



**Forage**

**4' Hydraulic Combo Box**

**OWNER'S MANUAL/PARTS BOOK**

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Manual Number 02062012-COMBO

***PARMA***  
***COMPANY***  
P.O. BOX 190  
PARMA, IDAHO 83660  
PHONE (208) 722-5116 FAX (208) 722-6012  
Website: [www.parmacompany.com](http://www.parmacompany.com)  
E-Mail: [parmacom@parmacompany.com](mailto:parmacom@parmacompany.com)



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## INTRODUCTION

This manual has been prepared to acquaint you with the operation and maintenance of your **PARMA Combo Box**, and to provide important safety information. We urge you to read this manual carefully. The recommendations will help assure the safe and trouble free operation of your machine.

When it comes to service, keep in mind that your dealer knows your Combo Box well and is interested in your complete satisfaction. Your dealer invites you to call him for your service needs both during and after the warranty period.

We thank you for choosing a PARMA product and want to assure you of our continuing interest in your satisfaction. You have purchased a very good machine and with proper care it will give you good service.

## CUSTOMER AND DEALER CHECKLIST

After the machine has been completely assembled, inspect it thoroughly to be certain it is in operating condition before delivering it to a customer. The following checklist is a reminder of points to inspect. Check off each item as it is found satisfactory or after proper adjustment is made.

### PRE-DELIVERY:

- ☐ Check all bolts and nuts to be sure they are tight
- ☐ Make sure all bearing lock collars are set correctly and tightened
- ☐ Inspect and, if necessary, grease at all lubrication points; making sure all bearings are taking grease. (See Lubrication Schedule)
- ☐ Check all moving parts for smooth operation
- ☐ Check to see that all hydraulic fittings and cylinders are tight and free of leaks

### DELIVERY:

- ☐ Complete the Delivery and Warranty Registration Forms, listing serial number of machine
- ☐ Have the dealer and customer sign the form. Explain warranty policy on the Warranty Registration Form, and return to Parma Company.
- ☐ Show the customer how to operate the Combo Box
- ☐ Explain adjustments
- ☐ Explain the importance of proper lubrication
- ☐ Give the operator's manual to the customer and ask him to familiarize himself with all sections of it.

**DELIVERY CHECKLIST** continued:

**BEFORE EACH SEASON:**

- ☐ Check all adjustable components for correct setting
- ☐ Perform complete lubrication of machine
- ☐ With equipment operating, observe operation of moving parts. Watch for faulty operation, overheated bearings, and unusual sounds
- ☐ Read the safety precautions
- ☐ Read the operating instructions
- ☐ Perform daily checklist

**DAILY CHECKLIST:**

- ☐ Lubricate (as instructed) all lubrication points (see pg.13)

## WARRANTY POLICY

PARMA COMPANY warrants to each purchaser from an authorized dealer of new equipment manufactured by PARMA COMPANY, that such equipment is, at the time of delivery to such purchaser, free from defects in material and workmanship under normal use, if serviced in accordance with the recommendations of the Operator's Manual. All PARMA COMPANY'S ***harvesting equipment products*** are warranted for 120 days from the first day of use or 800 acres, whichever occurs first. All PARMA COMPANY ***soil preparation*** products are warranted for 120 days from first day of use or 1600 acres, whichever occurs first. All PARMA COMPANY ***water and waste pump products*** are warranted for one year from date of purchase. ALL PARMA COMPANY ***forage products*** are warranted for one year from date of purchase. Warranty on defective parts purchased by PARMA COMPANY or produced by other manufacturers for PARMA COMPANY may be allowed only after the approval of the vendor or manufacturer.

PARMA COMPANY'S obligation under this warranty is limited to repairing, or at it's option, replacing any part, that in PARMA COMPANY'S judgment, proved defective. Under the terms of the warranty, PARMA COMPANY assumes no responsibility for labor or travel costs involved in removal of defective parts, of installation of new parts, or of any shop supplies or service charges.

All warranty claims are to be initiated through the authorized PARMA COMPANY dealer and **must be submitted within 30 days of the date of failure.** PARMA COMPANY may ask for defective parts to be returned to the factory; therefore, hold all warranty claim parts until advised if the parts are needed by your dealer.

To make the warranty effective, the owner's **Warranty Registration Form** must be on file at PARMA COMPANY, Parma, Idaho at the time of receipt of the warranty claim.

## DISCLAIMER OF ALL OTHER WARRANTIES AND CONSEQUENTIAL DAMAGES

THE FOREGOING IS IN LIEU OF ALL OTHER WARRANTIES, WHETHER EXPRESSED OR IMPLIED, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, AND THERE ARE NO WARRANTIES, WHICH EXTEND BEYOND THE DESCRIPTION OF THE PRODUCTS. THE LIABILITY OF PARMA COMPANY IS EXPRESSLY LIMITED TO REPAIRING, OR AT ITS OPTION, REPLACING ANY PART THAT IS RETURNED, TRANSPORTATION PREPAID, TO PARMA COMPANY, PARMA, IDAHO, THAT IN PARMA'S JUDGEMENT PROVED DEFECTIVE DURING THE WARRANTY PERIOD. NO REPRESENTATIVE OF PARMA COMPANY, NO DEALER OR DEALER'S REPRESENTATIVE OR ANY OTHER PERSON HAS AUTHORITY TO WAIVE, ALTER, VARY OR ADD TO THE TERMS HEREOF WITHOUT PRIOR APPROVAL IN WRITING SIGNED BY AN OFFICER OF PARMA COMPANY. PARMA COMPANY WILL NOT BE LIABLE FOR ANY OTHER EXPENSE, INJURY, LOSS OR DAMAGE WHETHER DIRECT OR CONSEQUENTIAL, ARISING IN CONNECTION WITH THE SALE OR USE OF OR INABILITY TO USE, ANY PRODUCT OF THE COMPANY FOR ANY PURPOSE.

