockshaft-Front OTG
24	5575805 55751213	Mdl.7508 Mdl. 7512	Rockshaft-Rear OTG
25	5575010L		Turnbuckle End-Left Hand
26	5575012AL		Threaded Acme Jam Nut-1 1/4” - Left
27	5575012AR		Threaded Acme Jam Nut-1 1/4” - Right
28	33815 553815		Pillow Block-2 Piece Rockshaft (-55004) Pillow Block-1 Piece Rockshaft (55005-)
29	W12-LW		Washer-1/2”-Lock Washer
30	SC18-.375		Set Screw-1/8” x 3/8”
31	31168x4		Grease Fitting-PTC Straight
32	55338154		Bulk Head
33	351055		Grease Fitting Nut
34	1093DD		Grease Zirk-1/4”-28 Straight
35	303675		Grease Bank Plate
36	W34GR8		Washer-3/4" Grade 8

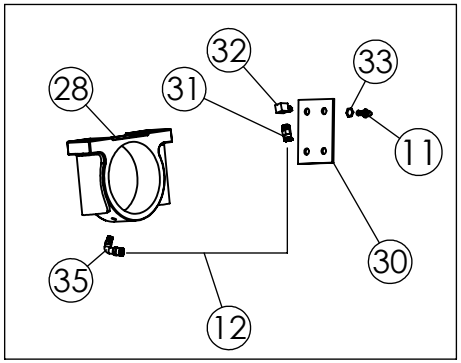
PARTS CATALOG

ALWAYS ORDER BY PART NUMBER – NOT BY ITEM NUMBER

ROCKSHAFT ASSEMBLY PAGE 3 OF 4

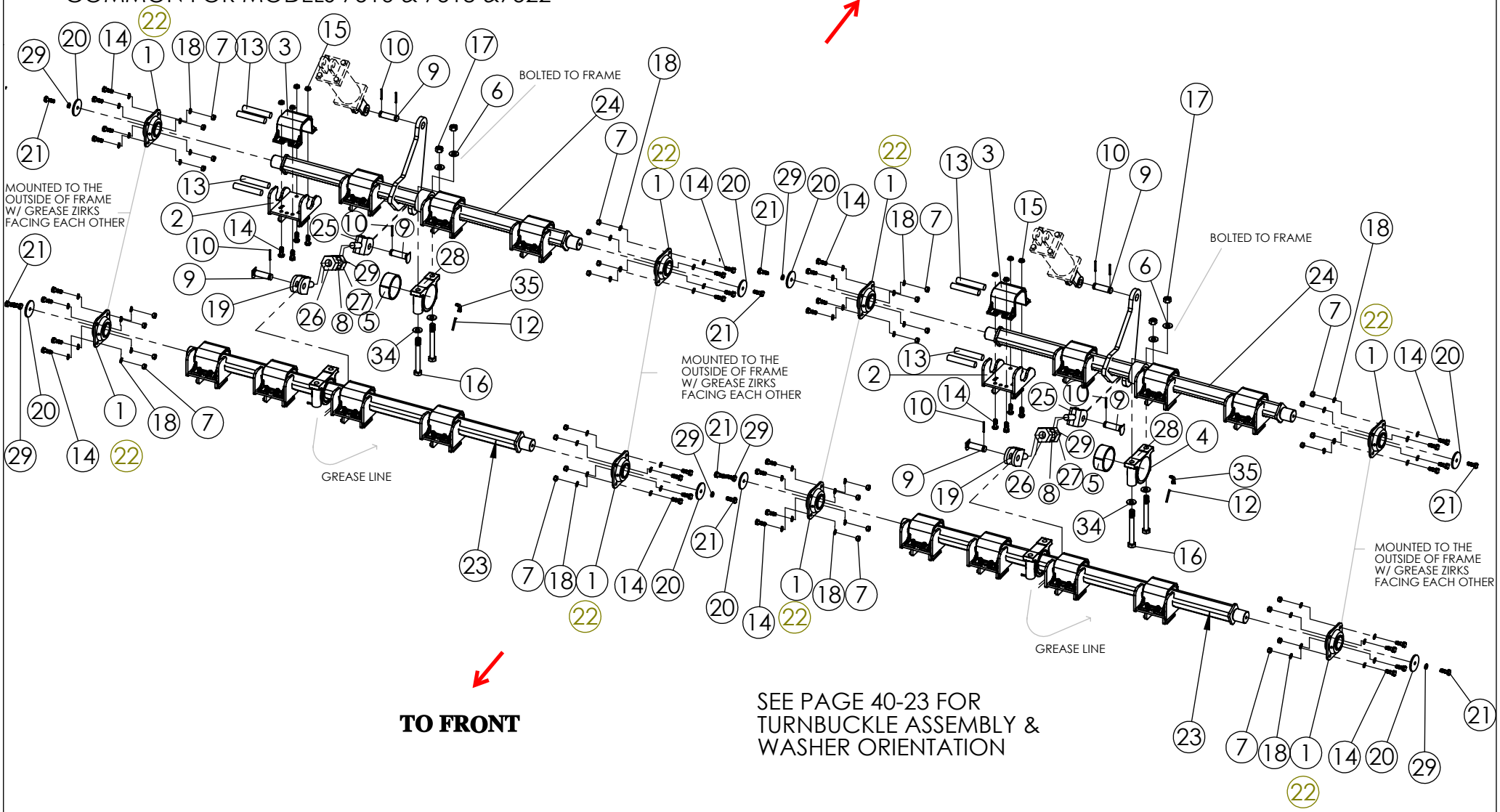


NOTE: 2 PIECE PILLOW BLOCK (-55004)
GREASE ZIRKS LOCATED ON
REAR SIDE OF PILLLOW BLOCKS



COMMON FOR MODELS 7516 & 7518 &7522

TO REAR



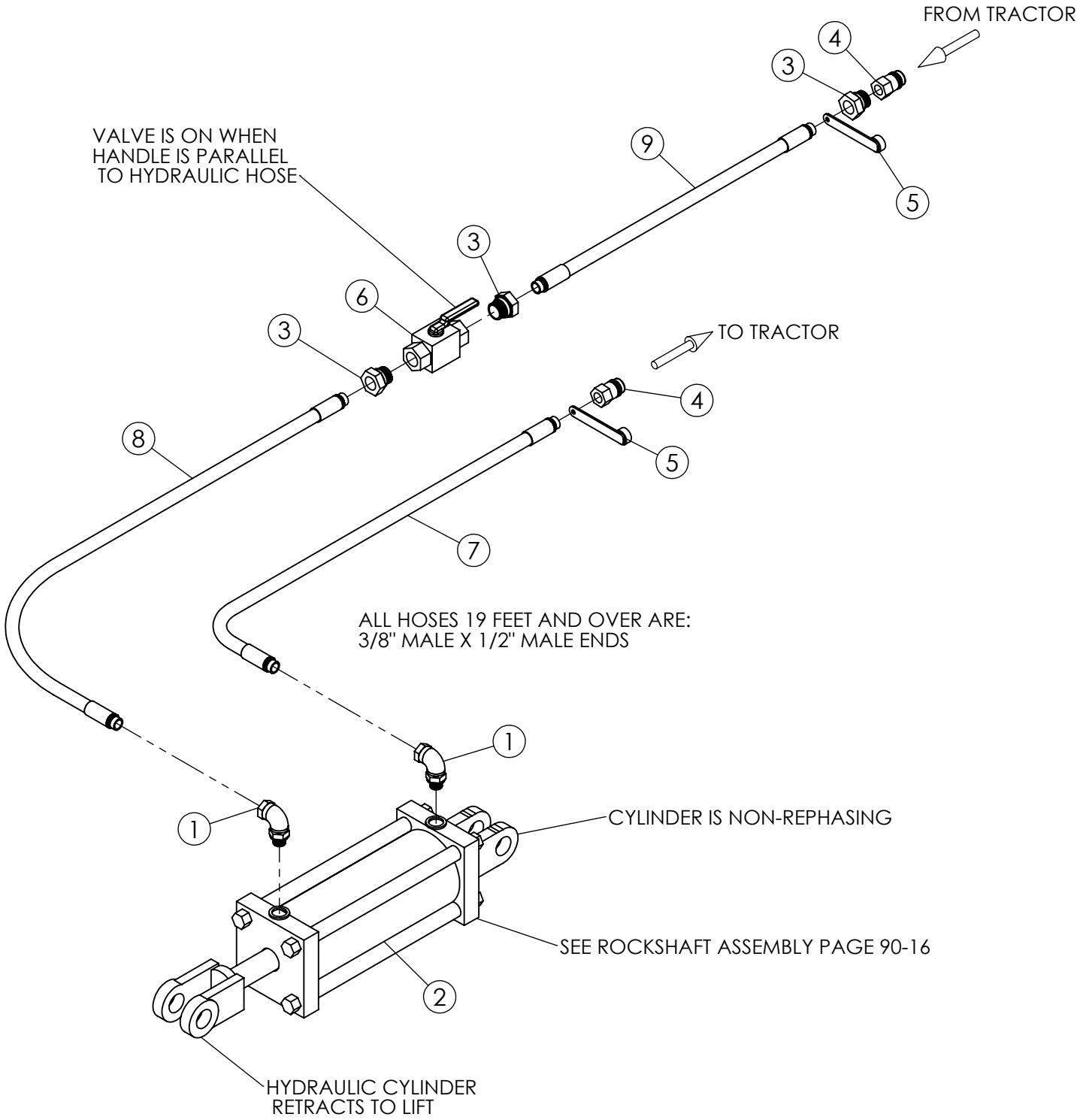
TO FRONT

SEE PAGE 40-23 FOR TURNBUCKLE ASSEMBLY & WASHER ORIENTATION

ROCKSHAFT ASSEMBLY- PAGE 4 OF 4			
ITEM NO.	**S PART NUMBER**		**DESCRIPTION**
1	55FD211RBA-1		Bearing-2-3/16" Rivet Flange
2	55813		Stroke Control Base Plate
3	103220		Clamp Half - Knuckle
4	5589103		Bearing -Rockshaft Pillow Block
5	5510255		Connex Bushing-4.5" OD 4" ID 2" L
6	GDP-108		Disc-Lock Washer-3/4"
7	N12-TL-GR5		Nut-1/2" Top Locking Grade 5
8	5575012		Turnbuckle Center Hub
9	80122		Pin-1" x 3 1/2"
10	CP316-2		Cotter Pin-3/16" x 2"
11	3244053		Grease Fitting-1/4" 90 Deg
12	55338151		Grease Line-Nylon 1/4" OD 18" ID .035" Wall
13	42202X		Rubber, 1-3/8" Cord- 80 Duro
14	B12-1.5-GR5		Bolt-1/2" x 1.5" Grade 5
15	N12-FN-GR5		Nut-1/2" Flanged Nut, Grade 5
16	B34-7-GR8		Bolt-3/4" x 7" Grade 8
17	N34-GR8		Nut-3/4" Grade 8
18	W12-LW-GR5		Washer-1/2" Lock Washer, Grade 5
19	5575010R		Turnbuckle End-Right Hand
20	6085		Washer-Cap
21	B12-1.75GR5		Bolt-1/2" x 1.75" Grade 5
22	1093DD		Zirk-1/4" Push Style
23	55751614R 55751614L 55751805R 55751804L 55752205R 55752204L	Mdl.7516-Drive Mdl.7516-Non-Drive Mdl.7518-Drive Mdl.7518-Non-Drive Mdl.7522-Drive Mdl.7522-Non-Drive	Rockshaft-Front-OTG
24	55751615R 55751615L 55751804R 55751805L 55752204R 55752205L	Mdl.7516-Drive Mdl.7516-Non-Drive Mdl.7518-Drive Mdl.7518-Non-Drive Mdl.7522-Drive Mdl.7522-Non-Drive	Rockshaft-Rear-OTG
25	5575010L		Turnbuckle End-Left Hand
26	5575012AL		Threaded Acme Jam Nut- 1 1/4" Left
27	5575012AR		Threaded Acme Jam Nut-1 1/4" Right
28	33815 553815		Pillow Block-2 Piece (-55004) Pillow Block-1 Piece (55005-)
29	SC18-.375		Set Screw-1/8" x 3/8"
30	303675		Grease Bank Plate
31	31168x4		Grease Fitting-PTC Straight
32	55338154		Bulk Head
33	351055		Grease Fitting Nut
34	N34GR8		Nut-3/4" Grade 8
35	3244053		Grease Fitting-1/4" 90 Deg

ROCKSHAFT TIE-ROD HYDRAULIC CYLINDER- PAGE 1 OF 4

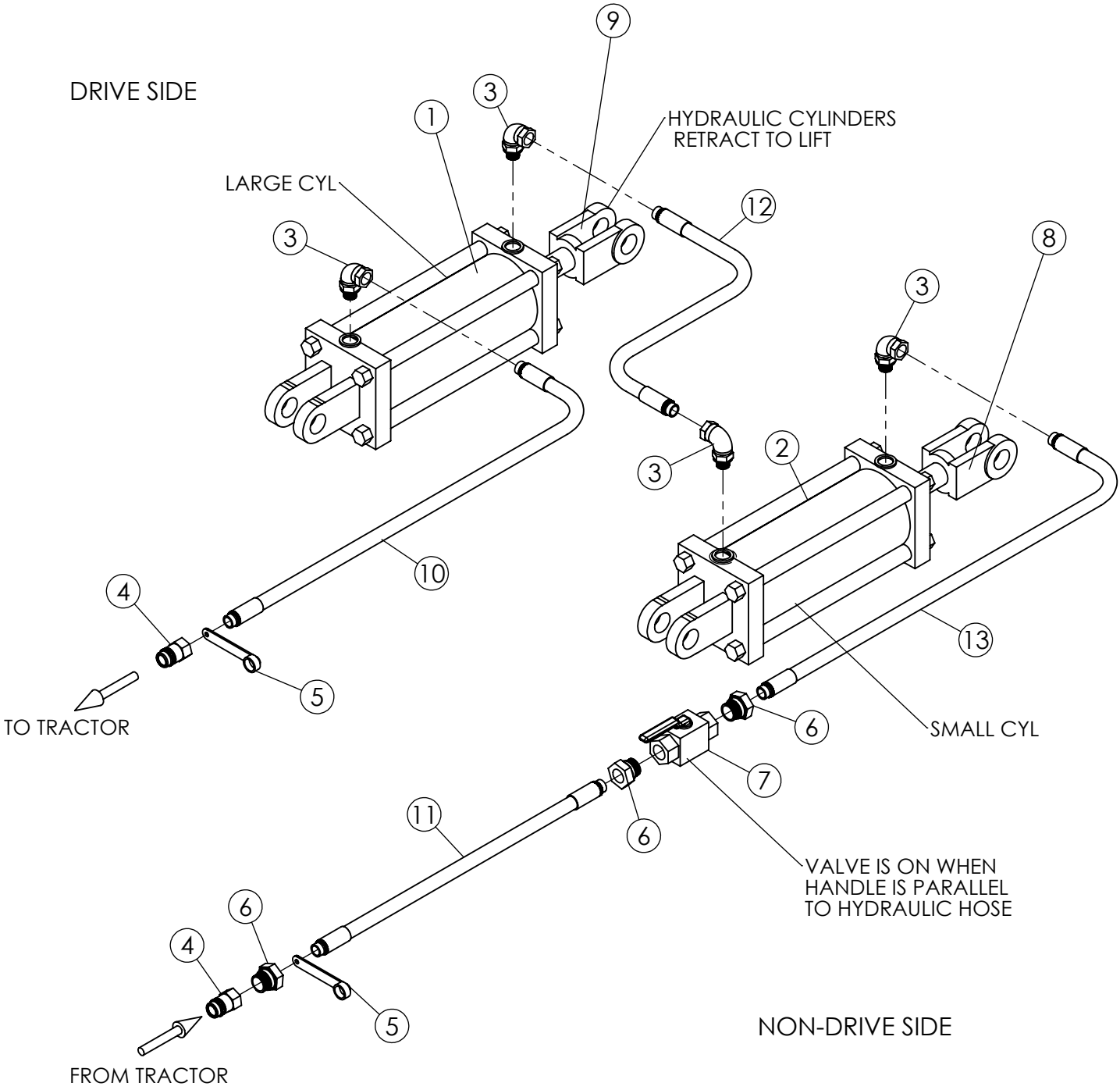
CYLINDER IS NON-REPHASING WHEN USED ON 7512 & 7508



ROCKSHAFT TIE-ROD HYDRAULIC CYLINDER (7512 & 7508 DRILL ONLY)- PAGE 2 0F 4				
ITEM NO.	**S PART NUMBER**		**DESCRIPTION**	
1	4224A1		Fitting-Swivel Adapter-6901-8-6 O Ring-90 degrees	
2	42260		Hydraulic Cylinder-Non-Rephasing Ind. # 30TD08-125-648760 (3000 psi)	
3	422201		Fit Reducer Bushing-Hex 5406-8-6	
4	42220		Fitting-Hydraulic Quick Disconnect-Male End-1/2" NPT	
5	42202C		Dust Cap-Hydraulic Rubber-Female	
6	55750		Gate Valve	
7	4222X17	Mdl. 7508 Mdl. 7512	17'	Hydraulic Hose-3/8" NPT
8	4222X3	Mdl. 7508 Mdl. 7512	3'	Hydraulic Hose-3/8" NPT
9	4222X15	Mdl. 7508 Mdl. 7512	15'	Hydraulic Hose-3/8" NPT