# SAFETY PRECAUTIONS

**TAKE NOTE! THIS SAFETY ALERT SYMBOL FOUND THROUGH OUT THIS MANUAL IS USED TO CALL YOUR ATTENTION TO INSTRUCTIONS INVOLVING YOUR PERSONAL SAFETY AND THE SAFETY OF OTHERS. FAILURE TO FOLLOW THESE INSTRUCTIONS CAN RESULT IN INJURY OR DEATH.**



THIS SYMBOL MEANS

**-ATTENTION!**

**-BECOME ALERT!**

**- YOUR SAFETY IS INVOLVED!**

## **SIGNAL WORDS:**

Note the use of the signal words DANGER, WARNING and CAUTION with the safety messages. The appropriate signal word for each has been selected using the following guidelines:

**DANGER:** Indicates an imminently hazardous situation that, if not avoided, will result in death or serious injury. This signal word is to be limited to the most extreme situations typically for machine components for which functional purposes cannot be guarded.

**WARNING:** Indicates a potentially hazardous situation that, if not avoided, could result in death or serious injury, and includes hazards that are exposed when guards are removed. It may also be used to alert against unsafe practices.

**CAUTION:** Indicates a potentially hazardous situation that, if not avoided, may result in minor or moderate injury. It may also be used to alert against unsafe practices.

If you have questions not answered in this manual or require additional copies or the manual is damaged, please contact your dealer.

**SAFETY.... YOU CAN LIVE WITH IT**





## **SAFETY.... YOU CAN LIVE WITH IT**



### **EQUIPMENT SAFETY GUIDELINES**

Safety of the operator is one of the main concerns in designing and developing a new piece of equipment. Designers and manufacturers build in as many safety features as possible. However, every year many accidents occur which could have been avoided by a few seconds of thought and a more careful approach to handling equipment. You, the operator, can avoid many accidents by observing the following precautions in this section. To avoid personal injury, study the following precautions and insist those working with you, or for you, follow them.

In order to provide maximum safety to the operator or other persons around this machine, various shields and covers have been installed. Keep all shields and covers in place. If shield removal becomes necessary for repairs or any other reason, replace the shield prior to use.

Replace any CAUTION, WARNING, DANGER or instruction safety decal that is not readable or is missing. Location of such decals is indicated in this manual.

Do not attempt to operate this equipment under the influence of drugs or alcohol.

Review the safety instructions with all users annually.

This equipment is dangerous to children and persons unfamiliar with its operation. The operator should be a responsible adult familiar with farm machinery and trained in this equipment's operations. **Do not allow persons to operate or assemble this unit until they have read this manual and have developed a thorough understanding of the safety precautions and of how it works.**

Do not paint over, remove or deface any safety signs or warning decals on your equipment. Observe all safety signs and practice the instructions on them.

Never exceed the limits of a piece of machinery. If its ability to do a job, or to do so safely is in question – **DON'T TRY IT.**



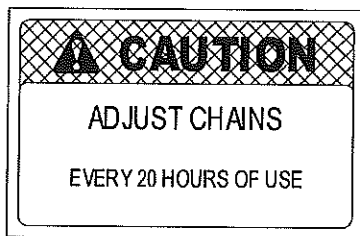
### **LIGHTING AND MARKING**

It is the responsibility of the customer to know the lighting and marking requirements of the local highway authorities and to install and maintain the equipment to provide compliance with the regulations. Add extra lights when transporting at night or during periods of limited visibility.

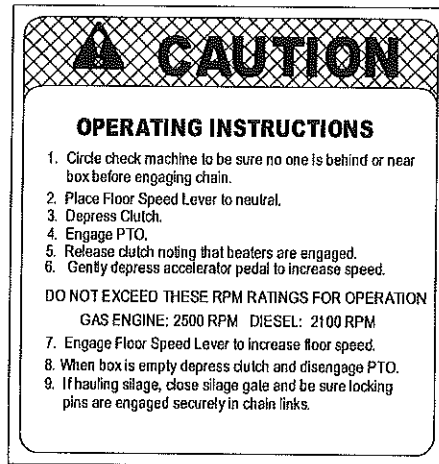
Lighting kits are available from your dealer or from the manufacturer.

## SAFETY SIGN LOCATIONS

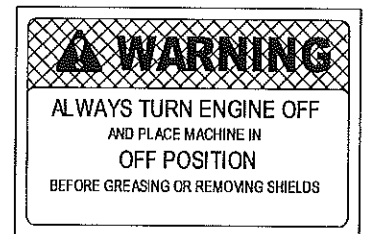
The types of Safety Sign on the equipment are shown below. Their locations are shown on page 17 of the parts section of this manual. Good safety requires that you familiarize yourself with the various Safety Signs, the type of warning and the area, or particular function related to that area that requires your SAFETY AWARENESS.



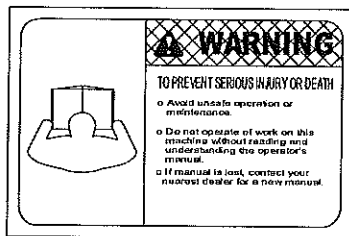
Part #700489



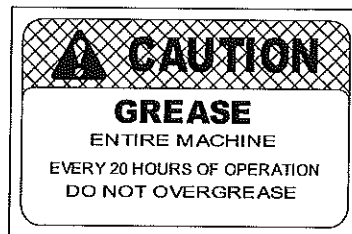
Part #700490



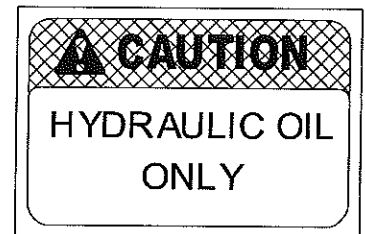
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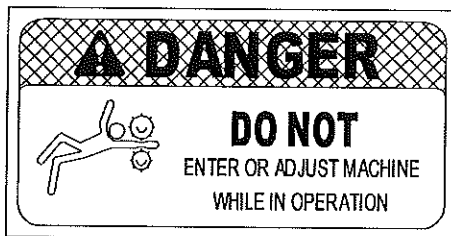
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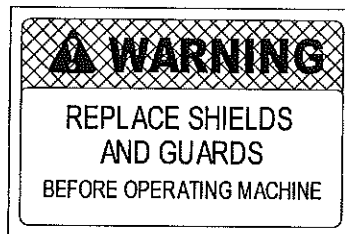
Part #700491



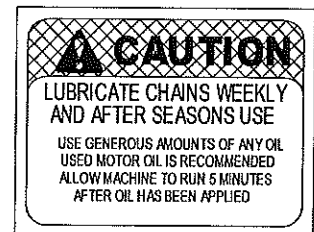
Part #700488



Part #700493



Part #700502



Part #700492

REMEMBER: if Safety Signs have been damaged, removed, become illegible or parts replaced without decals, new decals must be applied. New decals are available from your authorized dealer or manufacturer.



### **SAFETY SIGN CARE**

- Keep safety signs clean and legible at all times
- Replace safety signs that are missing or have become illegible
- Replaced parts that displayed a safety sign should also display the current sign
- Safety signs are available from your Dealer Parts Department or the Manufacturer

#### **How to Install Safety Signs:**

- Be sure that the installation area is clean and dry
- Decide on the exact position before you remove the backing paper
- Remove the smallest portion of the split backing paper
- Align the decal over the specified area and carefully press the small portion with the exposed sticky backing in place
- Slowly peel back the remaining paper and carefully smooth the remaining portion of the decal in place
- Small air pockets can be pierced with a pin and smoothed out using the piece of decal backing paper



### **TIRE SAFETY**

- Failure to follow proper procedures when mounting a tire on a wheel or rim can produce an explosion which may result in serious injury or death
- Do not attempt to mount a tire unless you have the proper equipment and experience to do the job
- Inflating or servicing tires can be dangerous. Whenever possible, trained personnel should be called to service and/or mount tires
- Always order and install tires and wheels with appropriate capacity to meet or exceed the anticipated weight to be placed on the equipment.



### **REMEMBER!**

**Your best assurance against accidents is a careful and responsible operator. If there is any portion of this manual or function you do not understand, contact your local authorized dealer or the manufacturer.**



### **BEFORE OPERATING:**

- Carefully study and understand this manual
- Do not wear loose-fitting clothing which may catch in moving parts
- Always wear protective clothing and substantial shoes
- It is recommended that suitable protective hearing and (eye protection) sight protectors be worn
- The operator may come in contact with certain materials which may require specific safety equipment, relative to the handling of such materials (examples: extreme dust, molds, fungus, bulk fertilizers, etc)
- Keep wheel lug nuts or bolts tightened to specified torque
- Assure that agricultural implement tires are inflated evenly
- Inspect the unit for any loose bolts, worn parts or cracked welds, and make necessary repairs. Follow the maintenance safety instructions included in this manual
- Be sure that there are no tools lying on or in the equipment
- Do not use the unit until you are sure that the area is clear, especially children and animals
- Because it is possible that this equipment may be used in dry areas or in the presence of combustibles, special precautions should be taken to prevent fires and fire fighting equipment should be readily available
- Don't hurry the learning process or take the unit for granted. Ease into it and become familiar with you new equipment
- Practice operation of your equipment and its attachments. Completely familiarize yourself and other operators with its operation before using
- Make sure that the brakes are evenly adjusted (if equipped with brakes)



### **DURING OPERATION:**

- **NO PASSENGERS ALLOWED** – Do not allow any passengers to ride on the equipment at any time unless they are located inside the truck cab with their seat belt fastened
- Keep hands and clothing clear of moving parts
- Do not clean, lubricate or adjust your equipment while it is in motion
- When halting operation, even periodically, set the truck, or towing vehicle brakes, disengage the PTO, shut off the engine and **remove the ignition key**



### **DURING OPERATION cont....**

- Be especially observant of the operating area and terrain – watch for holes, rocks or other hidden hazards. Always inspect the area prior to operation
  - **DO NOT** operate near the end of drop-offs or banks
  - **DO NOT** operate near the end of drop-offs or banksOperate up and down (not across) intermediate slopes. Avoid sudden starts and stops
- Pick the most level route when transporting across fields. Avoid the edges of ditches or gullies and steep hillsides
- Be extra careful when working on inclines
- Periodically clear the equipment of brush, twigs or other materials to prevent buildup of dry combustible materials
- Avoid overhead wires or other obstacles. Contact with overhead lines could cause serious injury or death
- Avoid loose fill, rocks and holes; they can be dangerous for equipment operation or movement
- Allow for unit length when making turns
- Do not walk or work under raised components or attachments unless securely positioned and blocked
- Keep all bystanders, pets and livestock clear of the work area
- As a precaution, always recheck the hardware on equipment following every 100 hours of operation. Correct all problems. Follow the maintenance safety procedures
- Operate the towing vehicle from the operator's seat only



### **FOLLOWING OPERATION:**

- Following operation, or when unhitching, stop the towing vehicle (if applicable), set the brakes, disengage the PTO and all power drives, shut off the engine and **remove the ignition keys**
- Store the unit in an area away from human activity
- Do not park equipment where it will be exposed to livestock for long periods. Damage and livestock injury could result
- Do not permit children to play on or around the stored unit
- Make sure all parked machines are on a hard, level surface and engage all safety devices
- Wheel chocks may be needed to prevent unit from rolling