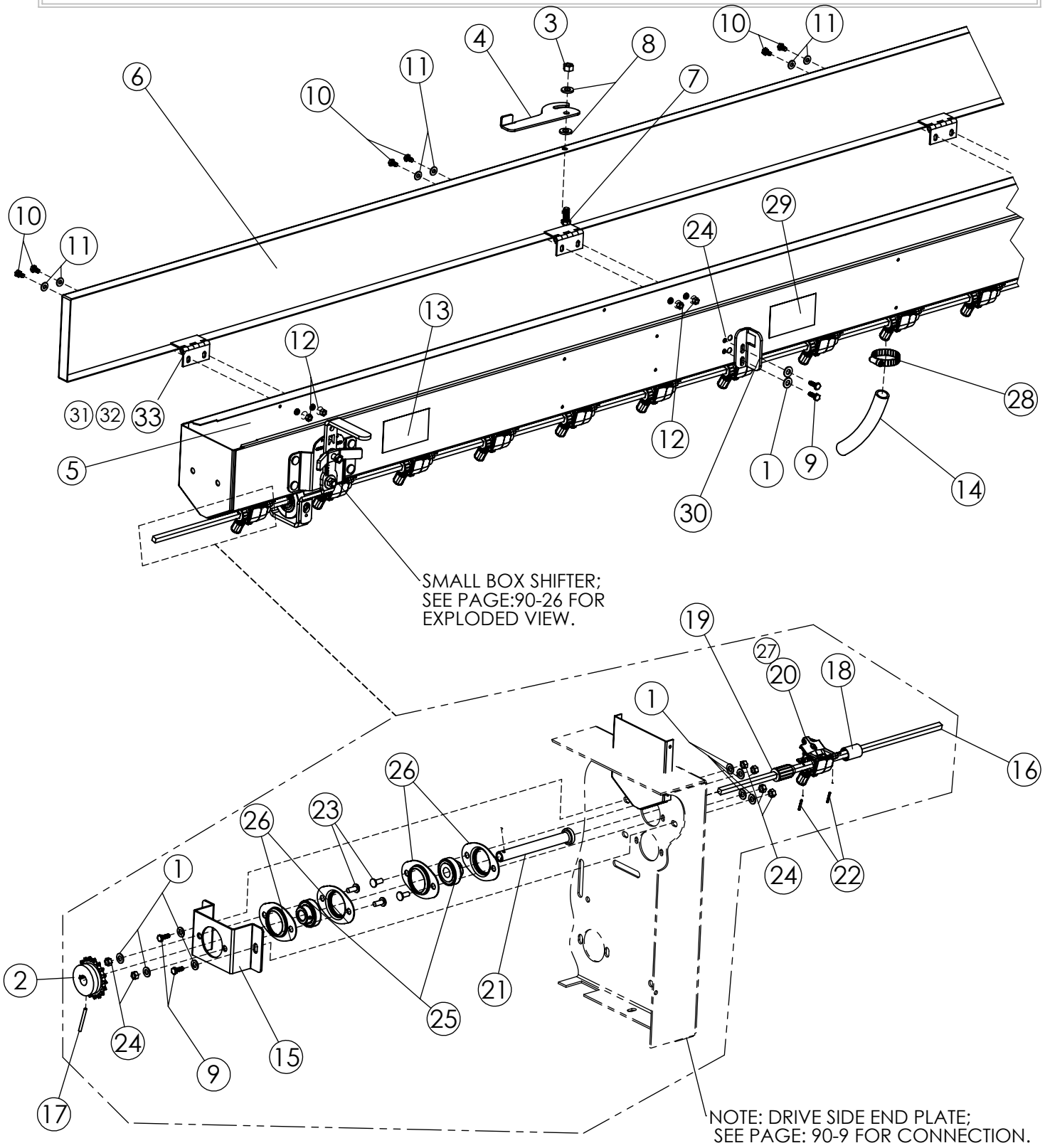
ROCKSHAFT TIE-ROD HYDRAULIC CYLINDER- PAGE 3 OF 4

CYLINDERS ARE REPHASING STYLE WHEN USED ON 7516, 7518 & 7522
CYLINDERS WELDED STYLE AFTER SERIAL #55005-



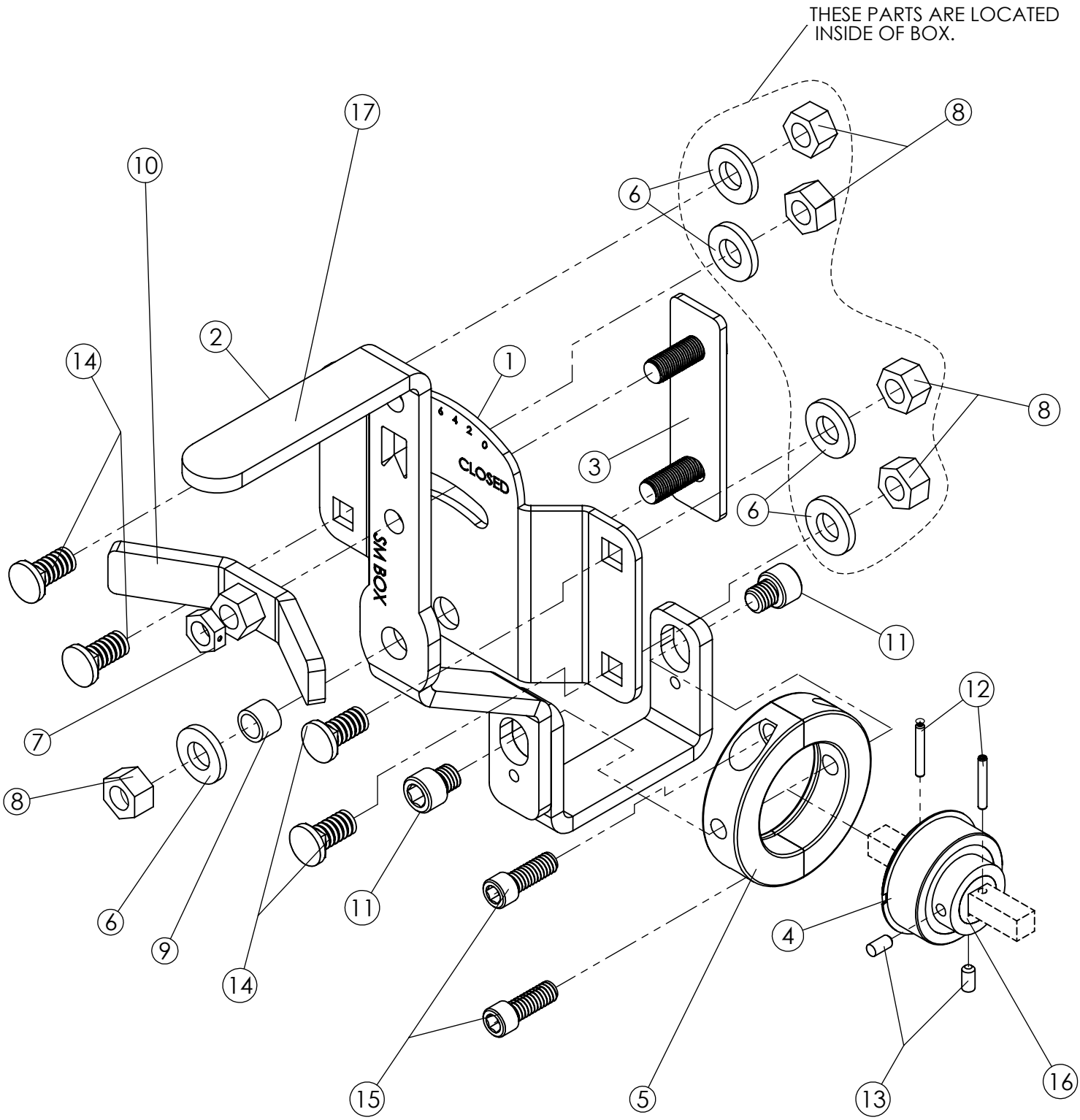
ROCKSHAFT TIE-ROD HYDRAULIC CYLINDER- PAGE 4 OF 4				
ITEM NO.	**S PART NUMBER**		**DESCRIPTION**	
1	4226XD 554227XD		Hydraulic Cylinder-3 1/2" x 8" Tie-Rod Style 35TP08-125ASAE Hydraulic Cylinder-3” x 8” Welded Style 30LPO8-125-647785	
2	4226XND 554227XND		Hydraulic Cylinder-3 1/4" x 8" Tie-Rod Style 32TP08-125ASAE Hydraulic Cylinder-2 3/4” x 8” Welded Style 24LP08-112-647784	
3	4224A1		Fitting-Swivel Adapter-6901-8-6 O Ring-90 degrees	
4	42220		Fitting-Hydraulic Quick Disconnect-Male End-1/2" NPT	
5	42202C		Dust Cap-Hydraulic Rubber-Female	
6	422201		Fit Reducer Bushing, Hex 5406-8-6	
7	55750		Gate-Valve	
8	4226X1		Clevis-1-1/8” ID	
9	4226X2		Clevis-1-1/4” ID	
10	4222X20 4222X20 4222X22	Mdl.7516 Mdl.7518 Mdl.7522	20' 20' 22'	Hydraulic Hose-3/8" x 1/2" NPT
11	4222X15 4222X15 4222X17	Mdl.7516 Mdl.7518 Mdl.7522	15' 15' 17'	Hydraulic Hose-3/8" NPT
12	4222X6 4222X6 4222X8	Mdl.7516 Mdl.7518 Mdl.7522	6' 6' 8'	Hydraulic Hose-3/8" NPT
13	4222X4 4222X5 4222X5	Mdl.7516 Mdl.7518 Mdl.7522	4' 5' 5'	Hydraulic Hose-3/8" NPT

SMALL SEED BOX ASSEMBLY-PAGE 1 OF 2



SMALL SEED BOX ASSEMBLY-PAGE 2 OF 2		
ITEM NO.	**S PART NUMBER**	**DESCRIPTION**
1	W516GR5	Washer-5/16" Grade 5
2	1055 (40B20) Standard 1054A (40B30) Optional	Sprocket-3/4"-Round Bore-20 Tooth-Pinned Sprocket-3/4"-Round Bore-20-Tooth-Pinned
3	JN38-HL-GR5	Jam Nut-3/8"-Half Locking-Grade 5
4	33100J 1038J	Over Center Latch (Style 1) Rubber Lid Retainer(Style 2)
5	1038E5 10385 1038F5 1038I5 1038K5	Mdl. 7508 Mdl. 7512 Mdl. 7516 Small Seed Box OTG Mdl. 7518 Mdl. 7522
6	1038E15 103815 1038F15 1038I15 1038K15	Mdl. 7508 Small Seed Box Lid Mdl. 7512 Note: Specify Style Mdl. 7516 Style 1: Over Center Latch Mdl. 7518 Style 2: Rubber Lid Retainer Mdl. 7522
7	B38-1-GR5	Bolt-3/8" x 1" Grade 5
8	W38GR5	Washer-3/8" Grade 5
9	B516-.75-GR5	Bolt-5/16" x 3/4" Grade 5
10	B14-.75	Bolt-1/4" x 3/4"
11	W14	Washer-1/4"
12	N14-FN	Nut-1/4"-Flanged-Nut
13	1046C2	Decal-Chain Drive Keep Clear
14	1012A	Hose-Plastic-Black-OTG 14 1/2" For Transition Part #1033 17" For Transition Part #10333
15	103626	Support-Bearing
16	1048E55 104855 1048F55 1048I55 1048K55	Mdl. 7508 Shaft-3/8" Square Mdl. 7512 Mdl. 7516 Note: All Require Additional 2 Shifter Mechanism Holes Mdl. 7518 Mdl. 7522 Requires-2
17	RP316-2	Roll Pin-3/16" x 2"
18	731017	Cut-Off Feed
19	731274	Fluted Roll
20	731002A	Cup Assembly w/Small Star Washer
21	1010	Coupler
22	RP18-.875	Roll Pin-1/8" x 7/8"-Stainless Steel
23	CB516-.75	Carriage Bolt-5/16" x 3/4"
24	N516-TL-GR5	Nut-5/16"-Top Locking-Grade 5
25	1007	Bearing-3/4"-Spherical
26	1007A	Flangette Bearing-47-MST
27	SCH14-.5	Button Head Cap Screw-1/4"-20 x .5"
28	1013	Clamp-Hose- #10 or #12
29	1046C5-A	Decal-Do Not Tow Over 20 MPH
30	33100L	Catch Plate
31	1038H	Hinge Lid
32	1038HP	Hinge Pin-Brass-7/32" x 3 1/4" (Repair)
33	CP116-.5	Cotter Pin-1/16" x 1/2" (Repair) (2 Req)

SMALL BOX SHIFTER ASSEMBLY- PAGE 1 OF 2



NOTE: ITEM 9 USED UP TO SERIAL # -55030

SMALL BOX SHIFTER ASSEMBLY- PAGE 2 OF 2		
ITEM NO.	**S PART NUMBER**	**DESCRIPTION**
1	11295	Small Box-Mount Shifter
2	11315	Small Box-Shifter Handle
3	112951	Backing Plate-Shifter Handle
4	551007	Bearing-Round-Bore-3/4" (Industry# 7612DLG)
5	551137	Collar-1 3/4" (2 Piece) With ID Groove
6	W38	Washer-3/8"
7	JN38	Nut-3/8"-Locking-Half-Nut
8	N38-TL	Nut-3/8"-Top Lock
9	55751027	Bushing- Bronze Oil Light-3/8" ID x 1/2" OD x 1/2" L (Industry # AA507-11)
10	NH38	Norwegian Wing Nut-3/8"-Shifter Handle
11	SHCS38-.5	Socket Head Cap Screw-3/8" x 1/2”
12	RP18-.875	Roll Pin-1/8" x 7/8"
13	SC10-32	Set Screw-10-32
14	CB38-.75	Carriage Bolt-3/8" x 3/4"
15	SHCS516-.875	Socket Head Cap Screw-5/16" x 7/8"
16	5511371	Bearing Sleeve-3/8" sq ID-3/4" OD Note: Holes not 90 deg apart
17	5511315	Hand Grip – Small Box Shifter

PARTS CATALOG

ALWAYS ORDER BY PART NUMBER – NOT BY ITEM NUMBER

COOL SEASON SEED BOX ASSEMBLY- PAGE 1 0F 3

NOTE: ITEMS NOT ILLUSTRATED:

6 14 15 19

NOTE: WHEN ROW DIVIDERS ARE INSTALLED REPLACE THE REAR SEED CUP B14-.625 WITH B14-.750 AND ADD W14 AND N14.

OPTIONAL SEED BOX ROW DIVIDERS

(NOT TO SCALE)

LEFT END SEED BOX

BOX DIVIDER LEFT SIDE

SHIFTER HANDLE ROW DIVIDER

BOX DIVIDER RIGHT SIDE

STANDARD ROW DIVIDER

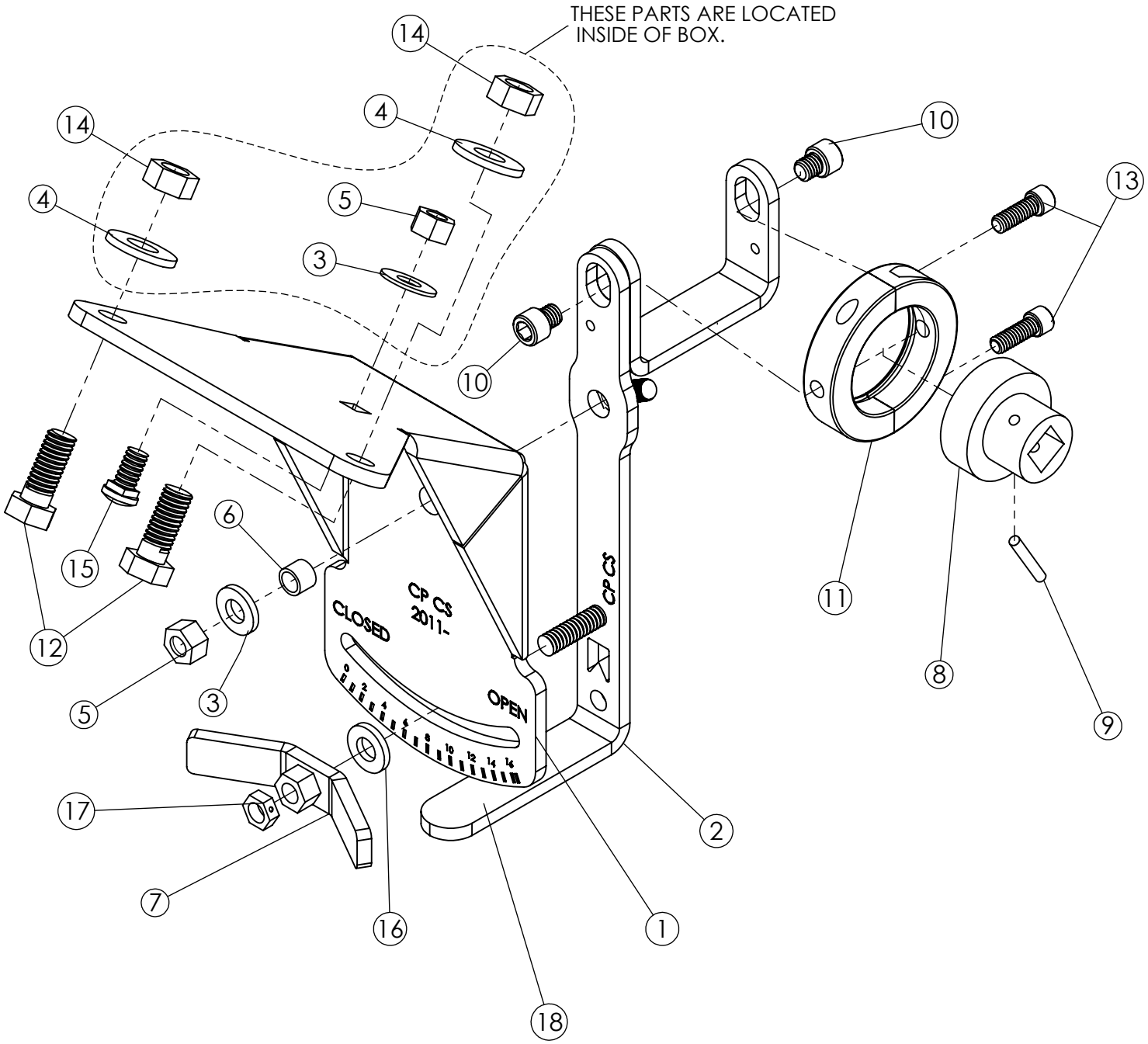
RIGHT END SEED BOX

COOL SEASON SHIFTER; SEE PAGE: 90-31 FOR EXPLODED VIEW.

COOL SEASON SEED BOX – PAGE 2 OF 3		
S ITEM NO.	S PART NUMBER	S DESCRIPTION
1	B516-.75-GR5	Bolt-5/16" x 3/4"-Grade 5
2	B14-.75	Bolt-1/4" x 3/4"
3	N14-FN	Nut-1/4" - Flanged Nut
4	3095X 3095X1	Sprocket-Double 30/20 Sprocket-Double 36/20
5	W14	Washer-1/4"
6	2040XG (Not Illustrated) 2040L1 or 2040L 2040L2	Chain-Cool Season- 51 Links Full Link or Offset Link Half Links
7	CP116-.5	Cotter Pin – 1/16" x ½" (Repair)
8	1046C8	Decal-Rotating Parts
9	1046C7	Decal-Truax Buffalo
10	1046C15	Decal-American Flag
11	2008C2	Reflector-5" x 5"
12	1036241	End Plate-RH CS
13	1036231 1036232	End Plate-LH CS End Plate-LH CS (Mdl. 7522 Non-Typical)
14	1036234 (Not Illustrated)	Cover-Rear-LH (used on Mdl. 7522)
15	1036244 (Not Illustrated)	Cover-Rear-RH (used on Mdl. 7522)
16	3001E5 30015 3001F5 3001I5 3001K5	Mdl. 7508 Mdl. 7512 Box-Cool Season/Grain Seed OTG Mdl. 7516 Mdl. 7518 Mdl. 7522
17	33100J 1038J	Over Center Latch (Style 1) Rubber Lid Retainer (Style 2)
18	33100L	Catch Plate
19	2040F 2040L 2040L1	Chain-Cool Season Box Agitator (17 Links) Offset Link Note: Used on Non-Typical Ends Also Full Link
20	W516-GR5	Washer-5/16"-Grade 5
21	1055	Sprocket-3/4" Round Bore (40B20) (Standard)
22	RP316-2	Roll Pin-3/16" x 2"
23	3175	Bearing-1-1/4" Spherical
24	3181	Flangette Bearing-1-1/4"-MS 62
25	CB516	Carriage Bolt-5/16" x 1"
26	1038HP	Hinge Pin - Brass 7/32"x 3-1/4" (Repair)
27	1038H	Hinge Lid
28	N38-CL	Nut-3/8" Clincher Nut
29	RP18-1.25	Roll Pin-1/8"x 1-1/4"
30	731003A	Seed Cup-Cool Season Box
31	3225	Agitator Pins-3/16" x 3 1/2"
32	TM60823	Spacer-5/8" Square Hole - 0.158" Thickness
33	N516-TL-GR5	Nut-5/16" Top Locking-Grade 5

COOL SEASON SEED BOX – PAGE 3 OF 3		
ITEM NO.	**PART NUMBER**	**DESCRIPTION**
34	TS-72M	Spring
35	3213	Clamp-Hose-#20
36	1009	Clamp-Seed Hose-#36
37	5534441	Hose-Seed-Convoluted
38	731865	Fluted Roll
39	731864	Cut-Off
40	3103E5 (8 Row) 31035 (12 Row) 3103F5 (16 Row) 3103I5 (18 Row) 3103K5 (22 Row)	Mdl. 7508 Mdl. 7512 Shaft-5/8” Square Mdl. 7516 Mdl. 7518 Mdl. 7522 Requires 2
41	3221E (8 Row) 3221 (12 Row) 322IF (16 Row) 3221I (18 Row) 3221K (22 Row)	Mdl. 7508 Mdl. 7512 CS Agitator Shaft-3/4” Round Mdl. 7516 Mdl. 7518 Mdl. 7522 Requires 2
42	30012C	Row Divider-Cool Season Box - Right Box End
43	30012A	Row Divider-Cool Season Box - Standard
44	30012B	Row Divider-Cool Season Box - Over Shifter Handle
45	CB516-.75	Carriage Bolt-5/16” x .75”
46	B14-.625	Bolt-1/4" x 5/8" Button Head
47	3001E15 300115 3001F15 3001I15 3001K15	Mdl. 7508 Mdl. 7512 Mdl. 7516 Lid-Cool Season Box-Fluffy Seed Box Mdl. 7518 Mdl. 7522
48	30012F	Row Divider-Cool Season Box - Right Side Box Divider
49	JN38-HL-GR5	Jam Nut-3/8” Half Locking-Grade 5
50	1046C3-A	Decal-Do Not Ride (DANGER)
51	1007	Bearing-3/4” Spherical
52	1007A	Flangette Bearing-47MST
53	3177	Bearing Support Plate
54	30012E	Row Divider-Cool Season Box - Left Side Box Divider
4	4	4
4 56	4 3176 3178	4 Bearing Support Cool Season Bearing Support Cool Season (Mdl.7522 Non-Typical)
4 57	4 W38-GR5	4 Washer-3/8" Grade 5
59	B38-1-GR5	Bolt-3/8"x 1"-Grade 5
60	1046C71	Decal-SMV
61	1046C4-A	Decal - Don't Operate With Guards in Place
62		

COOL SEASON SHIFTER ASSEMBLY- PAGE 1 OF 2



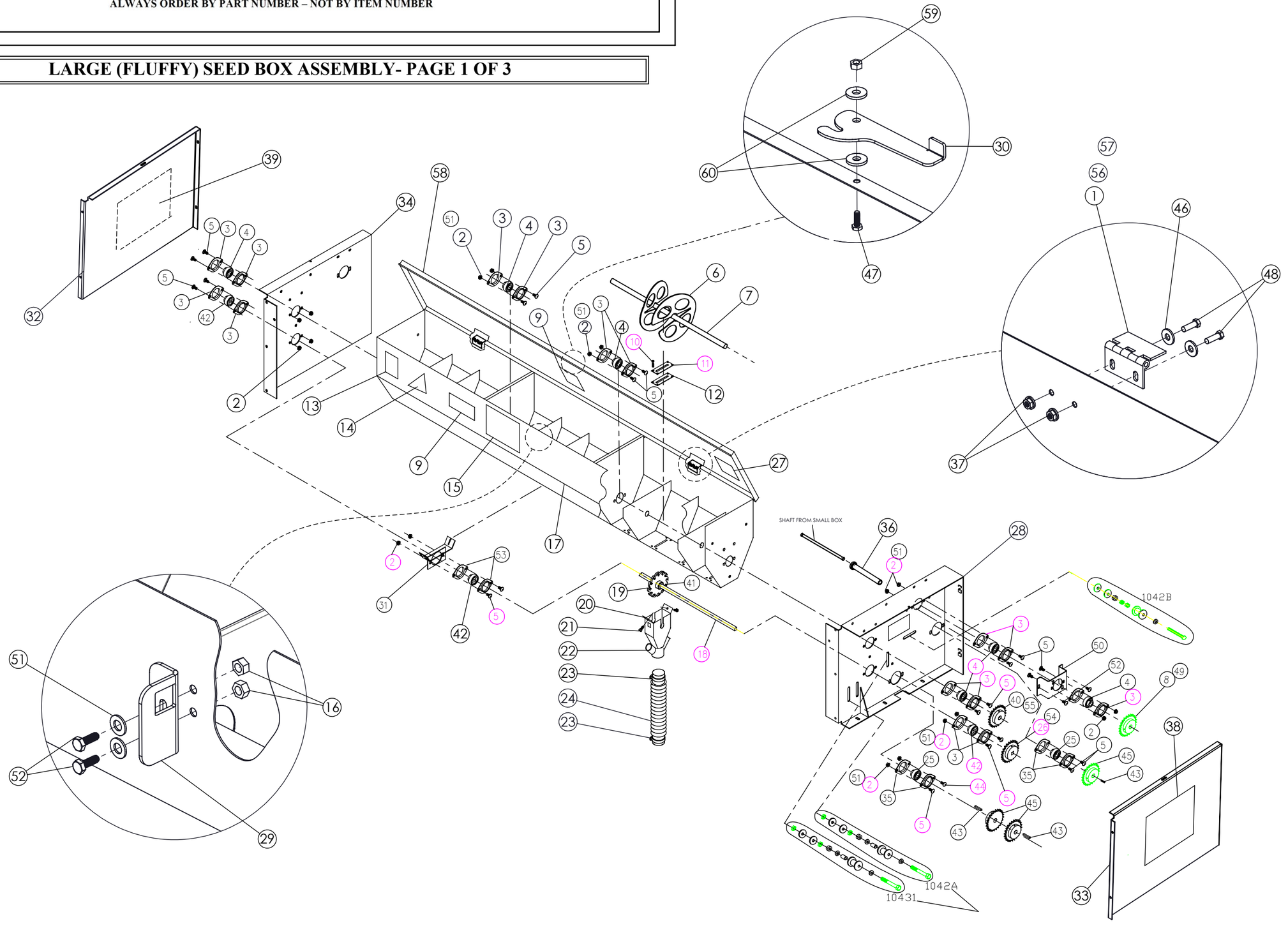
NOTE: ITEM 6 USED UP TO SERIAL# -55030

COOL SEASON SHIFTER ASSEMBLY PAGE 2 OF 2		
ITEM NO.	**S PART NUMBER**	**DESCRIPTION**
1	32055	Cool Season-Shifter Mount
2	322955	Cool Season-Shifter Handle
3	W38GR8	Washer-3/8” Grade 8
4	W12	Washer-1/2”
5	N38-TL	Nut-3/8” Top Lock
6	55751027	Bushing-Bronze Oil Light-3/8” ID x 1/2”OD x 3/8”L
7	5575031	Norwegian Wing Nut-Shifter Handle
8	551138	Bearing-5/8”sq ID-2”OD-Lutco
9	RP316-1.25	Roll Pin-3/16” x 1-1/4”
10	SHCS38-.5	Socket Head Cap Screw-3/8” x 1/2”
11	11388	Collar-2” (2 Piece) With ID Groove
12	B12-1.25	Bolt-1/2” x 1-1/4”
13	SHCS516-.875	Socket Head Cap Screw-5/16” x 7/8”
14	N12-TL	Nut-1/2” Top Lock
15	CB38-.75	Carriage Bolt-3/8” x 3/4”
16	UHMW38	Washer-3/8” Plastic White Sheet
17	JN38	Nut-3/8” Jam Nut-Locking
18	55322955	Hand Grip-Cool Season Shifter

PARTS CATALOG

ALWAYS ORDER BY PART NUMBER – NOT BY ITEM NUMBER

LARGE (FLUFFY) SEED BOX ASSEMBLY- PAGE 1 OF 3



NOTE: SEE CHAINS ON PAGE 40-40

S LARGE (FLUFFY) SEED BOX ASSEMBLY – PAGE 2 OF 3		
S ITEM NO.	**S PART NUMBER**	**S DESCRIPTION**
1	1038H	Hinge-Lid
2	N516-CL	Nut-5/16" Clincher Nut
3	1007A	Flangettes-Bearing-47 MST
4	1007	Bearing-3/4" Spherical
5	CB516-.75	Carriage Bolt-5/16" x 3/4"
6	1049A	Agitator-Auger
7	1004E (8 Row) 1004 (12 Row) 1004F (16 Row) 1004G (18 Row) 1004K (11 Row)	Mdl. 7508 Mdl. 7512 Shaft-3/4" Round Mdl. 7516 Mdl. 7518 Mdl. 7522 - Requires 2
8	1055 (40B20) Standard 1054A (40B30) Optional	Sprocket-3/4" Round Bore
9	1046C8	Decal-Warning Rotating Parts
10	2010	Screw-Hex Head-6-32 ST
11	1005	Retainer Plate
12	1006	Seed Gasket
13	2008C2	Reflector-5" x 5"
14	1046C71	Decal-SMV (Only on Rear Box)
15	1046C7	Decal-Truax Buffalo
16	N516-TLGR5	Nut-5/16" Top Locking-Grade 5
17	1001E5 (8 Row) 10015 (12 Row) 1001F5 (16 Row) 1001I5 (18 Row) 1001K5 (11 Row)	Mdl. 7508 Mdl. 7512 Mdl. 7516 Seed Box-Large Fluffy Mdl. 7518 Mdl. 7522 Requires 2
18	2003E (8 Row) 2003 (12 Row) 2003F (16 Row) 2003I (18 Row) 2003K (11 Row)	Mdl. 7508 Mdl. 7512 Mdl. 7516 Shaft-1/2" Square Mdl. 7518 Mdl 7522 Requires 2
19	2002	Picker Wheel-1/2" Square Bore
20	1033 10333	Transition-Short Neck 14-1/2" Transition-Long Neck 17"
21	B14-.625	Bolt-1/4" x 5/8"
22	1033B 1033C	Plug-Transition-Long Neck-With Hole (Only Used On Part # 10333) Plug-Transition-Long Neck (Only Used On Part # 10333)
23	1009	Clamp-Seed Hose #36
24	551018	Seed Hose-Convoluted 2-1/4" (Long Style)
25	3007	Bearing-1" Spherical
26	1055A1	Sprocket-1/2" Square Bore (40B30)
27	1046C1	Decal-Calibration Instructions
28	103624	End Plate-RH
29	33100L	Catch Plate
30	3100J 1038J	Over Center Latch (Style 1) Rubber Lid Retainer (Style 2)

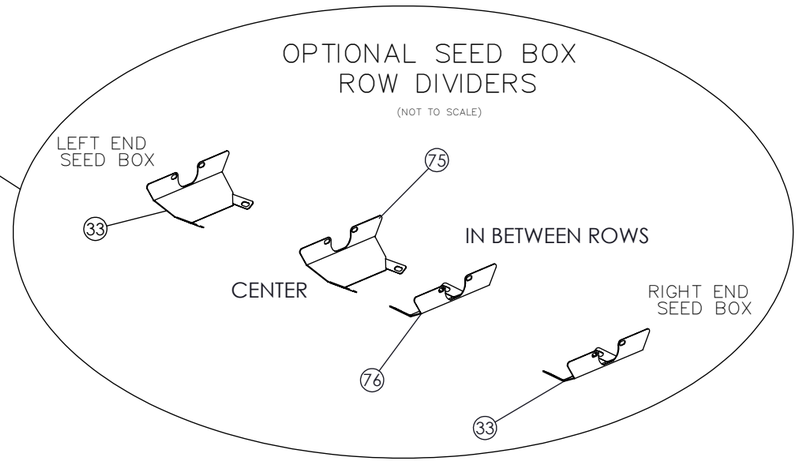
LARGE (FLUFFY) SEED BOX ASSEMBLY – PAGE 3 OF 3		
S ITEM NO.	S PART NUMBER	S DESCRIPTION
31	10316	Bearing Support
32	1036233N	Cover-Front LH
33	1036243N	Cover-Front RH
34	103623 1036221	End Plate-LH End Plate-LH (Mdl 7522 Non-Typical)
35	3007A	Flangettes Bearing-1”-52 MST
36	1010	Coupler
37	N14-FN	Nut-1/4" Flanged Nut
38	551046C78	Decal-OTG (RH)
39	551046C77	Decal-OTG (LH)
40	1054A	Sprocket-3/4" Round Bore (40B30)
41	SC516-18-.375	Set Screw-5/16" x 3/8"
42	2007	Bearing-1/2" Square Bore
43	1110	Key-1/4" Square - 1-1/4"
44	CB516-1	Carriage Bolt-5/16" x 1"
45	1045A	Sprocket-1" Round Bore - KY & SS (40B18)
46	W14	Washer-1/4"
47	B38-1-GR5	Bolt-3/8" x 1"-Grade 5
48	B14-.75	Bolt-1/4" x .75"
49	RP316-2	Roll Pin-3/16"x 2"
50	103626	Support-Bearing
51	W516-GR5	Washer-5/16"-Grade 5
52	B516-.750-GR5	Bolt-5/16"x 3/4"-Grade 5
53	1007B	Flangettes-47 MST (Flattened Edge) Note: Use Under Seed Box
54	CP532-3	Cotter Pin-5/32"x 3"
55	RP316-2.5	Roll Pin-3/16"x 2-1/2"
56	1038HP	Hinge Pin-Brass-7/32" x 3-1/4”
57	CP116-.5	Cotter Pin-1/16” x .5”
58	1001E1 10011 1001F1 1001I1 1001K11	Mdl. 7508 Mdl. 7512 Lid Large Fluffy Box Mdl. 7516 Note: Specify Style Mdl. 7518 Style 1: Over Center Latch Mdl. 7522 Style 2: Rubber Lid Retainer
59	JN38-HLGR5	Jam Nut-3/8" Half Locking-Grade 5
60	W38-GR5	Washer-3/8"-Grade 5

PARTS CATALOG

ALWAYS ORDER BY PART NUMBER – NOT BY ITEM NUMBER

JUMBO/GRAIN SEED BOX ASSEMBLY- PAGE 1 OF 3

NOTE: WHEN ROW DIVIDERS ARE INSTALLED REPLACE THE REAR SEED CUP B14–.625 WITH B14–.750 AND ADD W14 AND N14.



NOTE: CENTER HINGE IN MIDDLE

NOTE: ATTACHMENT POINT FOR SMALL SEED BOX

NOTE: Z SHAPE FRAME STRUTS USED ON #550032-

JUMBO/GRAIN SEED BOX ASSEMBLY – PAGE 2 OF 4		
S ITEM NO.	S PART NUMBER	S DESCRIPTION
1	1046C71	Decal-SMV
2	1046C3-A	Decal-DO NOT RIDE (DANGER)
3	JN38-HL-GR5	Jam Nut-3/8” Half Locking Grade 5
4	MB12-.062 (1040B)	Bushing-3/4" OD 1/2" ID 0.062" Thickness
5	1041A	Spool-Plastic
6	N12	Nut-1/2"
7	1041A2	Bushing-Idler Spool
8	1046C8	Decal-Rotating Parts
9	1046C1	Decal-Calibration Instructions
10	1046C15	Decal-Flag
11	2008C2	Reflector-5"x 5"
12	103624J	End Plate-RH Grain-Jumbo
13	103623J 103623J1	End Plate-LH Grain-Jumbo End Plate-LH Grain-Jumbo (Mdl. 7522 Non-Typical)
14	55915	Handle-Jumbo Box
15	CB38-.75	Carriage Bolt-3/8" x 3/4"
16	4001E 4001 4001F 4001I 4001K1 4001E2 40012 4001F2 4001I2 4001K2	Mdl. 7508 (2 Piece) Mdl. 7512 (2 Piece) Mdl. 7516 (2 Piece) Box-Grain-Jumbo OTG Mdl. 7518 (2 Piece) Mdl. 7522 (2 Piece) Mdl. 7508 (1 Piece) Mdl. 7512 (1 Piece) Mdl. 7516 (1 Piece) Mdl. 7518 (1 Piece) Mdl. 7522 (1 Piece)
17	4001E55 400155 4001F55 4001I55 4001K55	Mdl. 7508 Mdl. 7512 Top-Grain-Jumbo OTG Mdl. 7516 Mdl. 7518 Mdl. 7522
18	B38-1.25GR5	Bolt-3/8" x 1-1/4" Grade 5
19	W14GR5	Washer-1/4" Grade 5
20	N516-TL	Nut-5/16"- Top Locking
21	1055	Sprocket-3/4" Bore (Standard) (40B20)
22	RP316-2	Roll Pin-3/16"x 2"
23	B516-.75-GR5	Bolt-5/16" x .75" Grade 5
24	33100L	Catch Plate
25	3100J 1038J	Over Center Latch (Style 1) Rubber Lid Retainer (Style 2)
26	AN122665	Spout-Small Box Delivery
27	1038HB	Hinge Bracket
28	N38-CL	Nut-3/8" Clincher Nut

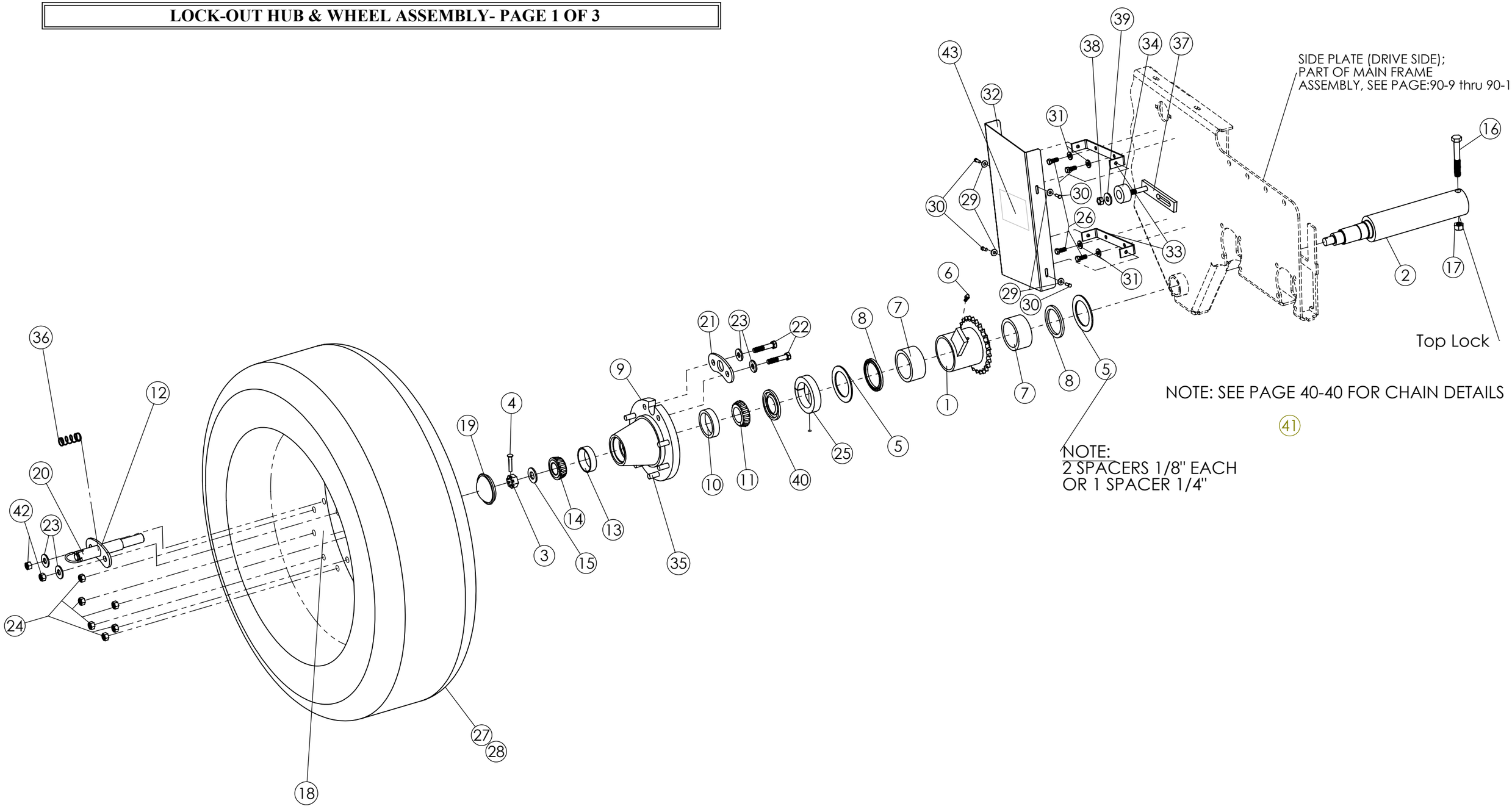
JUMBO/GRAIN SEED BOX ASSEMBLY – PAGE 3 OF 4		
S ITEM NO.	S PART NUMBER	S DESCRIPTION
29	RP18-1.25	Roll Pin-1/8" x 1-1/4"
30	731003A	Seed Cup-Cool Season Box
31	3225	Agitator Pin-3/16"x 3-1/2"
32	TM60823	Spacer-5/8" Square Hole - 0.158" Thickness
33	300121	Row Divider--LH & RH END Jumbo Grain Box
34	TS-72M	Spring
35	3213	Clamp-Hose- #20
36	1009	Clamp-Seed Hose-#36
37	5534441	Seed Hose-Convoluted (Long Style)
38	731865	Fluted Roll
39	731864	Cut-Off
40	3103E5 31035 3013F5 3103I5 3013K5	Mdl. 7508 Mdl. 7512 Shaft-5/8" Square Mdl. 7516 Mdl. 7518 Mdl. 7522 Requires 2
41	3221E 3221 3221F 3221I 3221K	Mdl.7508 Mdl. 7512 Shaft-3/4" Round Mdl. 7516 Mdl. 7518 Mdl. 7522 Requires 2
42	1045A	Sprocket-40B18KY & SS
43	41001E5 410015 41001F5 41001I5 41001K5	Mdl. 758 Mdl. 7512 Lid-Jumbo Grain Box OTG Mdl. 7516 Requires 2 Mdl. 7518 Requires 2 Mdl. 7522 Requires 2
44	1110	Key-Square-1/4"x 1-1/2"
45	W12	Washer-1/2"
46	B38-1GR5	Bolt-3/8"x 1"-Grade 5
47	W38GR5	Washer-3/8"-Grade 5
48	1038SB	Lid Support Bracket
49	1036233N	Cover-Front (LH)
50	551046C77	Decal-OTG (LH)
51	1036243N	Cover-Front (RH)
52	551046C78	Decal-OTG (RH)
53	3177	Bearing Support Plate
54	N38-CL-HL-GR5	Nut-3/8" Clincher Nut-Half Locking-Grade 5
55	B12-4	Bolt-1/2"x 4"
56	3179 3178	Bearing Support-Jumbo Bearing Support-Jumbo Mdl. 7522 Non-Typical
57	W38	Washer-3/8”
58	B38-1	Bolt-3/8" x 1"

JUMBO/GRAIN SEED BOX ASSEMBLY-PAGE 4 OF 4		
ITEM NO.	**S PART NUMBER**	**DESCRIPTION**
59	CP18-1	Cotter Pin-1/8"x 1"
60	1038SR 1038SR1	Lid Support Rod (-550035) Lid Support Rod (550036-)
61	1007	Bearing-3/4" Spherical
62	1007A	Flangettes-Bearing - 47MST
63	CB516-.75	Carriage Bolt 5/16"x 3/4"
64	W516GR5	Washer-5/16" Grade 5
65	N516-CL	Nut-5/16" Clincher Nut
66	3175	Bearing-1-1/4" Spherical
67	3181	Flangette-MS-62
68	CB516-1	Carriage Bolt-5/16"x 1"
69	3095X 3095X1 (Optional Sprocket)	Sprocket-Double 30/20 Sprocket-Double 36/20
70	N38GR5	Nut-1/4” Grade 5
71	551036-1005	Strut-Frame
72	1038HBC	Center Hinge
73	555555	Zip Tie
74	CP18-1	Cotter Pin-1/8” x 1”
75	3001211	Row Divider-Center
76	3001212	Row Divider-Middle Of Rows

PARTS CATALOG

ALWAYS ORDER BY PART NUMBER – NOT BY ITEM NUMBER

LOCK-OUT HUB & WHEEL ASSEMBLY- PAGE 1 OF 3



S LOCK-OUT HUB & WHEEL ASSEMBLY- PAGE 2 OF 3

S ITEM NO.	S PART NUMBER	S DESCRIPTION
1	551085B29 55336140	LockOut Hub-2" Axle (-55004) LockOut Hub-3" Axle (55005-)
2	552036D_04 552036D_05	Axle-2" x 18" Fatigue Proof CF Bar (-55004) Axle-3" x 18" CRS - 1045 RD (55005-)
3	CN78	Nut-7/8"-Castle
4	CP316-1.75	Cotter Pin-3/16" x 1 3/4"
5	1085B284 551085B291	Spacer-Lockout-Metal-2" ID 1/8" TH - OTG Requires 2 or 1 1/4" TH (-55004_ Spacer-Lockout-Metal-3" ID 1/8" TH - OTG Requires 2 or 1 1/4" TH (55005-)
6	1093DD	Zirk-1/4"-28
7	1085B21 551085	Bearing-Lockout Hub-2" ID (ID# BR324120) (-55004) Bearing -Lockout Hub-3" ID (ID# MD-48) (55005-)
8	1085B23 55750133	Seal-Lockout 2" ID OTG- Requires 2 (Industry #CR20148) (-55004) Seal-Lockout 3" ID OTG-Requires 2 (55005-)_
9	551085B29 55336140	Hub-8-bolt-OTG (Industry # 841302) (-55004) Hub-8-bolt-OTG (Industry # 287605) (55005-)
10	551077C 551077C1	Cup-8-Bolt-Inner-End Wheel 2" Axle (ID LM104912) (-55004) Cup-8-Bolt-Inner-End Wheel 3" Axle (ID# 25520) (55005-)
11	551077B 551077B1	Bearing-8-Bolt-Inner- End Wheel 2" Axle (ID# LM104949) (-55004) Bearing-8-Bolt-Inner-End Wheel 3" Axle (ID# 25590) (55005-)
12	551085B24	Mount-Lockout-OTG
13	551076C	Cup-8-Bolt-Outer-OTG (Industry # 25821)(55001-)
14	551076B	Bearing-8-Bolt-Outer-OTG (Industry # 25877) (55001-)
15	W1	Washer-1"
16	B58-3.5 B58-4.5	Bolt-5/8" x 3 1/2" - 2" Axle Bolt-5/8" x 4 1/2" - 3" Axle
17	N58-TL	Nut-5/8"-TL
18	551072B (Not Illustrated)	Rim-22 1/2"-8-Bolt
19	551082B	Cap-Dust-8-Bolt-Hub (Industry # 9982)
20	1085B25 551085B29C	Lock-Out-Pin- 2" Axle (-55004) Lock-Out-Pin- 3" Axle (55005-)
21	1085B27 5575017	Rim-Bracket-Lockout Hub 2" Axle (-55004) Rim-Bracket-Lockout Hub 3" Axle (55005-)
22	B916	Bolt-9/16" x 3"-18-UNF
23	W916	Washer-9/16"
24	WN916NF	Wheel-Nut-9/16"-National Fine Thread (Industry #3549)
25	1037CLX2	Collar-3"
26	B38-1	Bolt-3/8" x 1"
27	10720555	Tire-255/70R22.5 CAUTION: Recommended 80 PSI
28	1038C55	Inner-Tube
29	W14	Washer-1/4"
30	B14-.75	Bolt-1/4" x 3/4"

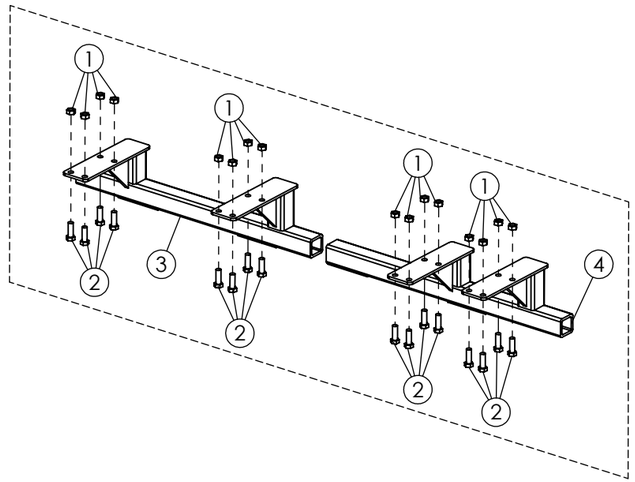
LOCK-OUT HUB & WHEEL ASSEMBLY PAGE 3 OF 3		
ITEM NO.	**S PART NUMBER**	**DESCRIPTION**
31	W38	Washer-3/8"
32	5575027	Chain Guard-Drive chain
33	5575027A	Chain Guard-Bracket OTG (2 Req.)
34	1041A2	Idler Spool-1/2" ID 2-1/2" OD 1-1/8" L White Poly
35	WB916-2	Wheel Bolt-9/16" x 2" - Serrated
36	1085B26 551085B261	Lockout Spring-3/4" ID 15/16 OD" 2-1/2" L 6 Coils Stainless Steel-Wire Size .075" 2 Springs-1-1/4" Long-2" Axle (-55004) 1 Spring-2-1/2 Long-3" Axle (55005-)
37	553237X	Idler Support-OTG
38	N12-TL	Nut-1/2" Top Lock
39	W12	Washer-1/2”
40	551138C	Seal-8 Bolt Hub-OTG
41	2060OTG4 2060L1	Chain-Drive Wheel (39 Links) (#A2060) Full Link
42	N916	Nut-9/16"
43	1046C2	Decal Chain Drive-Keep Clear

PARTS CATALOG

ALWAYS ORDER BY PART NUMBER – NOT BY ITEM NUMBER

COMPLIANCE BARS ASSEMBLY-PAGE 1 OF 2

7508



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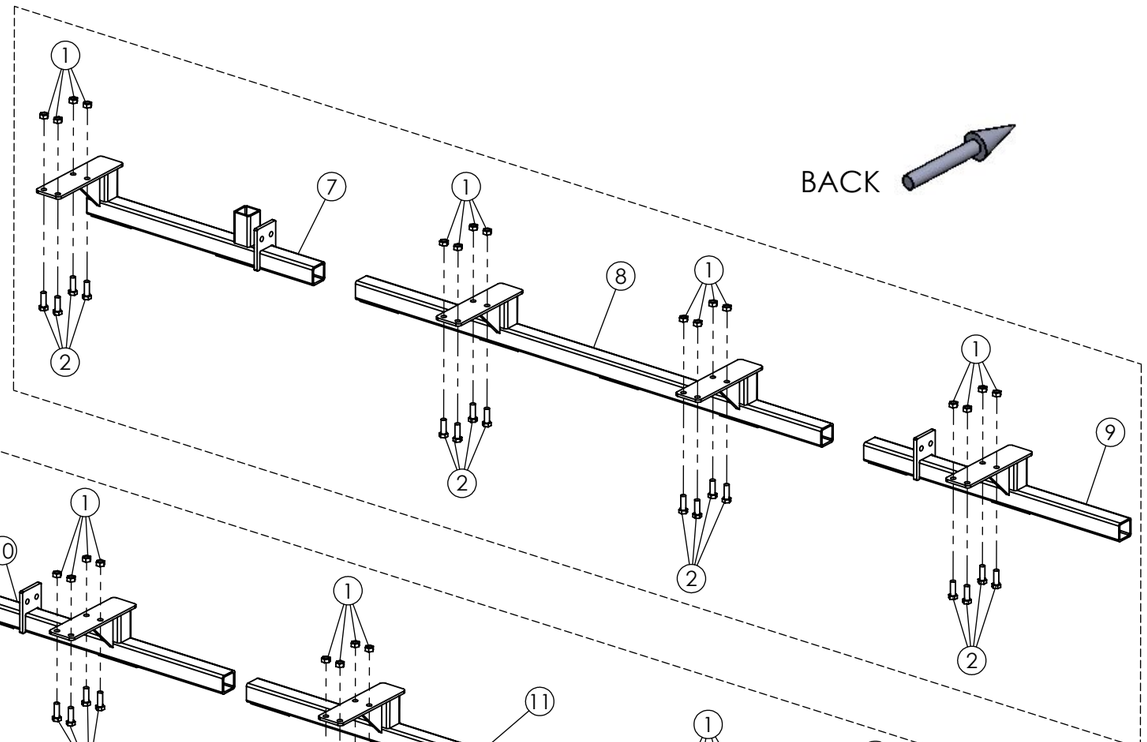