## **HIGHWAY AND TRANSPORT OPERATIONS:**

- Adopt safe driving practices:

Always drive at a safe speed relative to local conditions and ensure that your speed is low enough for an emergency to 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 turns on steep slopes

Always keep the truck, or towing vehicle in gear to provide engine braking when going downhill. Do not coast

### **Do not drink and drive!**

- Comply with state and local laws governing highway safety and movement of farm machinery on public roads
- Use approved accessory lighting flags and necessary warning devices to protect operators of other vehicles on the highway, during daylight and nighttime transport, in accordance with State Department of Transportation specifications. Various safety lights and devices are available from your Dealer
- The use of flashing amber lights is acceptable in most localities. However, some localities prohibit their use. Local laws should be checked for all highway lighting and marking requirements
- Be a safe and courteous driver. Always yield to oncoming traffic in all situations, including narrow bridges, intersections, etc
- Be observant of bridge loading ratings. Do not cross bridges rated lower than the gross weight at which you are operating
- Watch for obstructions overhead and to the side while transporting
- 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



## **PERFORMING MAINTENANCE:**

- Good maintenance is your responsibility. Poor maintenance is an invitation to trouble
- Make sure there is plenty of ventilation. Never operate the engine in a closed building. The exhaust fumes may cause asphyxiation
- Before working on this machine, stop, set the brakes, disengage the PTO and all power drives, shut off the engine and **remove the ignition keys**
- Be certain all moving parts on attachments have come to a complete stop before attempting to perform maintenance
- **Always** use a safety support and block the wheels. Never use a jack to support the machine
- Always use the proper tools or equipment for the job at hand
- Use extreme caution when making adjustments
- Follow the torque chart in this manual when tightening bolts and nuts
- Never use your hands to locate a hydraulic leak on attachments. Use a small piece of cardboard or wood. Hydraulic fluid escaping under pressure can penetrate the skin
- When disconnecting hydraulic lines, shut off hydraulic supply and relieve all hydraulic pressure
- Openings in the skin and minor cuts are susceptible to infection from hydraulic fluid. **If injured by escaping hydraulic fluid, see a doctor at once. Gangrene can result. Without immediate medical treatment, serious infection and reactions can occur**
- Replace **all shields and guards** after servicing and before moving
- After servicing, be sure all tools, parts and service equipment are removed
- Do not allow grease or oil to build up on any step or platform
- Never replace hex bolts with less than grade five bolts unless otherwise specified. Refer to bolt torque chart for head identification marking
- Where replacement parts are necessary for periodic maintenance and servicing, genuine factory replacement parts must be used to restore your equipment to original specifications. The manufacturer will not claim responsibility for use of unapproved parts and/or accessories and other damages as a result of their use
- If equipment has been altered in any way from original design, the manufacturer does not accept any liability for injury or warranty
- A fire extinguisher and first aid kit should be kept readily accessible while performing maintenance on this equipment

## MAINTENANCE/SERVICE INFORMATION



**Always perform maintenance with machine stopped and engine shut off**

### Hydraulic Oil

- Inspect oil level every 20 hours
- Replace oil every season or sooner if conditions are extreme
- Replace the oil filter elements after 30 minutes of initial running, then replace every 100 hours of operation
- Dispose of oil in a responsible manner. Consult local authorities for disposal site
- Recommended hydraulic oil is Texaco Rando Superflow AZ or equivalent: \*
  - \*Chevron AW MV 32
  - \*Mobil DTE 13M

### Floor Chain Lubrication

- Chain should be cleaned and lubricated weekly
- Use generous amounts of oil. Used oil is recommended
- Allow machine to run five minutes after oil has been applied
- Re-tension chain at this time



**Never enter machine while it is running**

### Chain Tension

Chain tension adjusters are at the front of the box, behind the truck cab

- Inspect chain for wear and tension weekly
- Tension chains to a deflection of 6-7" at center span
- Loose chains cause excessive wear and damage
- Chains that are too tight accelerate wear



**Never enter machine while it is running**

### Seasonal Storage

- Perform all service recommended in the Maintenance Schedule
- Lubricate chains
- Inspect box for wear and damage
- Keep dry during storage



## LUBRICATION & SERVICE SCHEDULE

	Every 20 Hrs		Every 100 hrs		Seasonal	
Floor Chain	O	X			O	X
Drive Chain			O	X	O	X
Bearings			O	X	O	X
Driveline		X	O	X	O	X
All Bolts & Fasteners				X		X
Frame						X
Wheel Nuts		X				X
Hydraulic Fluid		X			O	
Filter Elements				O		
Hydraulic Cylinders				X		X
Lights & Wires		X				X
Hydraulic Lines						X
Belts		X				X
Guards		X				X
Tail Gate	O	X			O	X

O = Service and lubricate as recommended

X = Inspect for wear or damage

**NOTE:** Service and lubrication does not apply to truck – Application to Box and Spreader only



**Factory recommends that ALL BOLTS AND FASTENERS BE RE-TORQUED AFTER THE FIRST 20 HOURS OF USE**



**AVOID INJURY:** Never service machine while running. Follow safety procedures in this manual for service and maintenance