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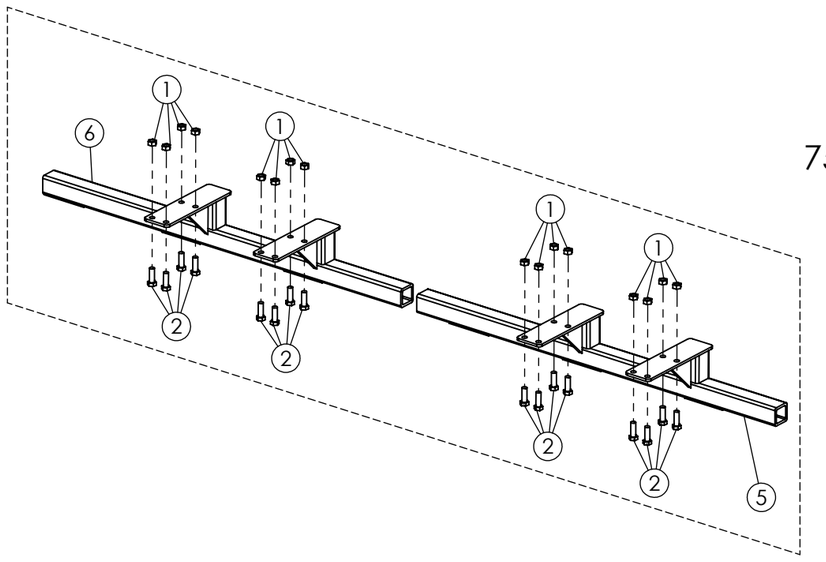

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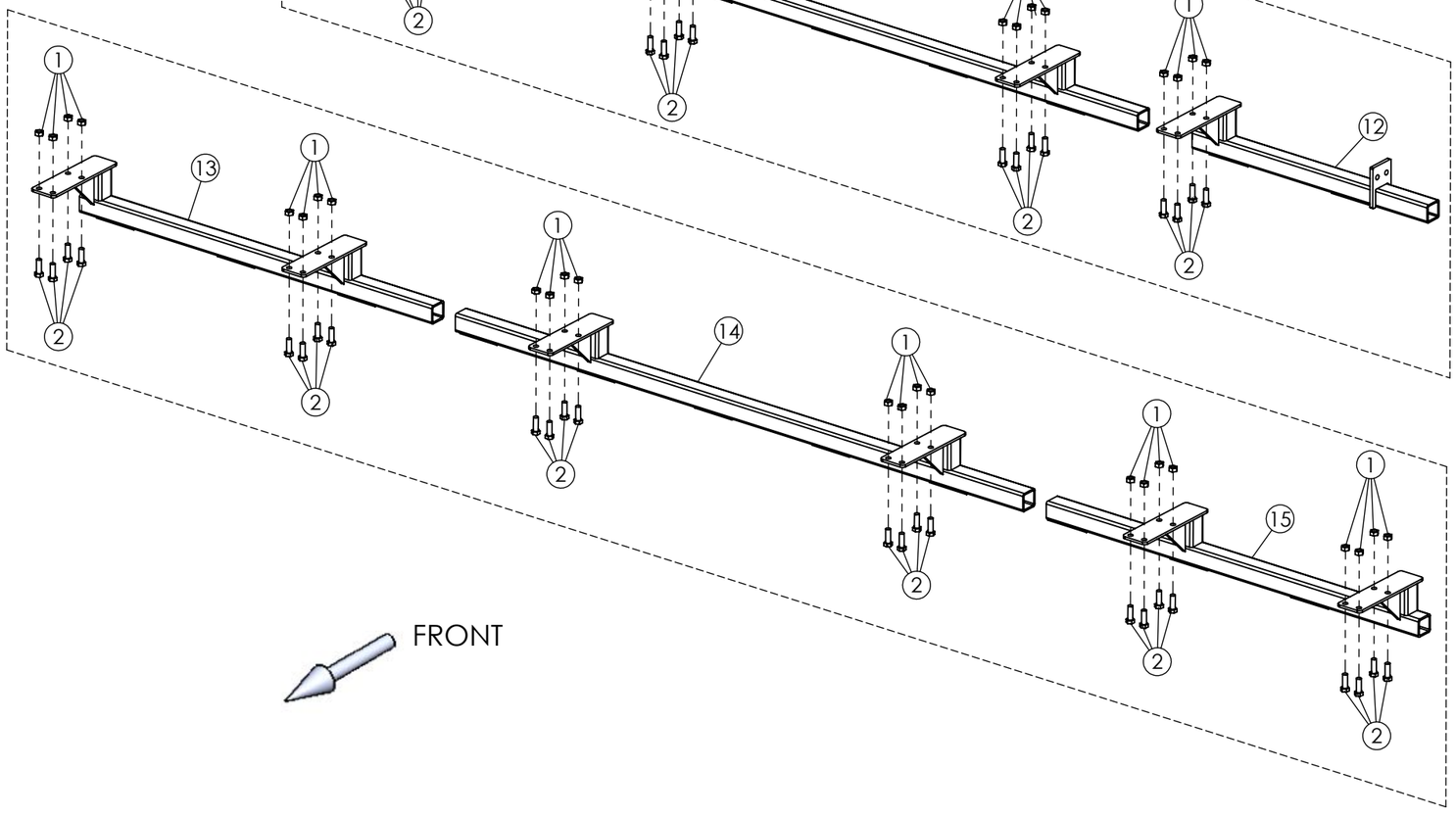

FRONT

COMPLIANCE BARS ASSEMBLY-PAGE 2 OF 2			
ITEM NO.	**S PART NUMBER**		**DESCRIPTION**
1	N12-TL-GR5		Nut, 1/2" Top Locking, Grade 5
2	B12-1.5-GR5		Bolt, 1/2" x 1.5" Grade 5
3	5575812	Mdl. 7508	Compliance Bar - Drive Side
4	5575811	Mdl. 7508	Compliance Bar - Non-Drive Side
5	55751211	Mdl. 7512	Compliance Bar - None-Drive Side
6	55751210	Mdl. 7512	Compliance Bar - Drive Side
7	55751611	Mdl. 7516	Compliance Bar - Drive Side
8	55751612	Mdl. 7516	Compliance Bar - Middle
9	55751613	Mdl. 7516	Compliance Bar - Non-Drive Side
10	55751813	Mdl. 7518	Compliance Bar - Drive Side
11	55751812	Mdl. 7518	Compliance Bar - Middle
12	55751811	Mdl. 7518	Compliance Bar - Non-Drive Side
13	55752213	Mdl. 7522	Compliance Bar - Drive Side
14	55752212	Mdl. 7522	Compliance Bar - Middle
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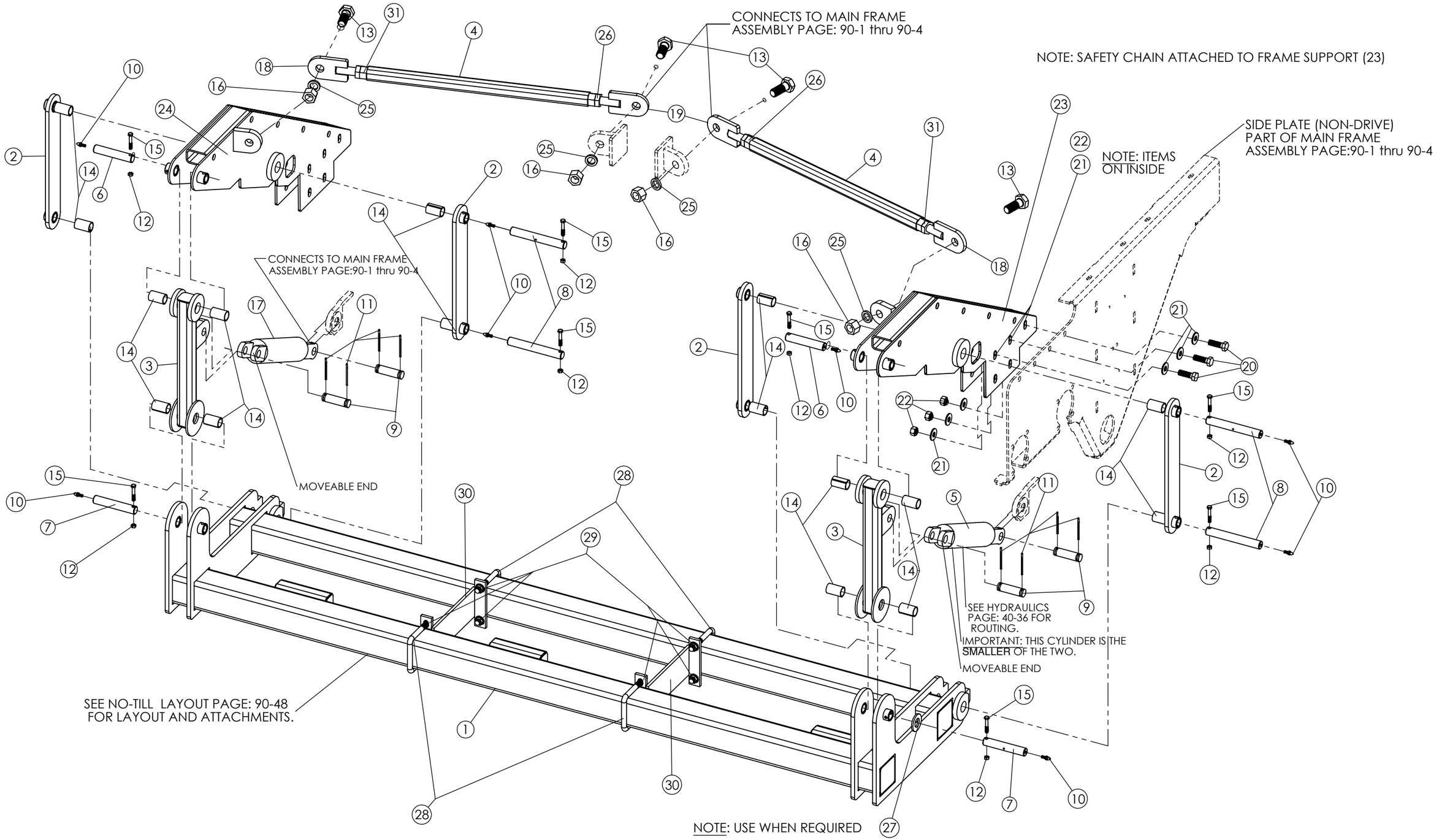
NO-TILL FRAME ASSEMBLY- PAGE 1 OF 3

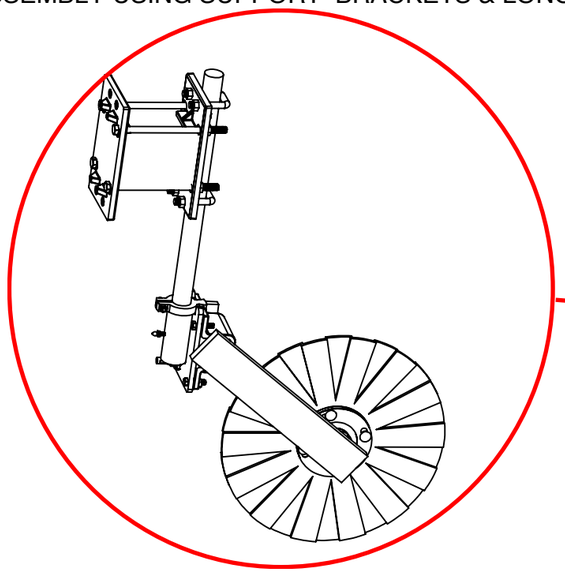


NO-TILL FRAME ASSEMBLY - PAGE 2 OF 3		
ITEM NO.	**S PART NUMBER**	**DESCRIPTION**
1	554200X2 554200X3 554200X4 554200X5 554200X6 554200X201 554200X301 554200X401 554200X501 554200X601	Mdl. 7508 Mdl. 7512 No-Till Frame Mdl. 7516 Note: See No-Till Layout Page 90-48 for Mdl. 7518 Layout& Attachments for Specific Serial Mdl. 7522 Numbers Mdl. 7508 Mdl. 7512 Mdl. 7516 Mdl. 7518 Mdl. 7522
2	554235	Parallelogram-Linkage-Arm-Rear-OTG
3	554234_03	Front No-Till Linkage-OTG
4	5575814 (Mdl. 7508) 55751214 (Mdl. 7512) 55751616 (Mdl. 7516) 55751818 (Mdl. 7518) 55752222 (Mdl. 7522)	No-Till Frame Strut
5	554226XND	Cylinder-20WP08-1-1/8”-647631-3000psi (Small)
6	5575032	Pin-Linkage-1" x 5 1/4"-No-Till (1045 Induction Hardened) Note: Bushings as Required
7	5575035	Pin-Linkage-1" x 5 3/4"-No-Till (1045 Induction Hardened) Note: Bushings as Required
8	5575033	Pin-Linkage-1" x 7 1/2"-No-Till (1045 Induction Hardened) Note: Bushings as Required
9	80111	Hydraulic-Pin-1" x 3 1/2"
10	1093DD3	Zirk-1/8”-NPT (Use on Parallelogram Pins)
11	CP532-3	Cotter Pin-5/32" x 3"
12	N516-TL	Nut-5/16"-TL
13	B1-2.5GR5	Bolt-1" x 2 1/2"-Grade-5
14	10256	Connex Bushing-1 1/4"OD x 1"ID x 1" L
15	B516-2GR8	Bolt-5/16" x 2"-Grade-8
16	JN1	Jam-Nut-1"
17	554226XD	Cylinder-25WP08-1-1/2”-647632-3000psi (Large)
18	557506R	No-Till-Strut-End-Right-Hand-OTG
19	557506L	No-Till-Strut-End-Left-Hand-OTG
20	B58-2	Bolt-5/8" x 2"
21	W58-GR8	Washer-5/8"-Grade-8
22	N5/8-TL	Nut-5/8"-TL

No Till Frame Assembly- page 3 of 3		
ITEM NO.	**S PART NUMBER**	**DESCRIPTION**
23	551049_04L 551049_03L 551049_03L 551049_03ND (HD) 551049_03ND (HD)	Frame-Support-Standard-Mdl.-7508 NON-DRIVE SIDE ALL Frame-Support-Standard-Mdl.-7512 Frame-Support-Standard-Mdl.-7516 Frame-Support-Heavy-Mdl.-7518 Frame-Support-Heavy-Mdl.-7522
24	551049_04R 551049_03R 551049_03R 551049_03D (HD) 551049_03D (HD)	Frame-Support-Standard-Mdl.-7508 DRIVE SIDE ALL Frame-Support-Standard-Mdl.-7512 Frame-Support-Standard-Mdl.-7516 Frame-Support-Heavy-Duty-Mdl-7518 Frame-Support-Heavy-Duty-Mdl-7822
25	LW1	Lock Washer-1”
26	JN34L	Jam-Nut-3/4”-8-UNC-Left
27	MB-1-14	Machinery-Bushing-1”-.062” Note: Use as Required
28	UB58-5.25	U-Bolt-5/8”-5 1/4”
29	N58FN	Nut-5/8”-Flange
30	5575030	No-Till-Support-Bracket
31	JN34R	Jam-Nut-3/4”-8-UNC-Right

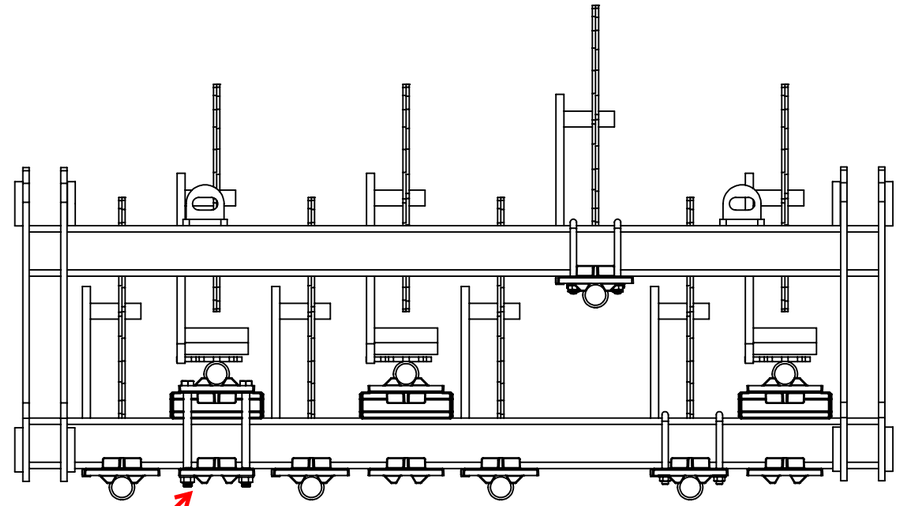
NO-TILL ASSEBMLY PLACEMENT- PAGE 1 OF 2

NO-TILL ASSEMBLY USING SUPPORT BRACKETS & LONG BOLT STYLE



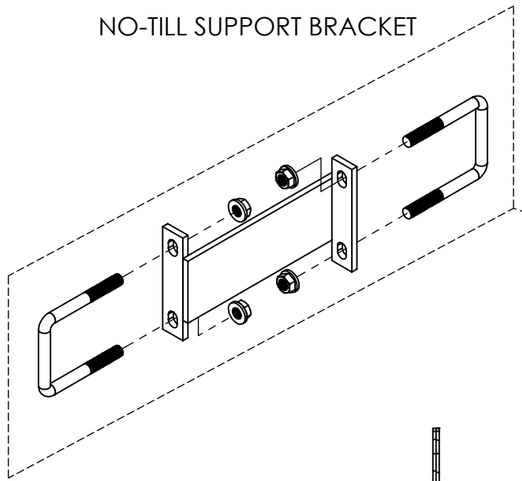
LONG BOLT STYLE

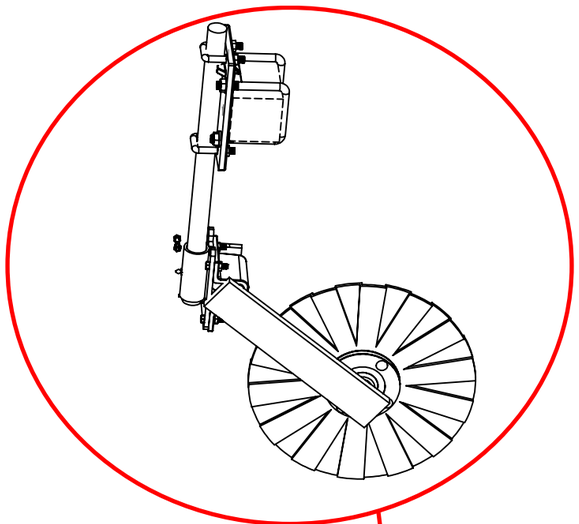
8 ROW



NOTE: BOLTS NOT SHOWN

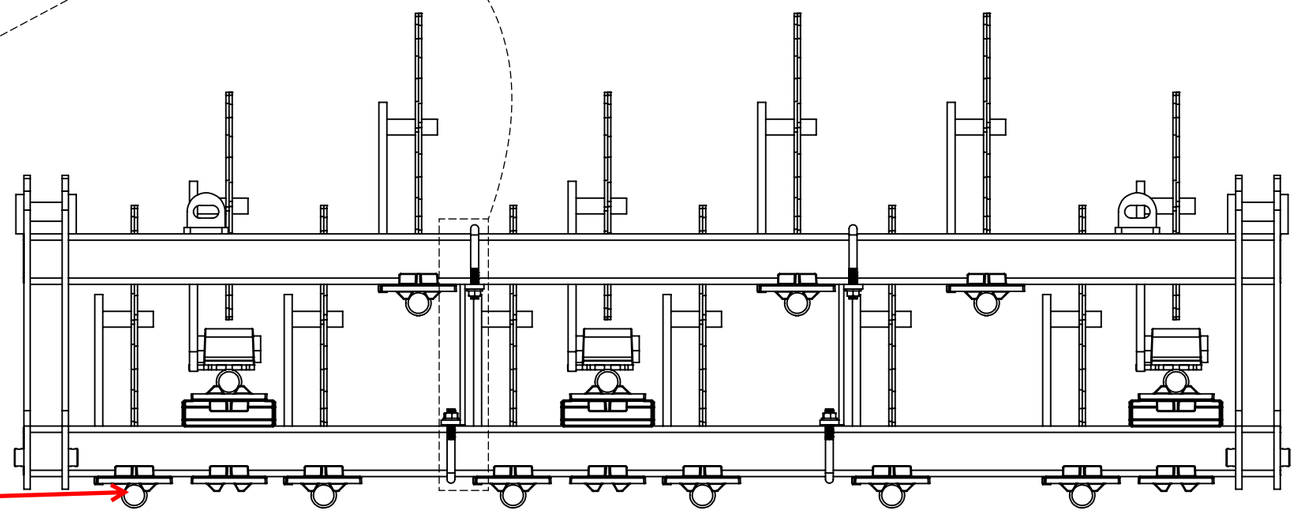
NO-TILL SUPPORT BRACKET





U-BOLT STYLE

12 ROW



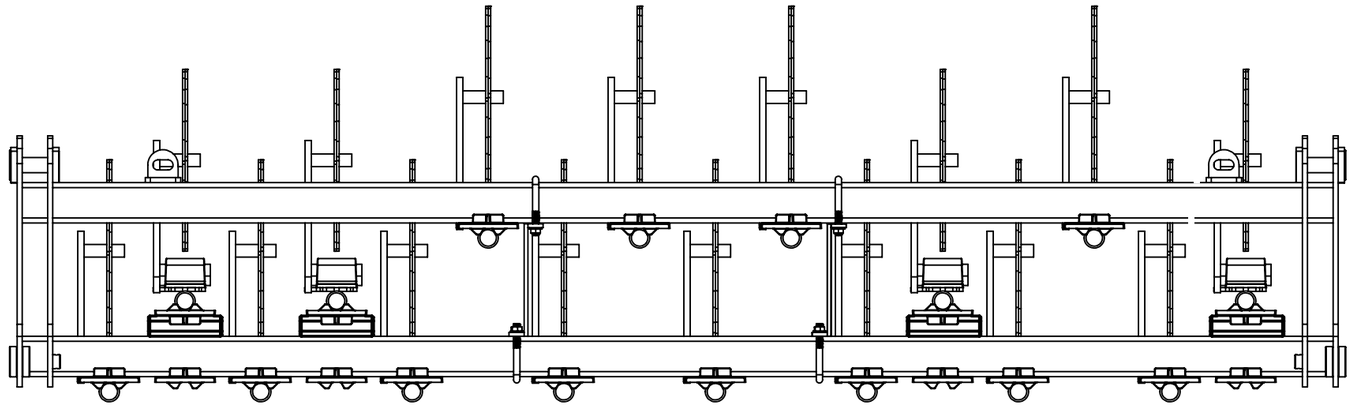
NOTE: BOLTS NOT SHOWN

NO-TILL ASSEMBLY PLACEMENT- PAGE 2 OF 2

NO-TILL ASSEMBLY USING SUPPORT BRACKETS & LONG BOLT STYLE

NOTE: BOLTS NOT SHOWN

16 ROW



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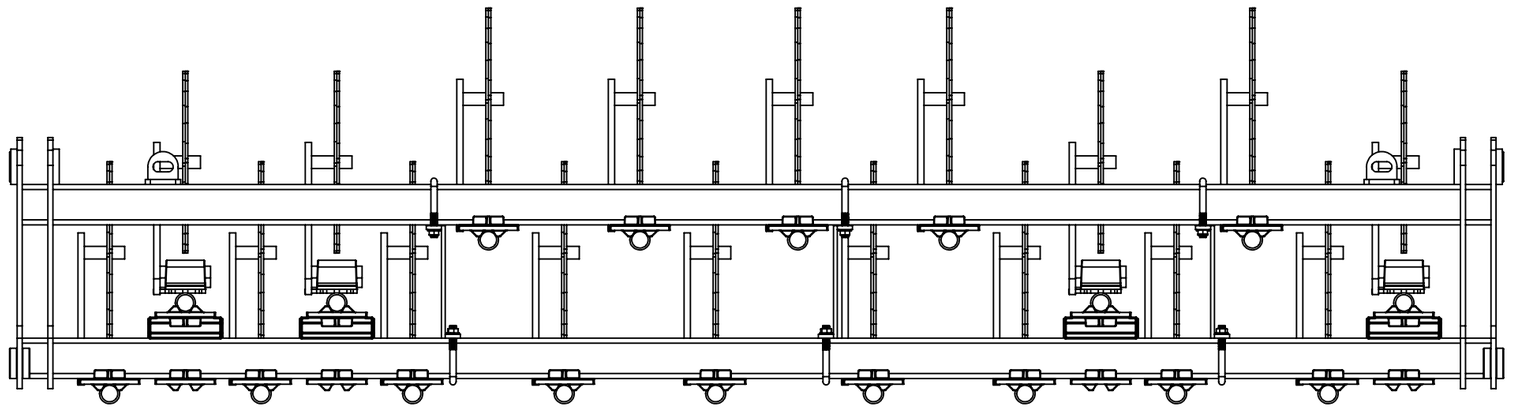