# TROUBLE SHOOTING

<u>Problem</u>	<u>Possible Cause</u>	<u>Possible Solution</u>
Beaters not turning	<ol style="list-style-type: none"> <li>1. Chain damaged</li> <li>2. Relief valve, pump, or motor malfunction</li> </ol>	<ol style="list-style-type: none"> <li>1. Inspect and replace as necessary</li> <li>2. See hydraulic system trouble shooting section below.</li> </ol>
Floor not moving	<ol style="list-style-type: none"> <li>1. Bed chain controller malfunction or not turned on.</li> <li>2. Chain damaged</li> <li>3. Oil line punctured</li> <li>4. Load too heavy</li> <li>5. Valve, pump, or motor malfunction</li> <li>6. Chain frozen down</li> </ol>	<ol style="list-style-type: none"> <li>1. Turn the controller on. Replace the internal fuse on the controller if necessary.</li> <li>2. Inspect and replace as necessary</li> <li>3. Replace broken hose</li> <li>4. Reduce load size</li> <li>5. See hydraulic system trouble shooting section below.</li> <li>6. Allow machine to warm up</li> </ol>
Slop gate, slop pan, or swing out cylinders won't activate	<ol style="list-style-type: none"> <li>1. Hydraulic lines leak</li> <li>2. Electric controls disconnected or shorted</li> <li>3. Control valve solenoid malfunction</li> <li>4. Frozen down</li> <li>5. Valve or pump malfunction</li> </ol>	<ol style="list-style-type: none"> <li>1. Inspect and replace broken hose</li> <li>2. Inspect and replace faulty wires or switch</li> <li>3. Inspect wire connections, replace solenoid if necessary</li> <li>4. Allow machine to warm up</li> <li>5. See hydraulic system trouble shooting section below.</li> </ol>

## HYDRAULIC SYSTEM TROUBLE SHOOTING:

Follow these steps to trouble shoot any of the hydraulic circuits on this machine:

1. Check the pressure setting and adjust to 3500 PSI if necessary. If pressure cannot be set to 3500 PSI, replace the relief valve cartridge.
2. If the pressure still cannot be set, disconnect motor from circuit and check again. If the pressure can now be set, replace the motor.
3. If the pressure still cannot be set, replace the pump unit. Reconnect the motor to the circuit and check again. If the pressure rating is low again, replace the motor also.

It is usually very unlikely that more than one component in the circuit will malfunction at the same time. However, it may be possible if the oil has been contaminated or the pump has partially failed allowing fragments to flow through the circuit.

Be sure to keep the oil clean and change the oil filters regularly.

# BOLT TORQUE

## Checking Bolt Torque

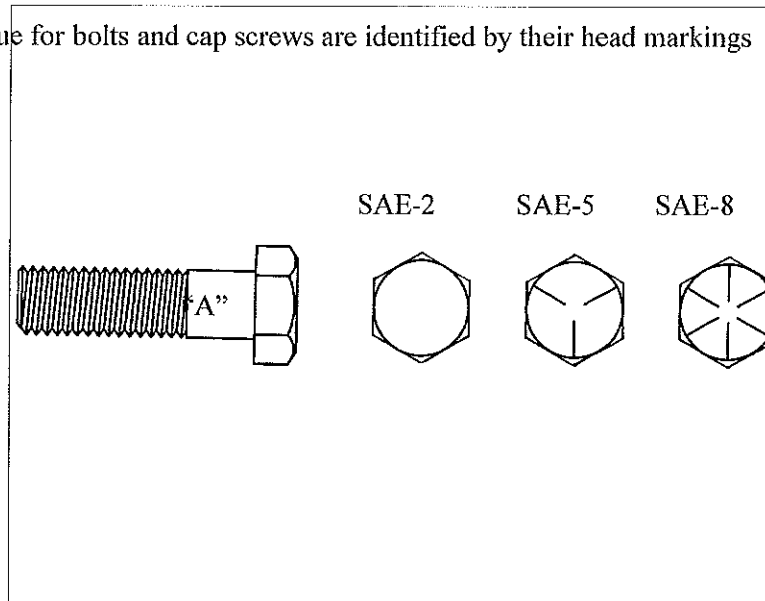
The table shown below gives correct torque values for various bolts and cap screws. Tighten all bolts to the torques specified in the chart unless otherwise noted. Check tightness of bolts periodically, using bolt torque chart as a guide. Replace hardware with the same strength bolt

## Torque specifications

Bolt Size	SAE 2	SAE 5	SAE 8
"A"	Torque lb/ft	Torque lb/ft	Torque lb/ft
1/4	6	9	12
5/16	10	19	27
3/8	20	33	45
7/16	30	53	75
1/2	45	80	115
9/16	70	115	15
5/8	95	160	220
3/4	165	290	400
7/8	170	410	650
1	225	630	970