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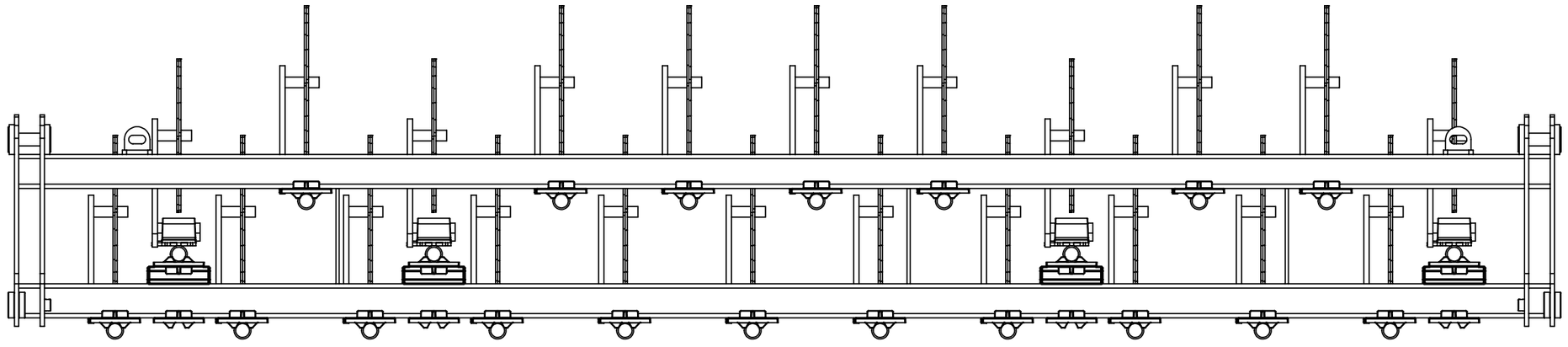
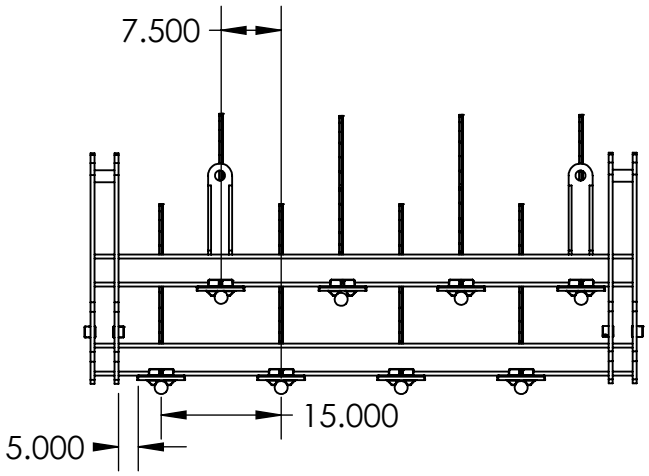


NO-TILL PLACEMENT PAGE 1 OF 2

NO-TILL ASSEMBLY USING U-BOLT STYLE ONLY (#55020-)

NOTE: BOLTS NOT SHOWN

8 ROW



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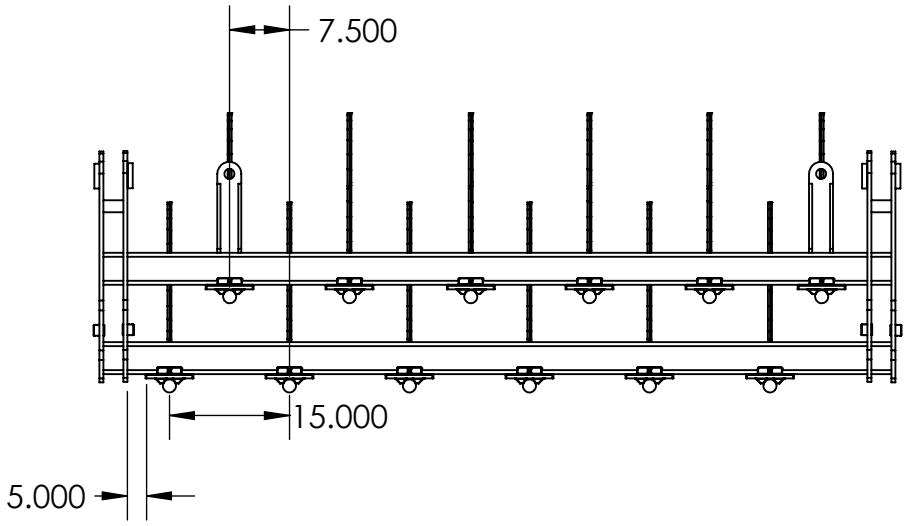
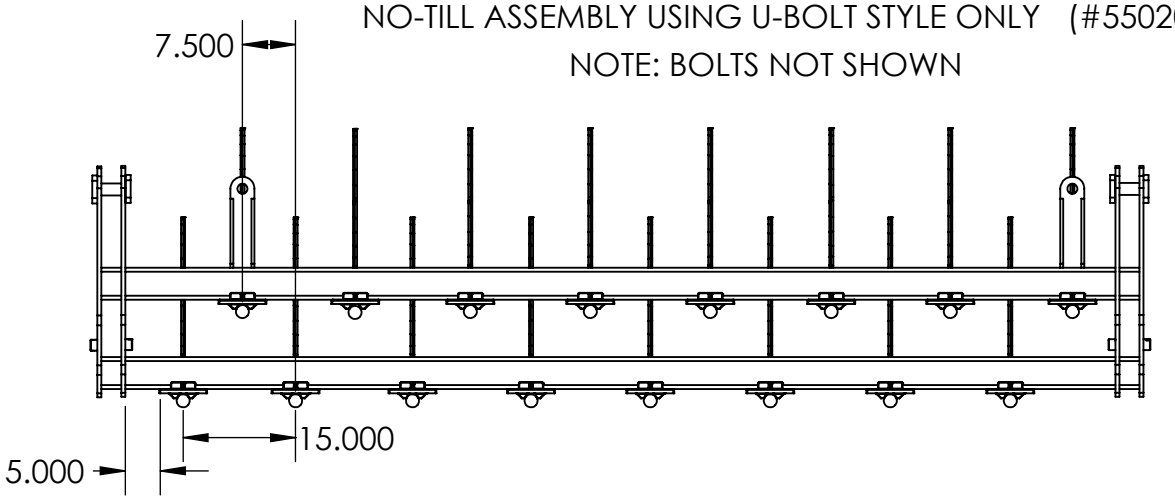


NO-TILL PLACEMENT PAGE 2 OF 2

NO-TILL ASSEMBLY USING U-BOLT STYLE ONLY (#55020-)
NOTE: BOLTS NOT SHOWN

16 ROW



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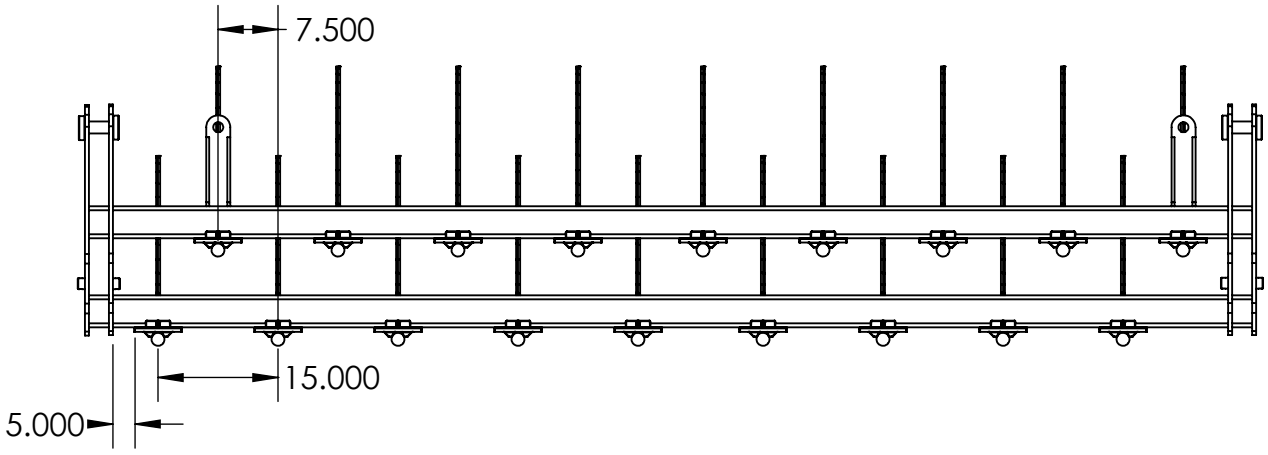

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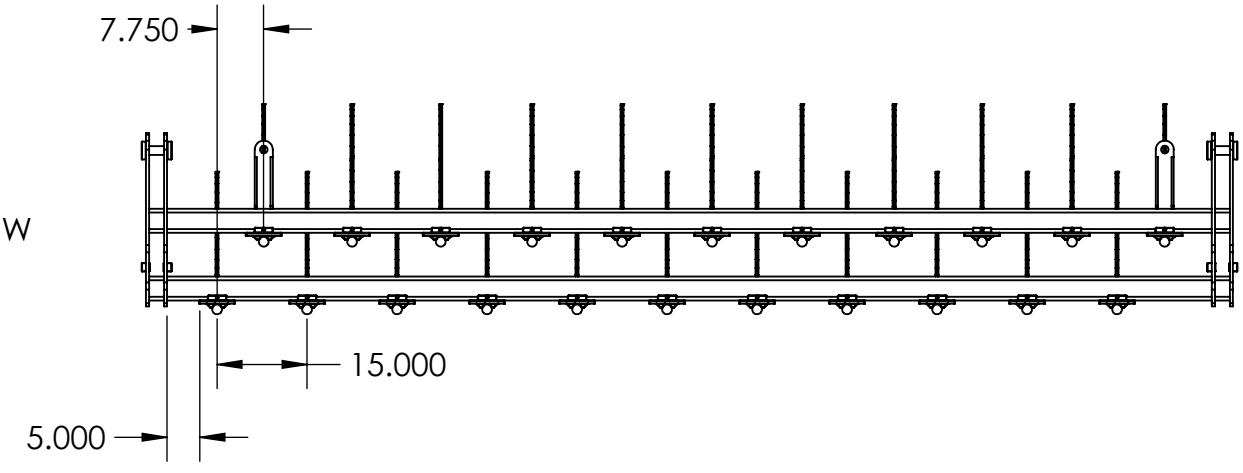
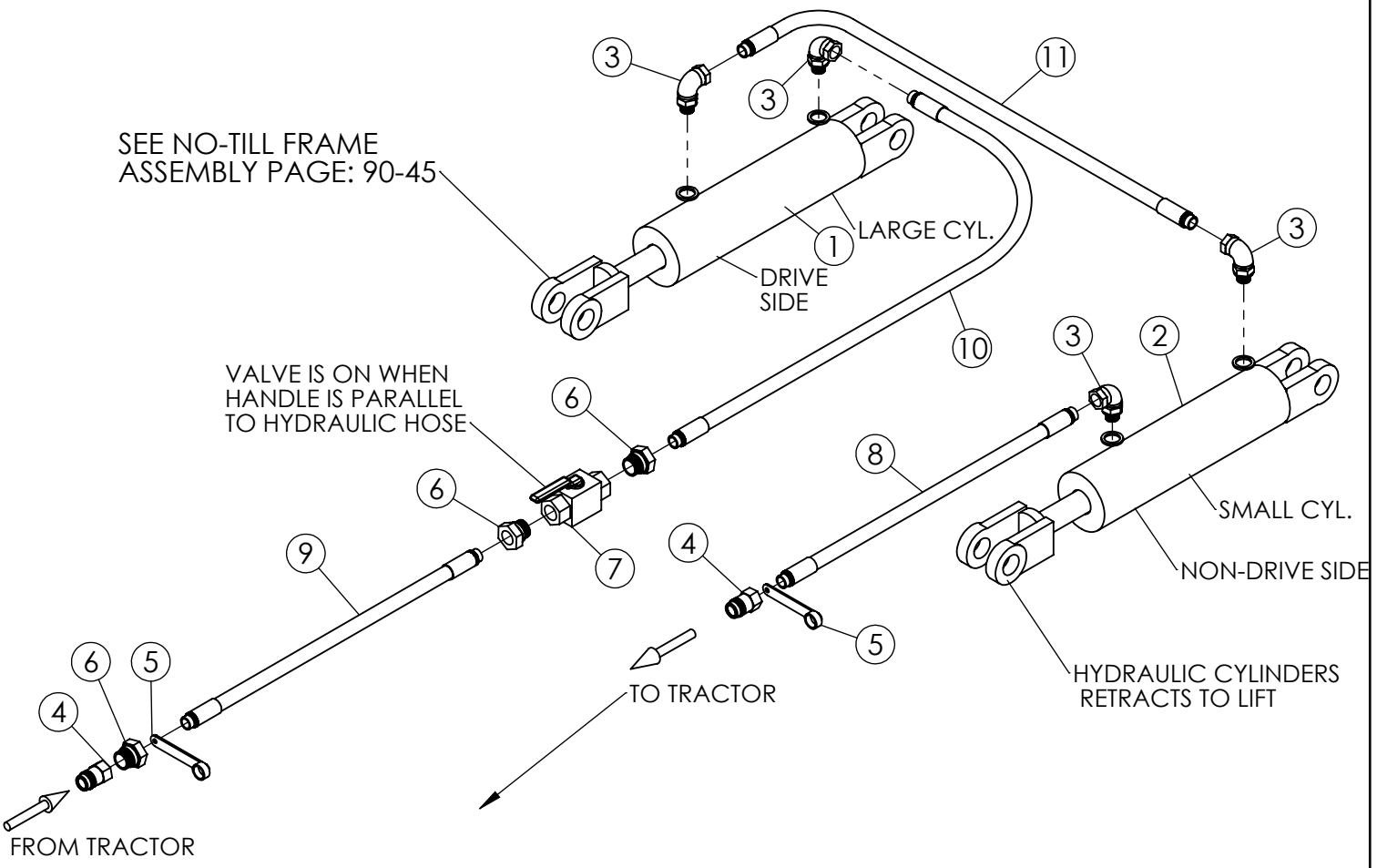


NO-TILL LINK ARM WELDED HYDRAULIC CYLINDER- PAGE 1 OF 2

NO-TILL FRAME CYLINDERS ARE REPHASING STYLE ON ALL MODELS



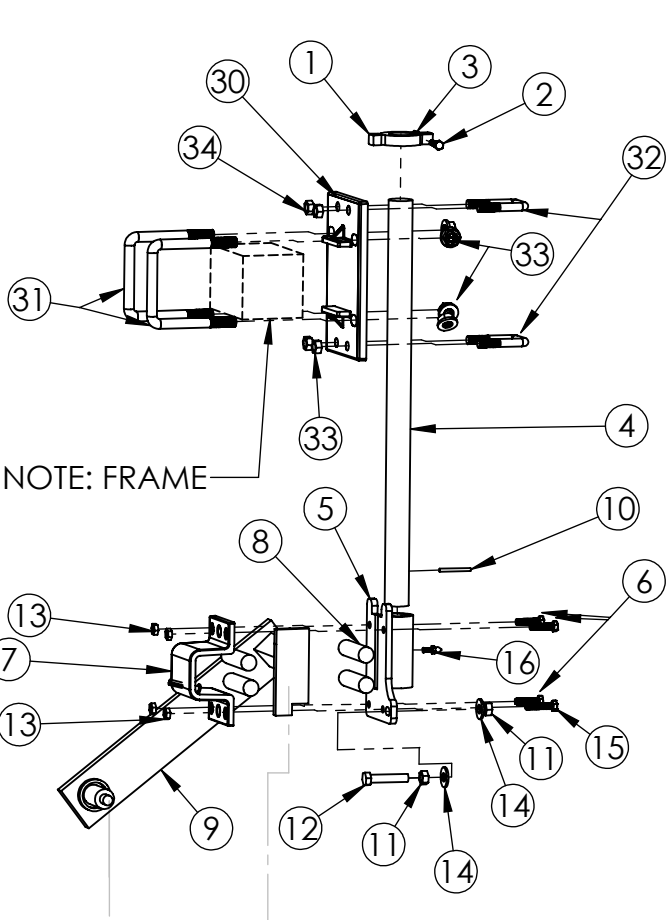
NO-TILL LINK ARM HYDRAULIC CYLINDER- PAGE 2 OF 2

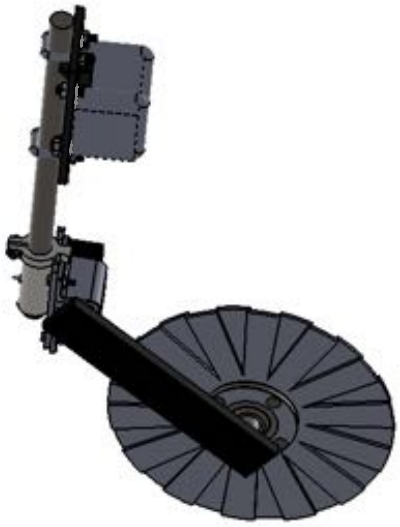
ITEM NO.	S PART NUMBER		DESCRIPTION	
1	554226XD		Hydraulic Cylinder-Rephasing 2 1/2" x 8" Ind. # 25WP08-150-647632-3000psi (Large)	
2	554226XND		Hydraulic Cylinder-Rephasing 2" x 8" Ind. # 20WP08-112-647631-3000psi (Small)	
3	4224A1		Fitting-Swivel Adapter-6901-8-6 O Ring-90 degrees (Industry # 6901-08-06-4)	
4	42220		Fitting-Hydraulic Quick Disconnect-Male End-.5" NPT	
5	42202C		Dust Cap-Hydraulic-Rubber-Female	
6	422201		Adapter-Hex 5406-8-6	
7	55750		Gate-Valve	
8	4222X20	Mdl.7508	20'	Hydraulic Hose-3/8" NPT
	4222X21	Mdl.7512	21'	Hydraulic Hose-3/8" NPT
	4222X22	Mdl.7516	22'	Hydraulic Hose-3/8" NPT
	4222X23	Mdl.7518	23'	Hydraulic Hose-3/8" NPT
	4222X27	Mdl.7522	27'	Hydraulic Hose-3/8" NPT
9	4222X15	Mdl.7508	15'	Hydraulic Hose-3/8" NPT
	4222X15	Mdl.7512	15'	Hydraulic Hose-3/8" NPT
	4222X15	Mdl.7516	15'	Hydraulic Hose-3/8" NPT
	4222X15	Mdl.7518	15'	Hydraulic Hose-3/8" NPT
	4222X15	Mdl.7522	17'	Hydraulic Hose-3/8" NPT
10	4222X6	Mdl.7508	6'	Hydraulic Hose-3/8" NPT
	4222X6	Mdl.7512	6'	Hydraulic Hose-3/8" NPT
	4222X8	Mdl.7516	8'	Hydraulic Hose-3/8" NPT
	4222X8	Mdl.7518	8'	Hydraulic Hose-3/8" NPT
	4222X10	Mdl.7522	10'	Hydraulic Hose-3/8" NPT
11	4222X7	Mdl.7508	7'	Hydraulic Hose-3/8" NPT
	4222X9 (10)	Mdl.7512	9' or 10'	Hydraulic Hose-3/8" NPT
	4222X12	Mdl.7516	12'	Hydraulic Hose-3/8" NPT
	4222X14	Mdl.7518	14'	Hydraulic Hose-3/8" NPT
	4222X16	Mdl.7522	16'	Hydraulic Hose-3/8" NPT

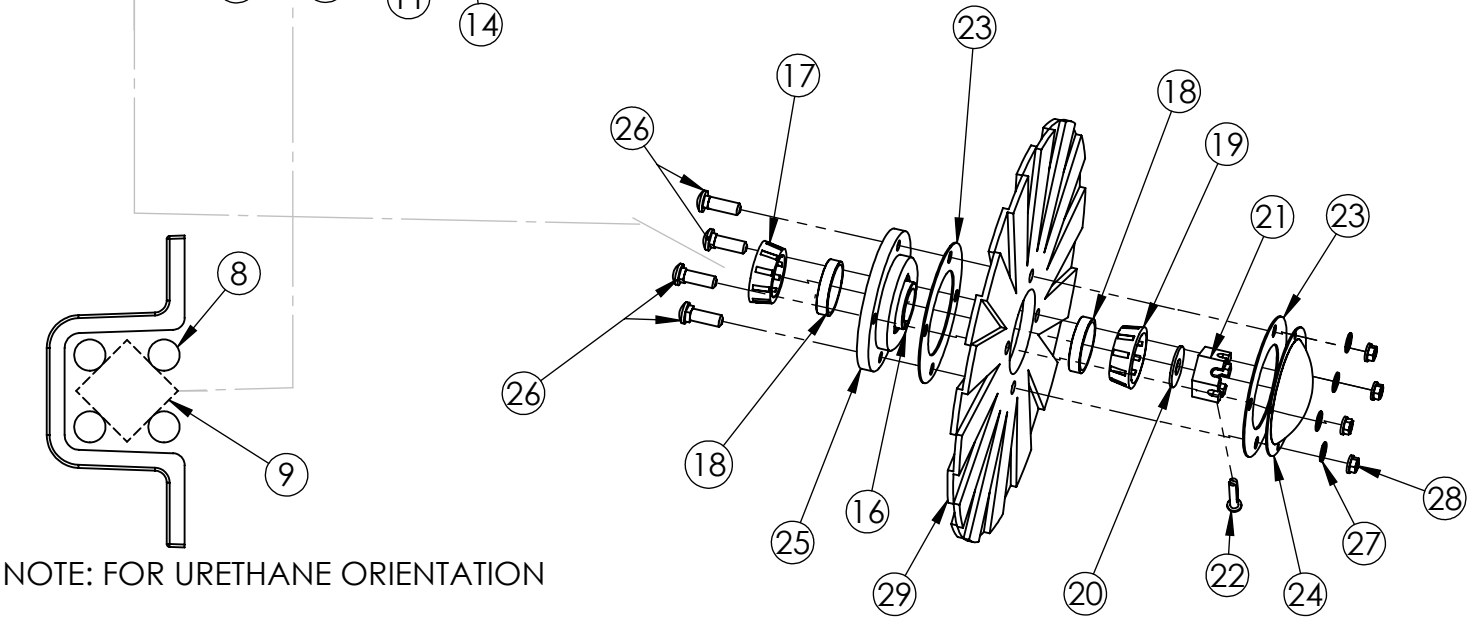
PARTS CATALOG

ALWAYS ORDER BY PART NUMBER – NOT BY ITEM NUMBER

No-Till Assembly Caster Style (13 & 24 Wave) PAGE 1 OF 2





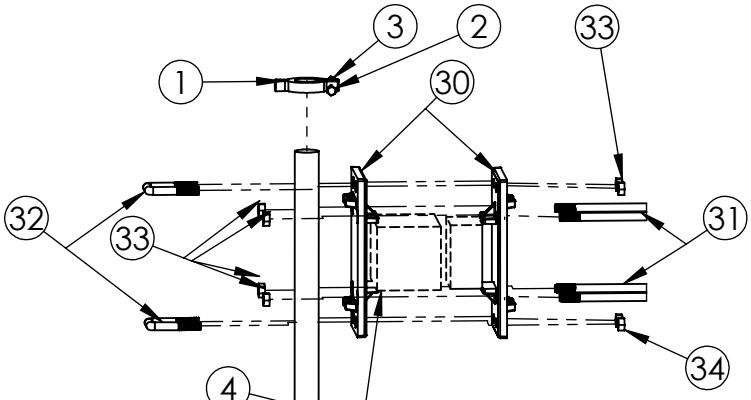


S NO-TILL ASSEMBLY CASTER STYLE (13 & 24 WAVE) PAGE 2 0F 2

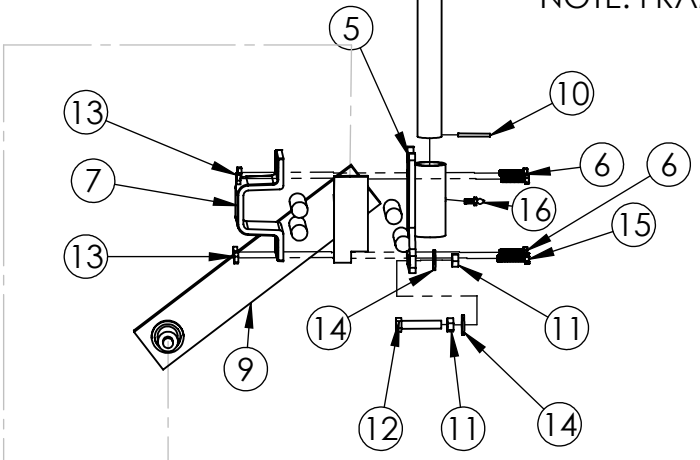
S ITEM NO.	S PART NUMBER	S DESCRIPTION
1	4215	Clamp Collar
2	B516-1.5-GR5	Bolt-5/16"x 1-1/2"-Grade 5
3	N516-CL-GR5	Nut-5/16" Clincher Nut-Grade 5
4	42201X1	Shank-1-1/2"x 24"
5	422034	Knuckle-Torsion Base Weldment
6	B38-1.5-GR5	Bolt-3/8"x 1-1/2" Grade 5
7	4220231	Hat-Torsion
8	42204	Urethane-1”OD 4 1/8”L Cord -90 Duro
9	42201	Leg-No-Till (Straight)
10	RP14-2	Roll Pin-1/4"x 2"
11	N12-JN	Nut-1/2" Jam Nut
12	B12-2TH	Bolt-1/2"x 2" Thread-to-Head
13	N38-FN	Nut-3/8" Flange Nut
14	W12-GR5	Washer-1/2" Grade 5
15	B38-1.75-GR5	Bolt-3/8"x 1-3/4" Grade 5
16	1093DD	Zirk-1/4"-28
17	LM67000LA	Bearing-1-1/4" (Integral Seal) (ID# LM67000LA)
18	1077X	Cup-Bearing-No-Till (ID# LM67010)
19	1077	Bearing-4-Bolt Hub 1-1/4" (ID#LM67048)
20	W58GRD8	Washer-5/8" Grade 8
21	SN58-NF	Slotted Nut-5/8" National Fine Thread
22	CP316-1.5	Cotter Pin-3/16"x 1-1/2"
23	42201CX	Gasket-4-Bolt Hub - .062"
24	42201C	Cap-Dust
25	42201E	Hub-4-Bolt No-Till (Flat Face)
26	CB12-1.5	Carriage Bolt, 1/2"x 1-1/2"
27	LW12	Lockwasher-1/2"
28	N12-GR8	Nut-1/2" Grade 8
29	4302 4303	Coulter-18" 24 Wave Coulter-18” 13 Wave
30	555111_01	Clamp Plate Casting
31	UB58-5-4	U-Bolt-5/8” x 5” x 4”
32	UB12-318-1.5	U-Bolt-1/2” x 3-1/8” x 1-1/2”
33	N58-FN-GR5	Nut-5/8” Flanged-Grade 5
34	N12-FN-GR5	Nut-1/2” Flanged-Grade 5

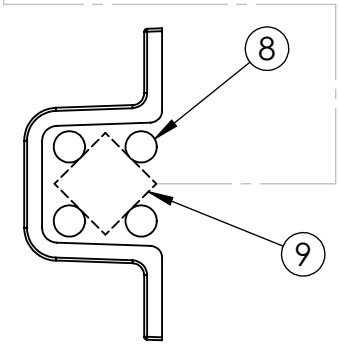
No-Till Assembly Caster Style (13 & 24 WAVE) PAGE 1 OF 2

NOTE: OFFSET FRAME STAGGERED COULTERS
(SERIAL # -55030)

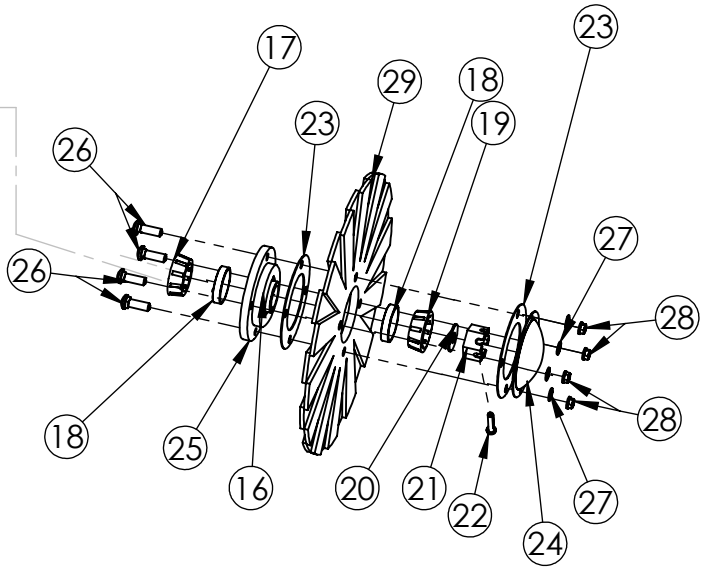


NOTE: SEE PAGE 90-48 FOR MOUNTING





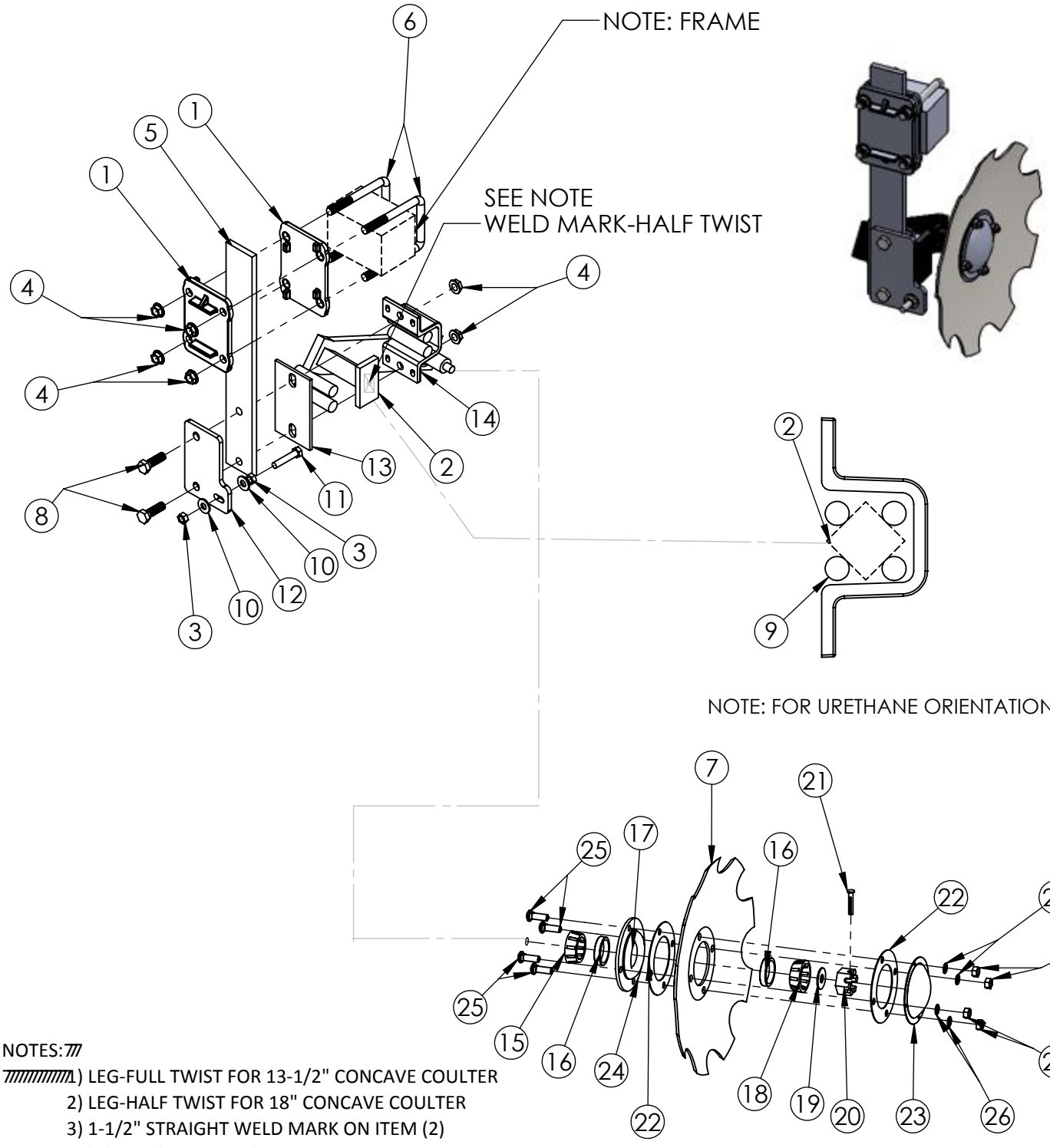
NOTE: FOR URETHANE ORIENTATION



S **NO-TILL ASSEMBLY CASTER STYLE (13 & 24 WAVE) PAGE 2 OF 2**

S ITEM NO.	S PART NUMBER	S DESCRIPTION
1	4215	Clamp Collar
2	B516-1.5-GR5	Bolt-5/16"x 1-1/2"-Grade 5
3	N516-CL-GR5	Nut-5/16" Clincher Nut-Grade 5
4	42201X1	Shank-1-1/2"x 24"
5	422034	Knuckle-Torsion Base Weldment
6	B38-1.5-GR5	Bolt-3/8"x 1-1/2" Grade 5
7	4220231	Hat-Torsion
8	42204	Urethane-1”OD 4 1/8”L Cord -90 Duro
9	42201	Leg-No-Till (Straight)
10	RP14-2	Roll Pin-1/4"x 2"
11	N12-JN	Nut-1/2" Jam Nut
12	B12-2TH	Bolt-1/2"x 2" Thread-to-Head
13	N38-FN	Nut-3/8" Flange Nut
14	W12-GR5	Washer-1/2" Grade 5
15	B38-1.75-GR5	Bolt-3/8"x 1-3/4" Grade 5
16	1093DD	Zirk-1/4"-28
17	LM67000LA	Bearing-1-1/4" (Integral Seal) (ID# LM67000LA)
18	1077X	Cup-Bearing-No-Till (ID# LM67010)
19	1077	Bearing-4-Bolt Hub 1-1/4" (ID#LM67048)
20	W58GRD8	Washer-5/8" Grade 8
21	SN58-NF	Slotted Nut-5/8" National Fine Thread
22	CP316-1.5	Cotter Pin-3/16"x 1-1/2"
23	42201CX	Gasket-4-Bolt Hub - .062"
24	42201C	Cap-Dust
25	42201E	Hub-4-Bolt No-Till (Flat Face)
26	CB12-1.5	Carriage Bolt, 1/2"x 1-1/2"
27	LW12	Lockwasher-1/2"
28	N12-GR8	Nut-1/2" Grade 8
29	4302 4303	Coulter-18" 24 Wave Coulter-18” 13 Wave
30	555111_01	Clamp Plate Casting
31	B58-5.25	Bolt-5/8” x 5-1/4”
32	UB12-318-1.5	U-Bolt-1/2” x 3-1/8” x 1-1/2”
33	N58-FN-GR5	Nut-5/8” Flanged-Grade 5
34	N12-FN-GR5`	Nut-1/2” Flanged-Grade 5

No-Till Assembly Trash Plow (13-1/2" & 18" Concave) Page 1 OF 2



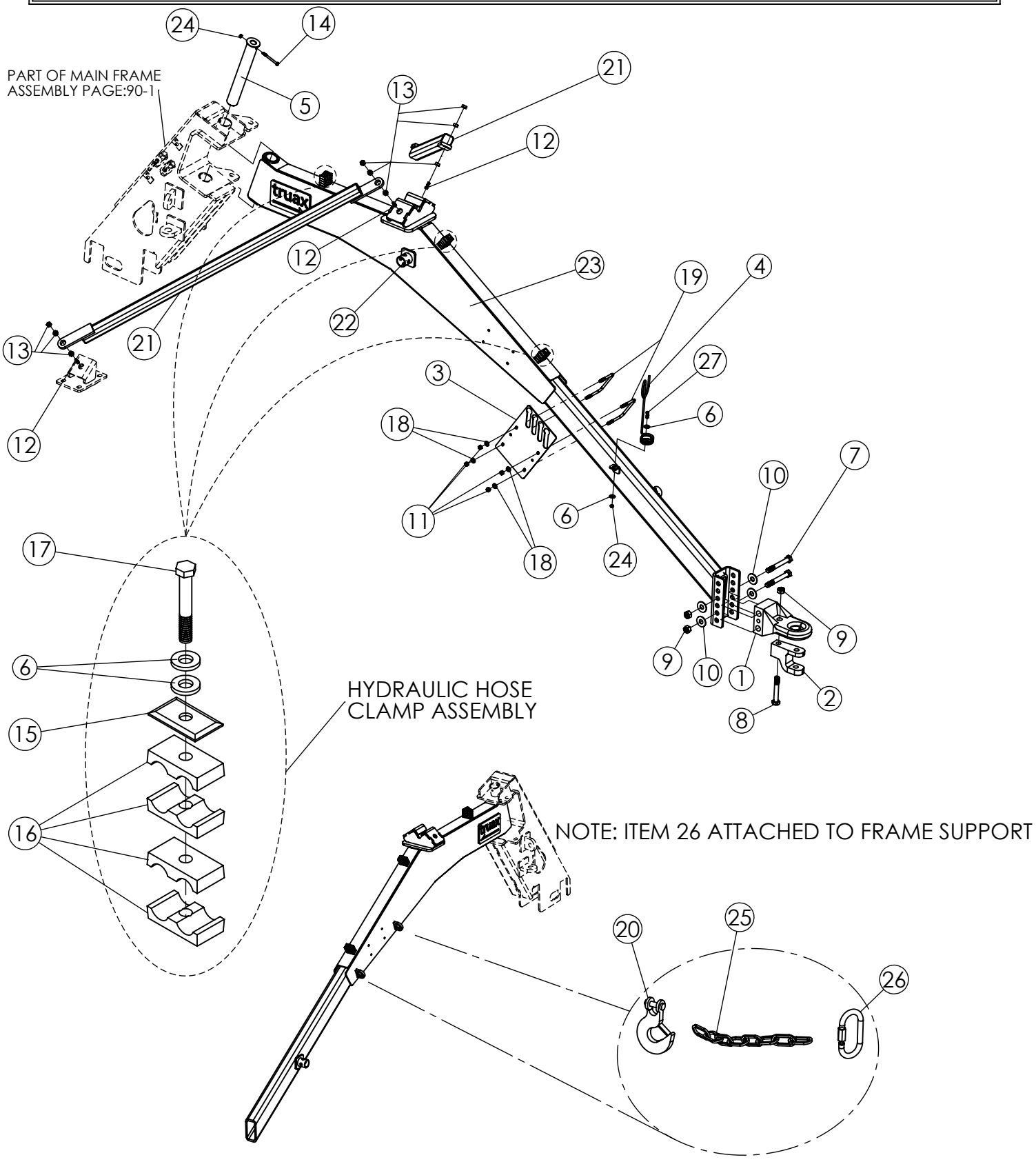
NOTES:

1) LEG-FULL TWIST FOR 13-1/2" CONCAVE COULTER
2) LEG-HALF TWIST FOR 18" CONCAVE COULTER
3) 1-1/2" STRAIGHT WELD MARK ON ITEM (2) SIGNIFIES HALF TWIST

S NO-TILL ASSEMBLY TRASH PLOW (13-1/2" & 18" CONCAVE) PAGE 2 OF 2

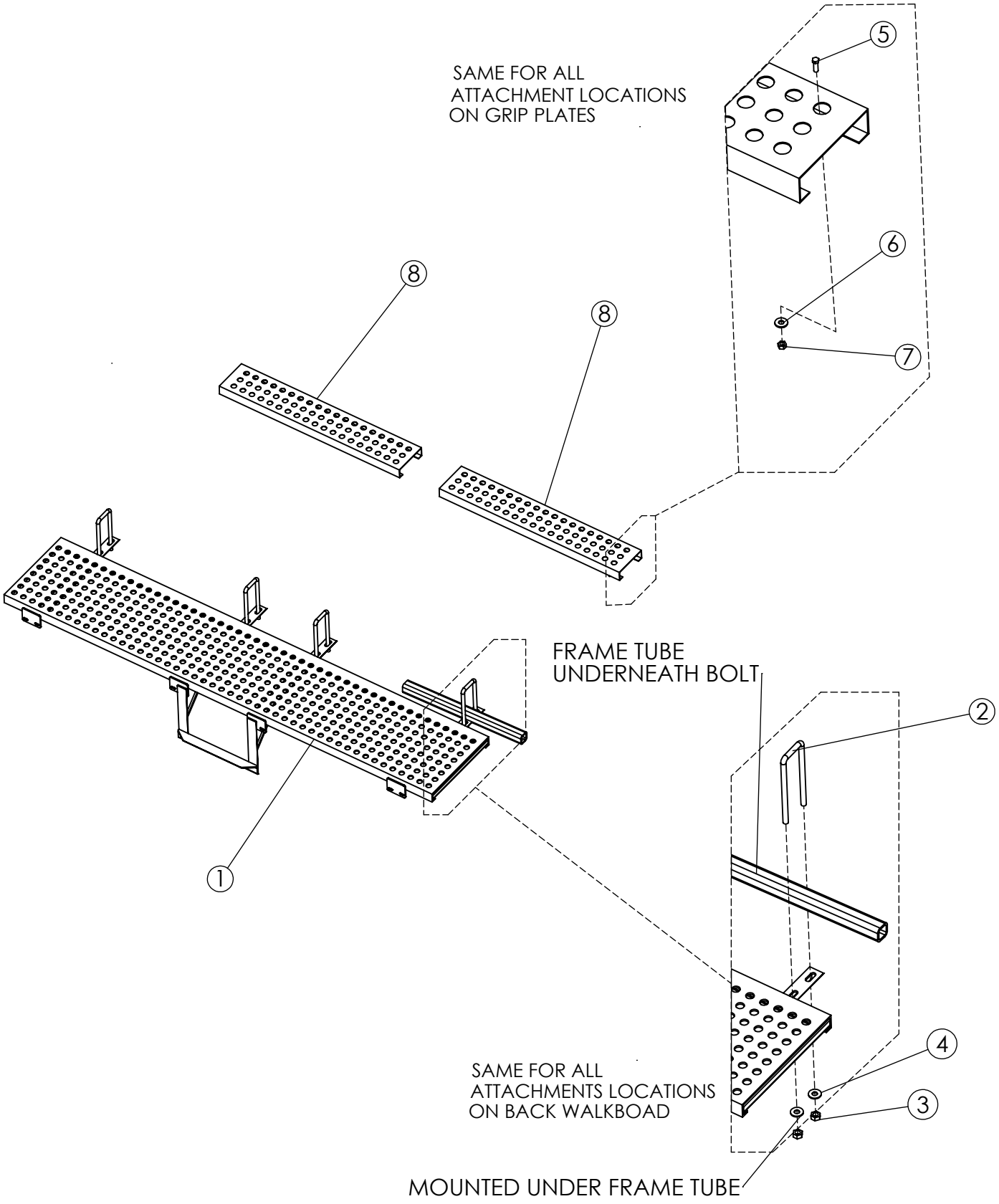
S ITEM NO.	S PART NUMBER	S DESCRIPTION
1	52111	Clamp Plate
2	422011 422012 422008RH 422009LH	Leg No-Till Twisted LH Leg No-Till Twisted RH Leg No-Till Half Twist RH Leg No-Till Half Twist LH
3	N12-JN	Nut-1/2" Jam
4	N58-FN	Nut-5/8" Flanged
5	52201X2	Shank-Spring Steel 1/2" x 3" x 22"
6	UB58-6.25-4	U-bolt 5/8" x 6-1/4" x 4"
7	5301 (13-1/2") 5302 (18")	Coulter Notched Concave
8	B58-2.5	Bolt 5/8" x 2-1/2"
9	42204	Urethane-1" Cord 90 Duro
10	W12	Washer-1/2"
11	B12-2TH	Bolt-1/2" x 2" Thread-To-Head – 3 Hole
12	522022	Jack Plate – No-Till
13	522021	Plate – Casting – 2 Hole
14	422023	Hat-4-Bolt
15	LM67000LA	Bearing-1-1/4" (Integral Seal) (ID# LM67000LA)
16	1077X	Cup-Bearing-No-Till (ID# LM67010)
17	1093DD	Zirk-1/4"-28
18	1077	Bearing-4-Bolt Hub 1-1/4" (ID# LM67048)
19	W58GR8	Washer-5/8" Grade 8
20	SN58-NF	Slotted Nut-5/8" UNF
21	CP18-1.5	Cotter Pin-1/8" x 1-1/2"
22	42201CX	Gasket-4-Bolt Hub-.062"
23	42201C	Cap-Dust
24	52201E	Hub-4-Bolt Tapered
25	CB12-1.5	Carriage Bolt-1/2" x 1-1/2"
26	LW12	Lock Washer-1/2"
27	N12	Nut-1/2"