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%

- Torque value for bolts and cap screws are identified by their head markings

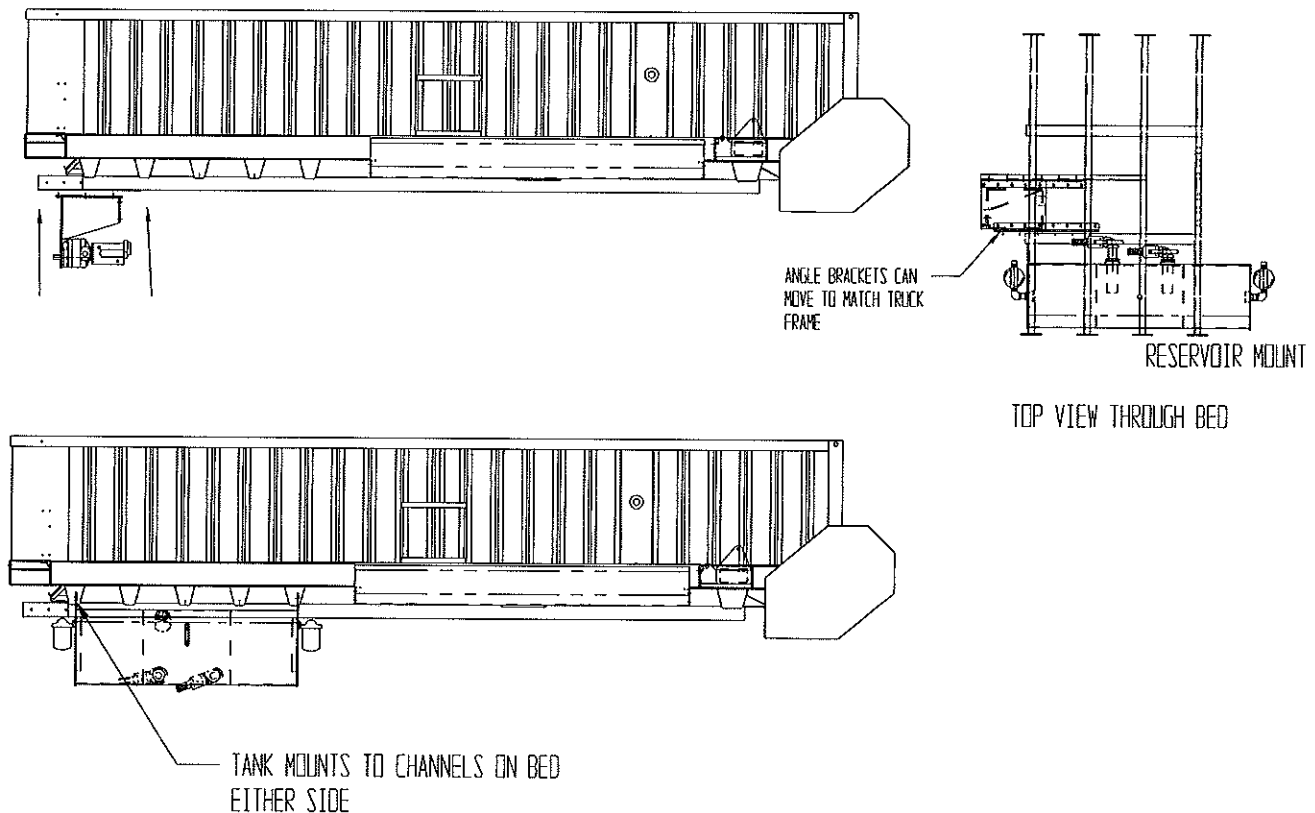


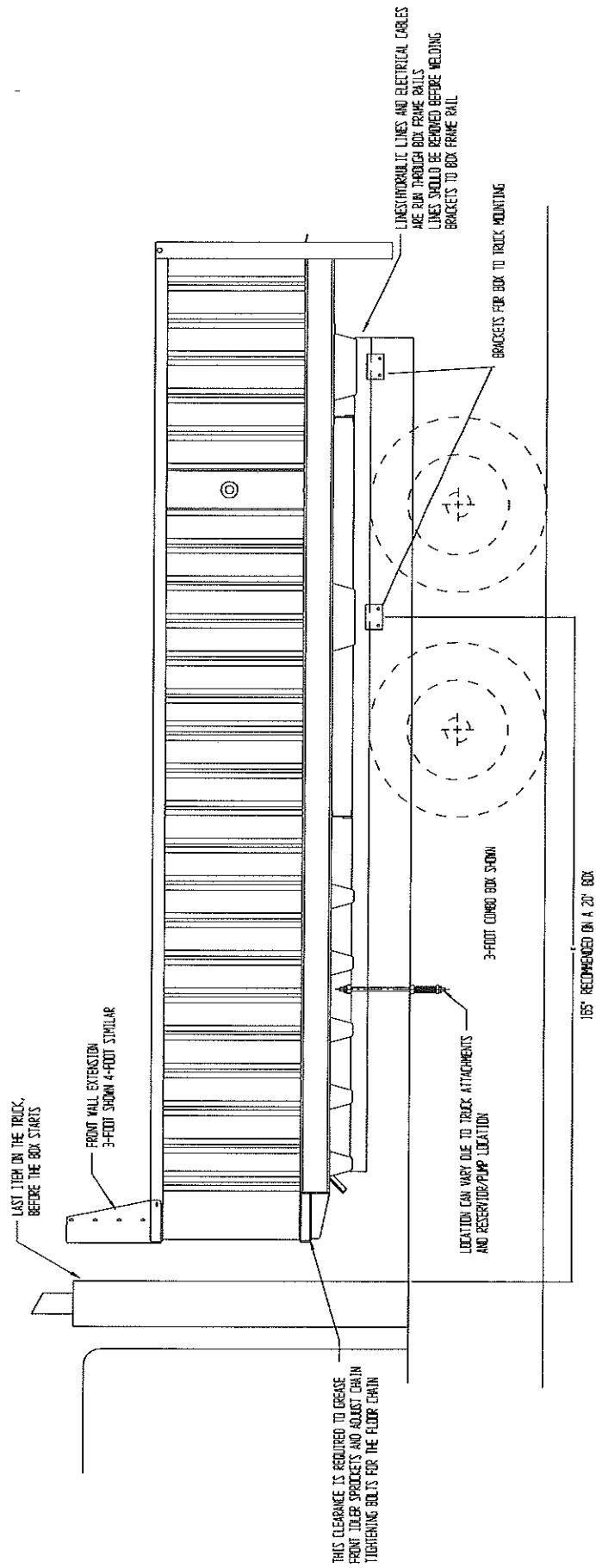
# INSTALLATION INSTRUCTIONS

## Truck Box Mounting Instructions:

1. Determine and mark on truck frame where the front of box is to be located
2. Measure truck frame length and axle position. Shorten or add to truck frame as required to match box dimensions. The truck frame should be modified between the rear tires and the cab only. The most common frame length is 155-165" from the back of the cab to the center trunnion between the rear axles.
3. Drill truck frame and install three mounting plates evenly down each side of the rear 2/3 of the frame. Mount plates loosely
4. Set box on truck
5. Weld mounting plates to main rail of truck box. Multi-pass on each flat bar
6. Install spring clamps as far ahead on truck box rail as possible. One on each side
7. Connect running light harness to truck electrical harness
8. Install mud flaps