FOLDING TONGUE ASSEMBLY- PAGE 1 OF 2



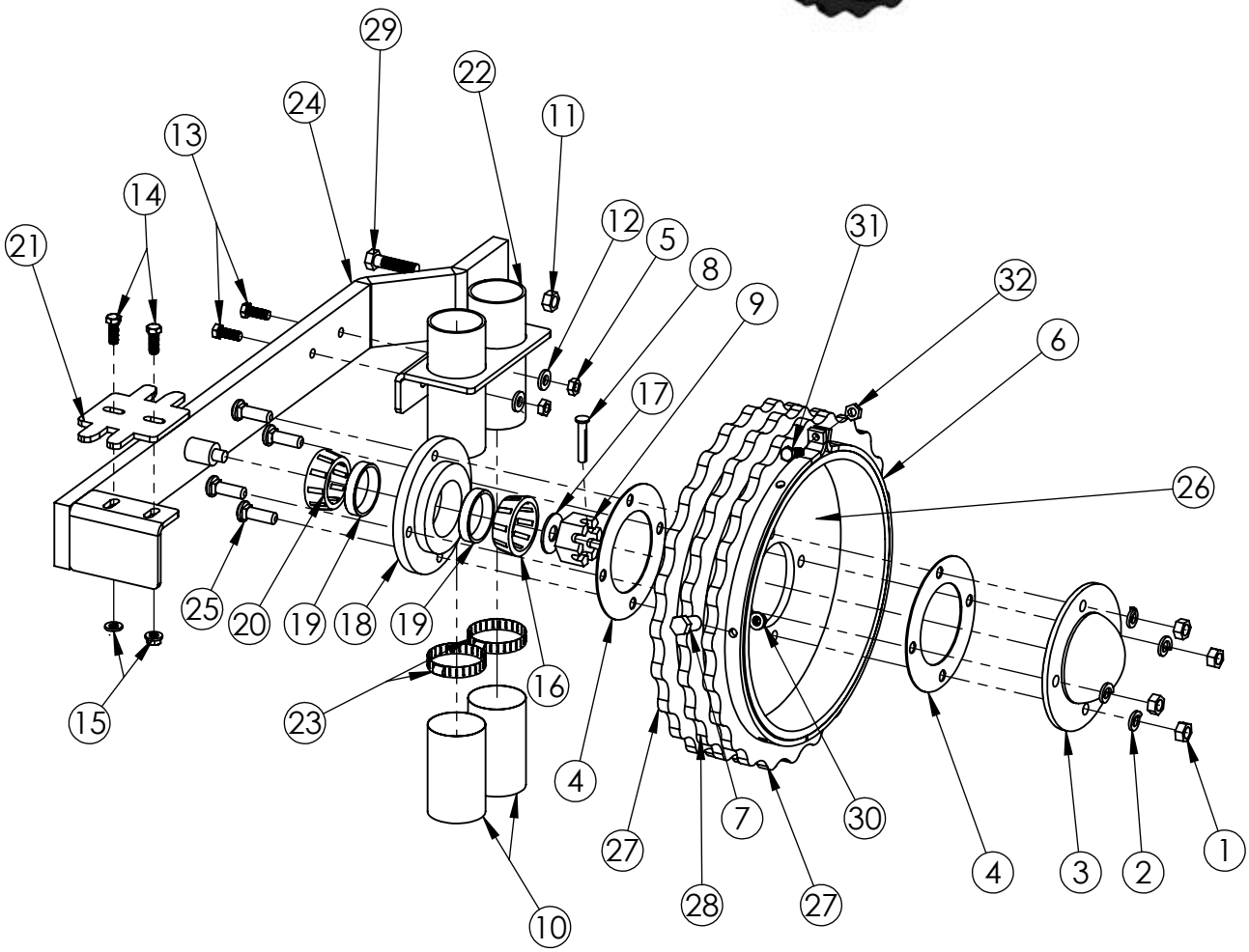
FOLDING TONGUE ASSEMBLY- PAGE 2 OF 2		
ITEM NO.	**S PART NUMBER**	**DESCRIPTION**
1	1022C2	Hitch-Body
2	1022B2	Hitch-Clevis
3	4222X24	Hydraulic Hose Park
4	4214	Hose-Guide
5	33700-11	2" x 14 1/2"-Tongue-Pin
6	W516GR5	Washer-5/16" Grade 5
7	B34-6GR8	Bolt-3/4" x 6" Grade 8
8	B34-5-GR8	Bolt-3/4" x 5" Grade 8
9	N34TLGR8	Nut-3/4" Grade 8-Top Lock
10	W34GR8	Washer-3/4" Grade 8
11	N38TLGR5	Nut-3/8" Grade 5-Top Lock
12	B1-2.5GR5	Bolt-1" x 2 ½" Grade 5 Note: Bolt Installed With Threads Up
13	JN1-TL	Jam Nut-1"-Top Lock
14	B516-2.5GR5 B516-3.5GR5	Bolt-5/16" x 2 ½" Grade 5 (-55004) Bolt-5/16" x 3 ½ Grade 5 (55005-)
15	337181	Hose Clamp-Top Bolted
16	33718	Hose Clamp-Plastic-2 Hose
17	B516-2.5GR5	Bolt-3/8" x 2 ½" Grade 5
18	W38GR5	Washer-3/8"
19	UB38-4-5	U-Bolt-3/8" x 4" x 5"
20	55310125	Safety Chain-Hook
21	5531808 (Mdl. 7508) 5531008 (Mdl. 7512) 5531008 (Mdl. 7516) 559200 (Mdl. 7518) 5531022 (Mdl. 7522)	Tongue-Strut Note: Right and Left Interchangeable
22	10691N	Parking-Jack #7000 With Drop Foot
23	55300002 55300003	Tongue-OTG (Mdls. 7508, 7512, 7516) Tongue-OTG (Mdls. 7518, 7522)
24	N516TLGR5	Nut-5/16" Grade 5-Top Lock
25	55310126	Safety Chain
26	55310124	Safety Chain-Load Rate Carabiner
27	B516-1GR5	Bolt-5/16" x 1" Grade 5

WALKBOARD ASSEMBLY- PAGE 1 OF 2



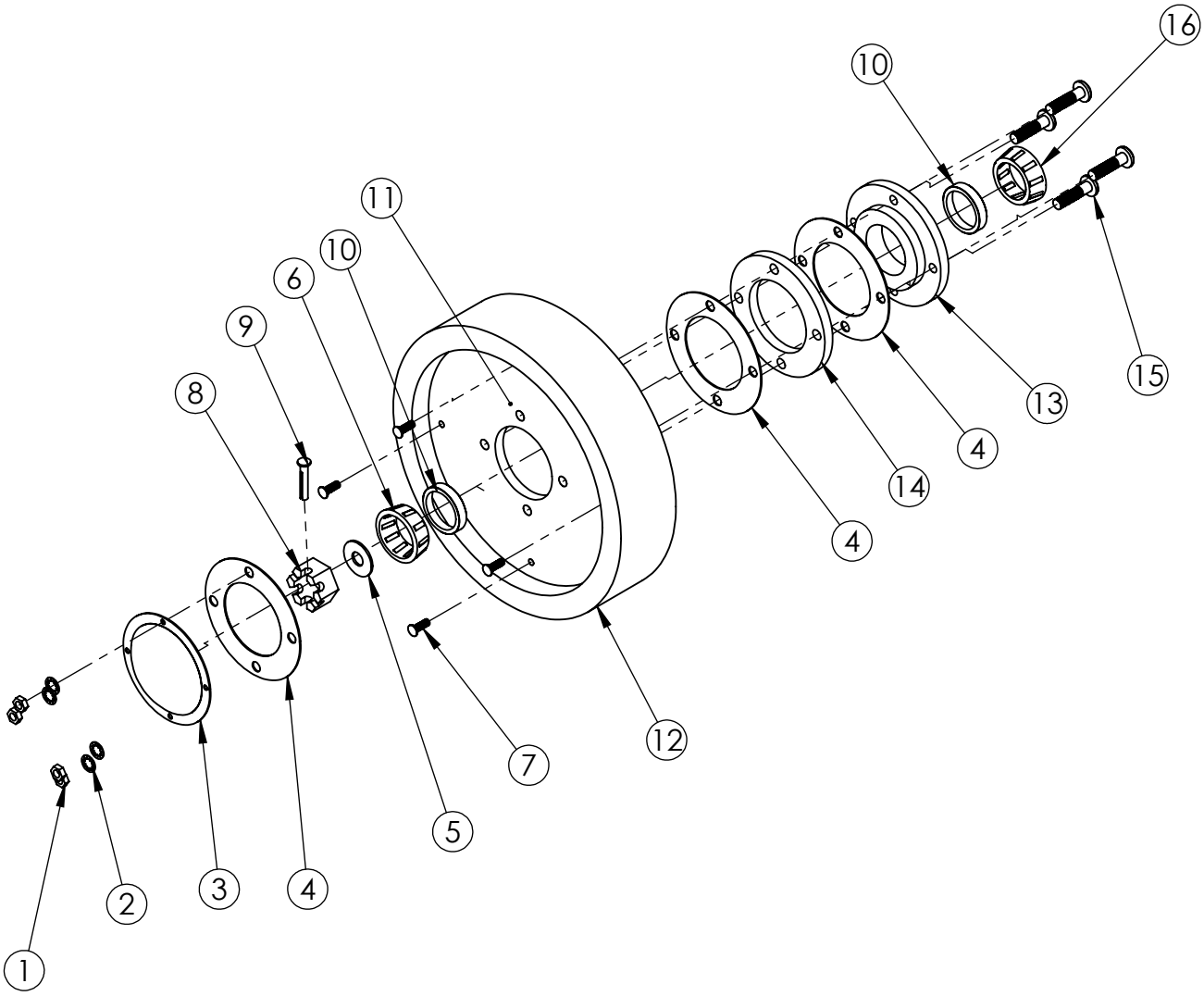
WALKBOARD ASSEMBLY- PAGE 2 OF 2			
ITEM NO.	**S PART NUMBER**		**DESCRIPTION**
1	55752208	Mdl. 7508	Rear Walkboard
	55751217	Mdl. 7512	
	55751619	Mdl. 7516	
	55751819L	Mdl. 7518	
	55751819R	Mdl. 7518	
	55752219L	Mdl. 7522	Left-Hand
	55752219R	Mdl. 7522	Right-Hand
2	UB916-9.75-3		U-Bolt-9/16" x 9 3/4" x 3"
3	N916-TL		Nut-9/16"-TL
4	W916-GRD8		Washer 9/16-Grade 8
5	B14-.75		Bolt-1/4" x 3/4"
6	W14-GRD8		Washer-1/4" Grade 8
7	N14-TL		Nut-1/4”-TL
8	557508	Mdl. 7508	Front Walkboard Perf-O Grip 7” x 26 3/4” x 2” Req. 2
	55751218	Mdl. 7512	Front Walkboard Perf-O Grip 7" x 41" x 2" Req. 2
	55751620	Mdl. 7516	Front Walkboard Perf-O Grip 7" x 29-1/2" x 2"
	55751621	Mdl. 7516	Front Walkboard Perf-O Grip 7" x 26" x 2"
	55751820	Mdl. 7518	Front Walkboard Perf-O Grip 7” x 32" x 2"
	55751821	Mdl. 7518	Front Walkboard Perf-O Grip 7” x 45" x 2"
	55752220	Mdl. 7522	Front Walkboard Perf-O Grip 7" x 33-3/8" x 2"
	55752221	Mdl. 7522	Front Walkboard Perf-O Grip 7" x 47-1/2" x 2"

IMPRINTER ASSEMBLY PAGE 1 OF 2



IMPRINTER ASSEMBLY PAGE 2 OF 2		
ITEM NO.	**S PART NUMBER**	**DESCRIPTION**
1	N12	Nut-1/2”
2	LW12	Lock washer-1/2”
3	42201C	Cap-Dust
4	42201CX	Gasket-4-Bolt Hub-.062” TH
5	N38TL	Nut-3/8”-Top Lock
6	303680	Band Clamp
7	B14-1	Bolt-1/4” x 1”
8	CP316-1.5	Cotter Pin-3/16” x 1.5”
9	CN58-NF	Slotted Nut-5/8” National Fine Thread
10	N100071	2-Ply Rubber Hose- 2.5” ID
11	N12-TL	Nut-1/2” Top Lock
12	W38	Washer-3/8”
13	B38-1.5	Bolt-3/8” x 1-1/2”
14	B38-1	Bolt-3/8” x 1”
15	N38FN	Nut-3/8” Flange
16	1077	Bearing-4-Bolt Hub 1-1/4” (ID# LM67048)
17	W58GR8	Washer-5/8” Grade 8
18	42201E	Hub-4 Bolt
19	1077X	Cup-Bearing (ID# LM67010)
20	LM67000LA	Bearing-1-1/4” Integral Seal (ID# LM67000LA)
21	60639	Scraper-Hardened-Reversible
22	60637	Imprinter Seed Tube Bracket-OTG
23	1009	Hose Clamp #36
24	60632A	Imprinter Frame-OTG
25	CB12-1.5	Carriage Bolt-1/2” x 1-1/2”
26	60632	Imprinter-Rim-OTG
27	60633	Imprinter-Narrow Wheel Spacer-OTG
28	6063	Imprinter-Wheel Segment-12”ID 2” Wide
29	B12-2	Bolt-1/2” x 2”
30	N14-TL	Nut-1/4” Top Lock
31	B516-.5	Bolt-5/16” x 1/2”
32	N516-TL	Nut-5/16” Top Lock

LEADING PRESS WHEEL PAGE 1 OF 2



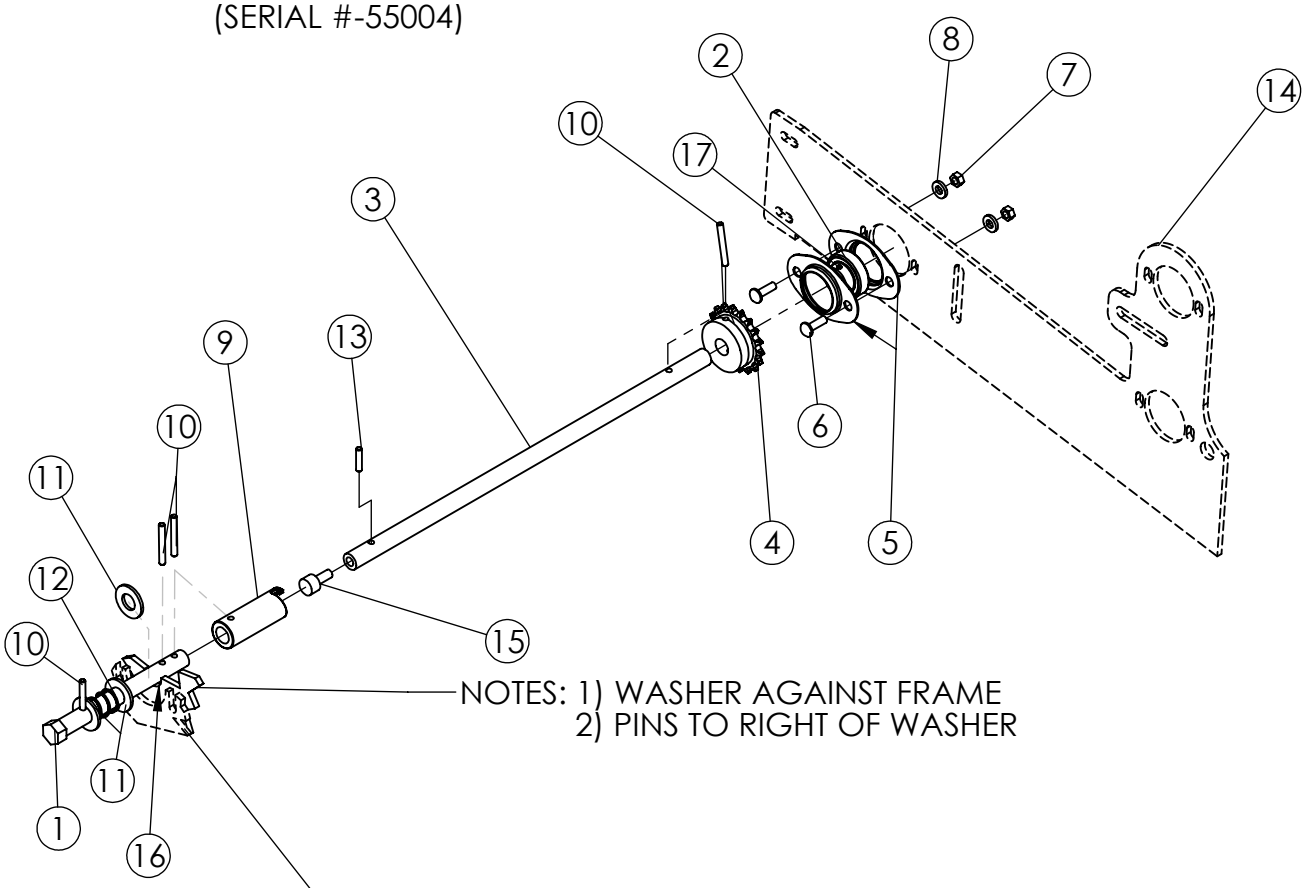
NOTE: LEADING PRESS WHEEL ASSEMBLY INCLUDES ITEMS# 11, 12, 14, 15.
SEE PAGE 90-55 thru 90-60 FOR NO-TILLS.

S LEADING PRESS WHEEL PAGE 2 OF 2

S ITEM NO.	S PART NUMBER	S DESCRIPTION
1	N12-GR8	Nut-1/2" Grade 8
2	LW12	Lock washer-1/2"
3	42201E	Cap-Dust
4	42201CX	Gasket-4-Bolt Hub-.062" (3 Required)
5	W58GR8	Washer-5/8" Grade 8
6	1077	Bearing-4-Bolt Hub-1-1/4" (ID#LM67048)
7	B516-.75-GR5	Bolt-5/16" x 3/4" Grade 5
8	SN58-NF	Slotted Nut-5/8" UNF
9	CP316-1.5	Cotter Pin-3/16" x 1-1/2"
10	1077X	Cup-Bearing-No-Till (ID#LM67010)
11	4211A	Rim (part of 4211) (2 required)
12	4211	Tire
13	42201E	Hub-4-Bolt-No-Till (Flat Face)
14	4211B	Spacer-1/2" Thick
15	CB12-2GR5	Carriage Bolt-1/2" x 2" Grade 5
16	LM67000LA	Bearing-1-1/4" (Integral Seal)
17	55303728	Press Wheel Assembly (Bolts, Washers, Rims, Tire, Carriage Bolts)

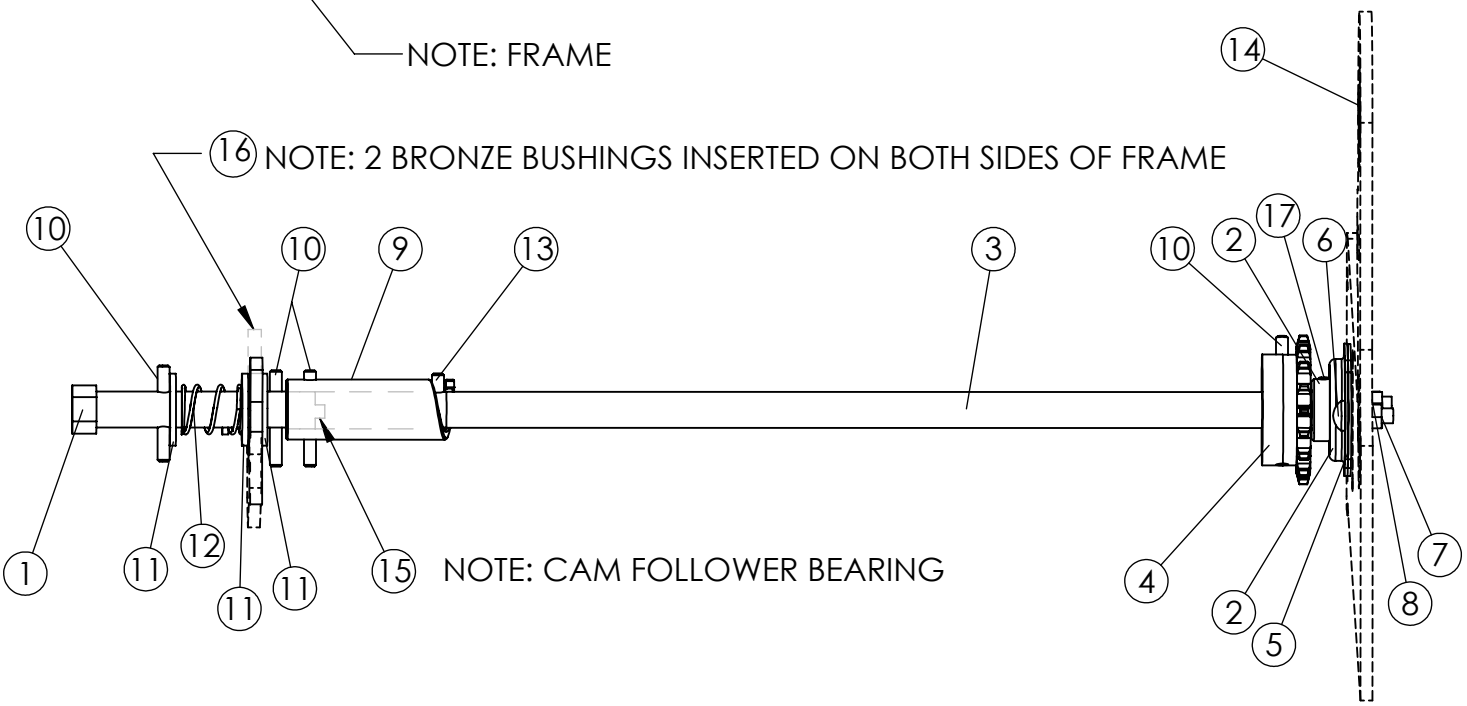
CALIBRATION ASSEMBLY PAGE 1 OF 2

(SERIAL #-55004)