NOTE: There may be a need for a flat bar spacer between any rivets on the frame and the truck box. Place the flat bar on the frame and cut out holes around the rivets





### Hydraulic Drive Instructions:

1. Install PTO on transmission as per PTO Manual instructions
2. Install the pump drive unit to the front of the box
3. Connect the truck PTO driveline to the transmission PTO and the pump shaft. The tube and shaft portions of this driveline will have to be cut to the correct length before installation. **HAVE A QUALIFIED MACHINE SHOP ASSEMBLE AND WELD THE DRIVE SHAFT.** Ensure the drive shaft is timed
4. Attach hydraulic tank to the box at the hole locations provided on either side
5. Hook up suction hoses from the ball valves to the suction side of the pump. The rear suction hose attaches to the rear ball valve.
6. Install the filters onto tank. Note the correct flow through the filter body
7. Install the remaining hydraulic lines as necessary. The return hose from the spreader motor attaches to the rear filter. The return hose from the bed chain motors attaches to the front filter.
8. Fill hydraulic tank with oil. The tank capacity is approximately 80 gallons.
  - **Make sure the ball valves are open before the PTO is started**
  - Check oil level during startup procedures

**NOTE: Install as much of these parts to the truck before the box is mounted**

9. Mount control console into cab of truck
  - Connect and install PTO Air Shift control, using instructions supplied by the PTO manufacturer
  - Connect the wires from the wiring harness according to the electrical diagram shown in the parts book section of this manual.
10. Follow start up procedure on Initial Start Up

## TRUCK BOX STARTUP PROCEDURE

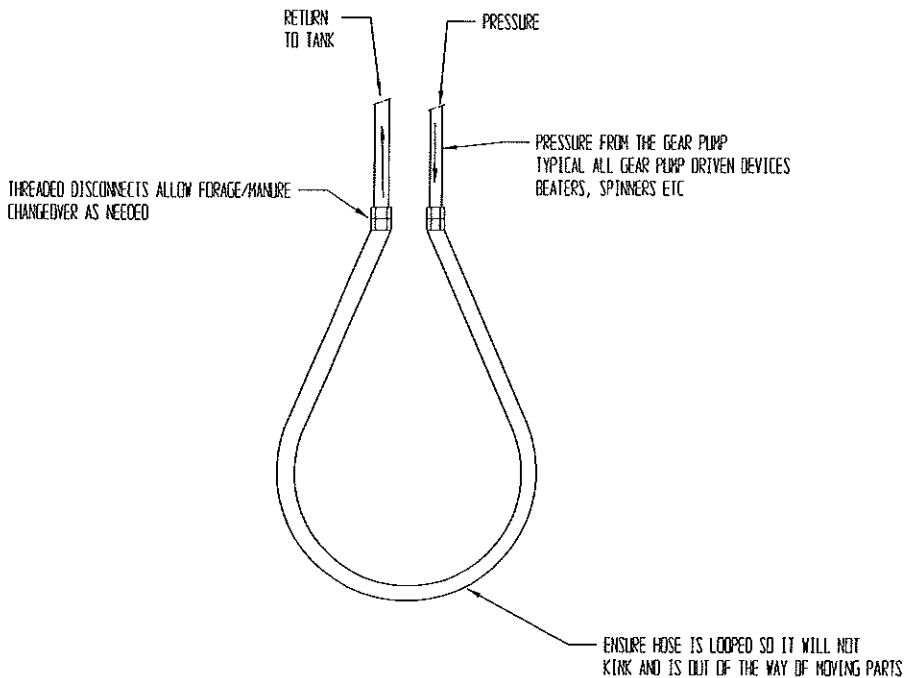
1. Set floor speed lever to neutral
2. Engage PTO and set motor to idle
3. Visually inspect driveline, pump and beater rotation
4. Turn the dial on the bed chain controller until the bed chain starts to move. During the spreading operation, the bed chain speed can be adjusted with this controller to maximize fertilizer ground coverage as related to truck speed.
  - Watch floor chains for smooth operation
  - Watch floor drive chains for smooth operation
5. After a twenty-minute break-in period, check all chains
  - **Note: New chains need to “set in” and require frequent re-tensioning**
6. Replace all guards and covers. **Never operate the machine without guards and covers in place**
7. Shut off machine before performing any adjustments or lubrication



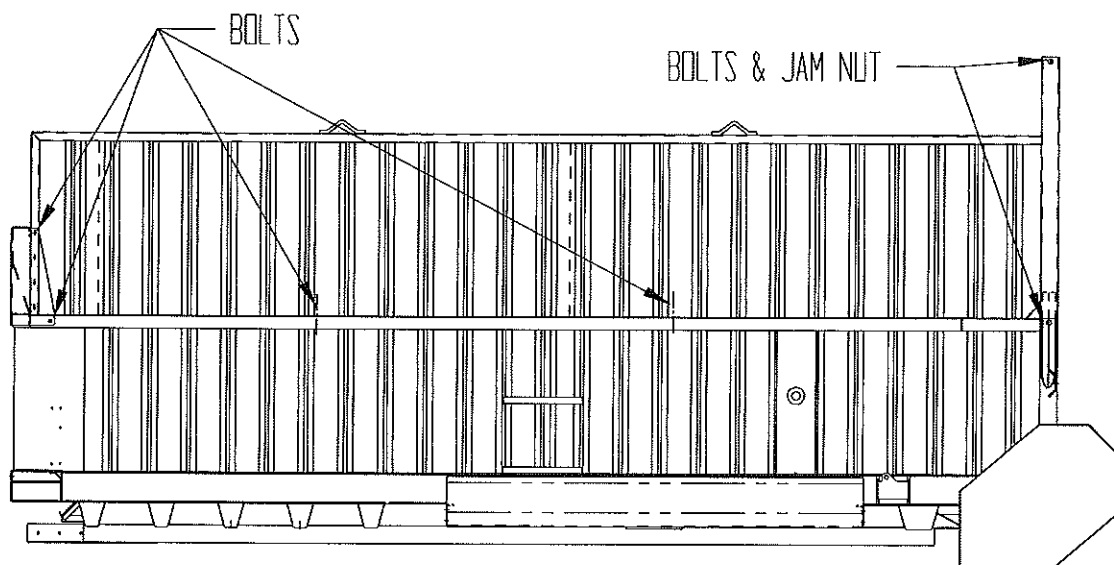
**AVOID SERIOUS INJURY – DO NOT ENTER BOX WHEN INITIAL START UP IN PROCESS OR WHILE FLOOR CHAIN IS MOVING**