NOTES: 1) WASHER AGAINST FRAME
2) PINS TO RIGHT OF WASHER

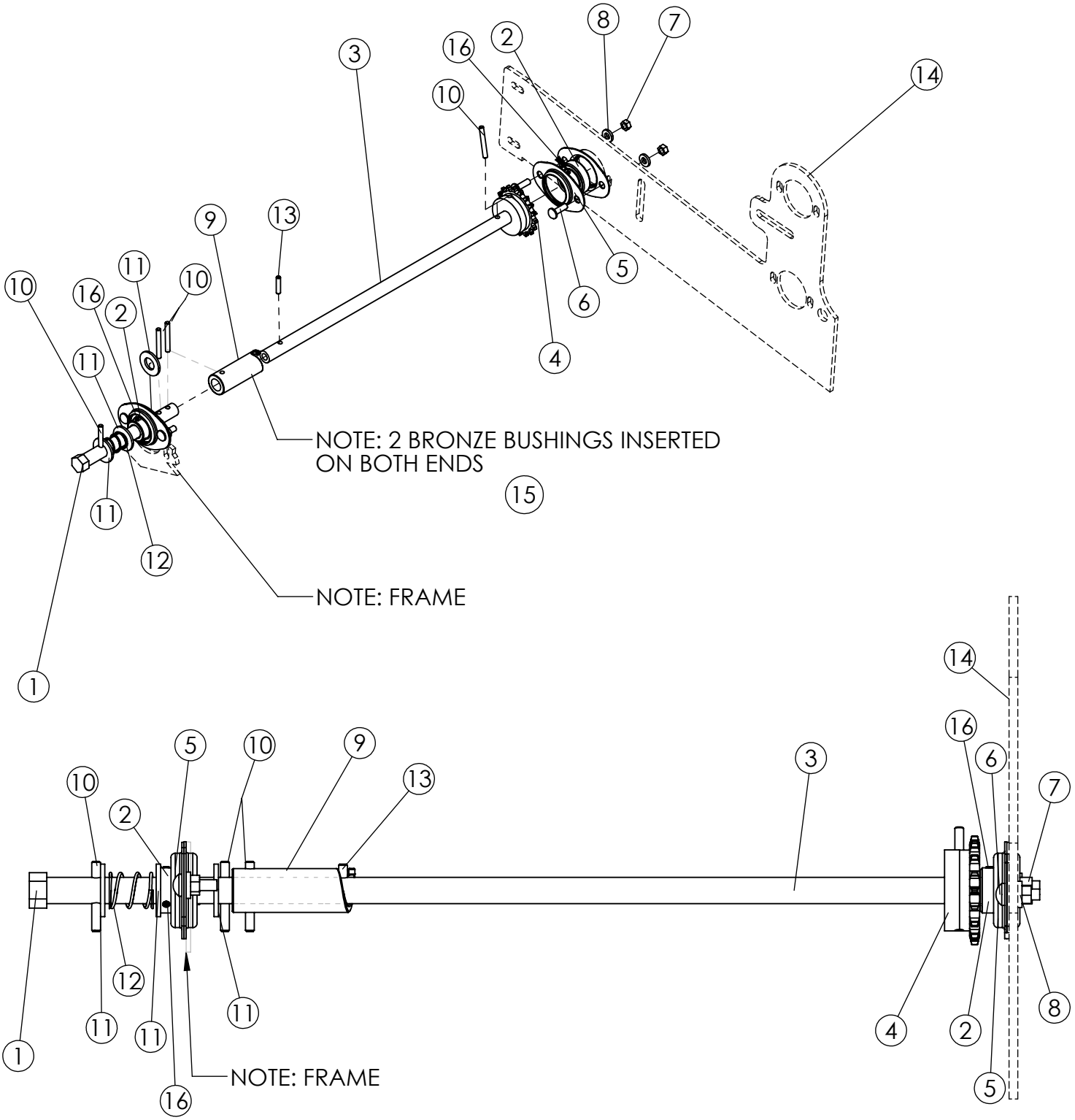
NOTE: FRAME



CALIBRATION ASSEMBLY - PAGE 2 OF 2		
ITEM NO.	**S PART NUMBER**	**DESCRIPTION**
1	5575042	Calibration Drive Nut-3/4" x 7 1/4"
2	1007	Bearing-3/4"-Round Bore
3	5575041	Calibration Shaft-3/4" x 20 7/8" CR RD 1018
4	1057AB	Sprocket-3/4"-Bore (40B16)
5	1007A	Bearing-Flangette-47MST
6	CB516-.75	Carriage Bolt-5/16" x 3/4"
7	N516CL	Nut-5/16"-CL
8	W516	Washer-5/16"
9		Calibration Coupler-Stepboard (-55004)
10	RP14-2	Roll Pin-1/4" x 2"
11	W34	Washer-3/4"
12	551085B2612	Calibration Shaft Spring
13	RP14-1	Roll Pin-1/4" x 1/4"
14	557503_02	Drive Shaft Center Plate
15	55SFH-24-A	Bearing-Cam Follower
16	55751027	Bushing Bronze Oil Light 3/8" ID1/2" OD 1/8"L
17		Set Screw

CALIBRATION ASSEMBLY PAGE 1 OF 2

(SERIAL #55005 TO #55012)

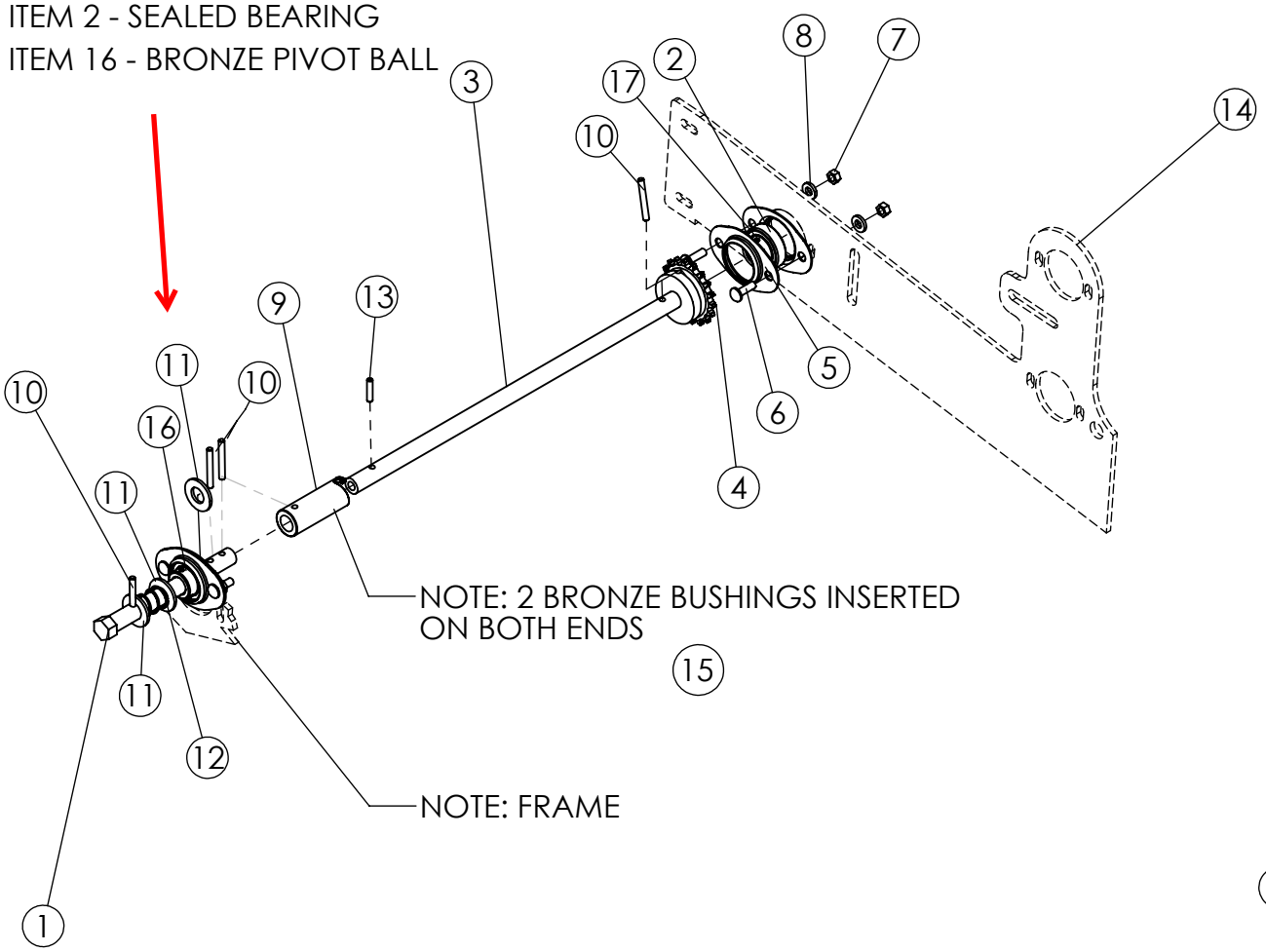


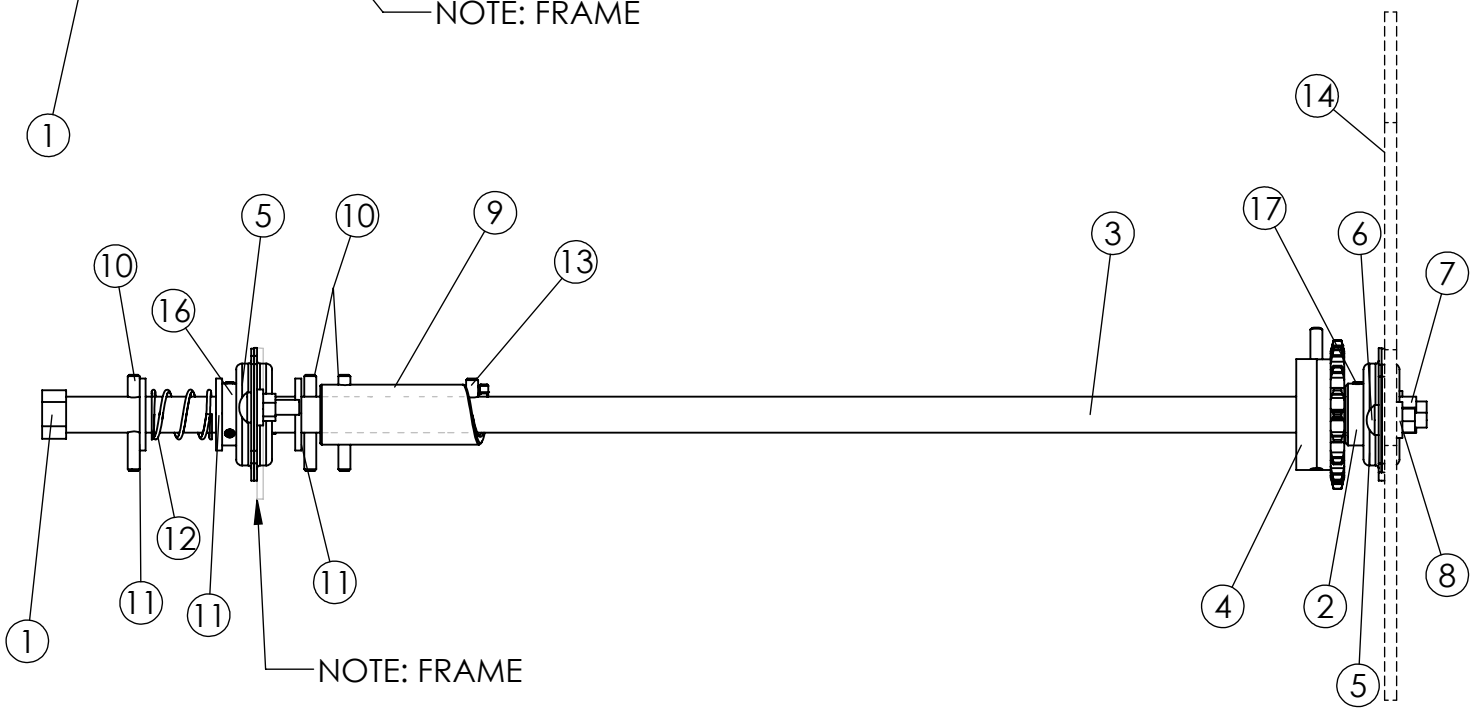
CALIBRATION ASSEMBLY - PAGE 2 OF 2		
ITEM NO.	**S PART NUMBER**	**DESCRIPTION**
1	55750421	Calibration Drive Nut-3/4" x 7 1/4"
2	1007	Bearing-3/4”-Round Bore
3	5575041	Calibration Shaft-3/4” x 20 7/8”
4	1057AB	Sprocket-3/4”-Bore (40B16)
5	1007A	Bearing-Flangette-47MST
6	CB516-.75	Carriage Bolt-5/16” x 3/4”
7	N516CL	Nut-5/16”-CL
8	W516	Washer-5/16”
9	5575040	Calibration Coupler-Inserted Bronze Bushings
10	RP14-2	Roll Pin-1/4” x 2”
11	W34	Washer-3/4”
12	551085B2612	Calibration Shaft Spring
13	RP14-1	Roll Pin-1/4” x 1/4”
14	557503_02	Drive Shaft Center Plate
15	55751027	Bushing Bronze Oil Light 3/8” ID 1/2” OD 1/8”L
16		Set Screw
	4	4
	4	4

CALIBRATION ASSEMBLY PAGE 1 OF 2

(SERIAL #55013 TO 55030)

NOTE: SAME ASSEMBLY AS ON OTHER SIDE
ITEM 2 - SEALED BEARING
ITEM 16 - BRONZE PIVOT BALL

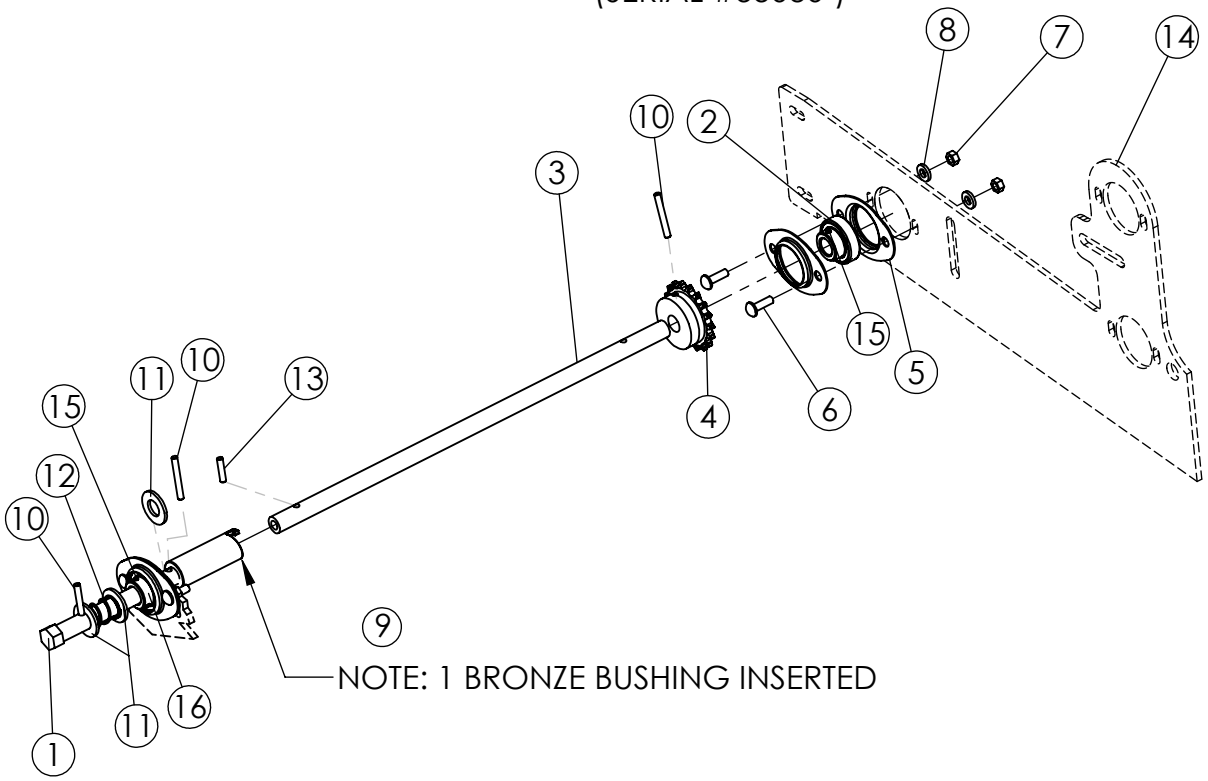


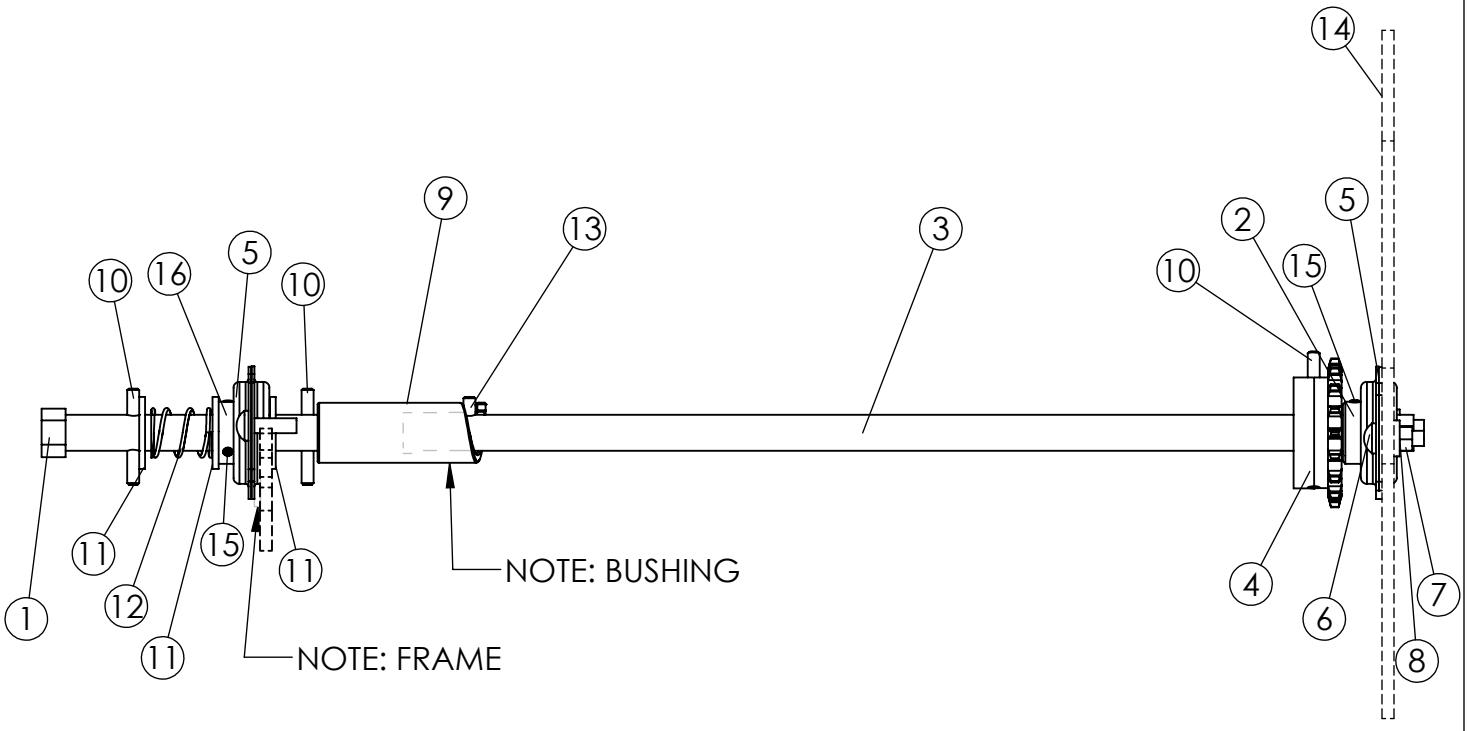


CALIBRATION ASSEMBLY- PAGE 2 OF 2		
ITEM NO.	**S PART NUMBER**	**DESCRIPTION**
1	55750421	Calibration Drive Nut-3/4" x 7 1/4"
2	1007	Bearing-3/4”-Round Bore
3	5575041	Calibration Shaft-3/4” x 20 7/8”
4	1057AB	Sprocket-3/4”-Bore (40B16)
5	1007A	Bearing-Flangette-47MST
6	CB516-.75	Carriage Bolt-5/16” x 3/4”
7	N516CL	Nut-5/16”-CL
8	W516	Washer-5/16”
9	5575040	Calibration Coupler-Inserted Bronze Bushings (55005-)
10	RP14-2	Roll Pin-1/4” x 2”
11	W34	Washer-3/4”
12	551085B2612	Calibration Shaft Spring
13	RP14-1	Roll Pin-1/4” x 1/4”
14	557503_02	Drive Shaft Center Plate
15	55751027 9	Bushing Bronze Oil Light 3/8” ID1/2” OD 9 1/8”L 9
16	5575102777 9	Bronze Pivot Ball 9
17	9	Set Screw 9
	9	9

CALIBRATION ASSEMBLY PAGE 1 OF 2

(SERIAL #55030-)





CALIBRATION ASSEMBLY PAGE 2 OF 2		
ITEM NO.	**S PART NUMBER**	**DESCRIPTION**
1	55750455	Calibration Drive Nut-Welded Coupler
2	1007	Bearing-3/4”-Round Bore
3	5575041	Calibration Shaft-3/4” x 20 7/8”
4	1057AB	Sprocket-3/4”-Bore (40B16)
5	1007A	Bearing-Flangette-47MST
6	CB516-.75	Carriage Bolt-5/16” x 3/4”
7	N516CL	Nut-5/16”-CL
8	W516	Washer-5/16”
9	55751027	Bushing Bronze Oil Light 3/8” ID1/2” OD1/8”L
10	RP14-2	Roll Pin-1/4” x 2”
11	W34	Washer-3/4”
12	551085B2612	Drive Shaft Center Plate
13	RP14-1	Roll Pin-1/4” x 1/4”
14	557503_02	Calibration Shaft-Support
15		Set Screw
16	5575102777	Bronze Pivot Ball

OWNER REGISTRATION CARD

IMPORTANT!!!

Dear Truax Drill Owner:

Please read your operator's manual thoroughly so that you will understand the safety and operation of your new OTG Drill. It is highly recommended that you complete and mail this self-addressed owner registration card so that you may be contacted promptly with the most current manual revisions, as they become available. Remove this entire page, complete the registration below, fold so the Truax Company address is showing, apply 1st class postage and mail.

If at any time this machine does not meet your expectations, please contact us directly. Please have the model number and serial number available when you contact us. Our goal is to satisfy our customers!

- FREE T-SHIRT -

*In order to receive a **"FREE"** Truax T-shirt, simply complete and return the owner's registration information shown below.*

Truax Company will continue to update this operator's manual, as revisions become available. To insure that you receive the most current revisions, and a free Truax T-shirt, please complete the information below and return the card.

Name_____ Title_____

Company_____

Address_____

City_____ State_____ Zip_____

Model No._____ Serial No._____ Date of Purchase_____

Shirt Size: M L XL XXL

____ Please send me literature on other Truax seeding equipment (Circle Applicable Items):

Utility Drill Trillion Drop Seeder Pull-Type Drop Seeder Rough Rider Drill Seed Slinger Flex Drill OTG Drill