**When installing Forage Kit be certain the Hydraulic Gear Pumps have an open fluid path to prevent damage to the Hydraulic system.**

**The pressure hose must be connected to the return line to allow fluid to return to the reservoir. The thread on disconnects must be fully threaded on to allow free flow, the disconnects have an indicating line showing the correct position. If you have any questions on this procedure contact your dealer.**



**The Forage Sides and Tailgate attach to the box using drop-in bullets and bolts through the top rail of the bed. On the front of the box, the Forage Sides are bolted to the cab protector and/or manure shield.**





# ***PARMA***<sup>®</sup>

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## **Forage**

### **4' Hydraulic Combo Box**

#### **PARTS BOOK**

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Manual Number 02062012-COMBO

***PARMA***  
***COMPANY***

P.O. BOX 190

PARMA, IDAHO 83660

PHONE (208) 722-5116 FAX (208) 722-6012

Website: [www.parmacompany.com](http://www.parmacompany.com)

E-Mail: [parmacom@parmacompany.com](mailto:parmacom@parmacompany.com)

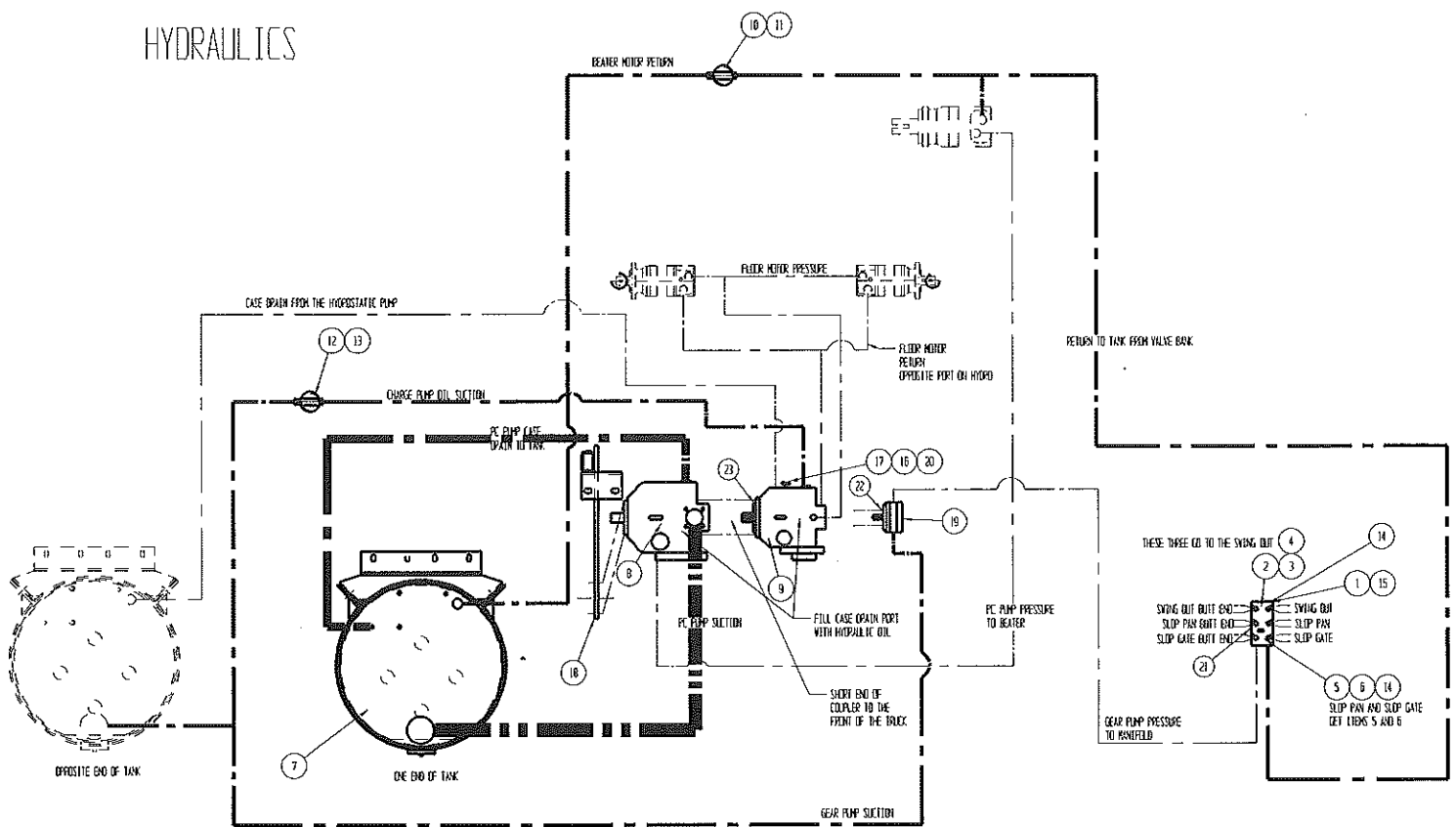


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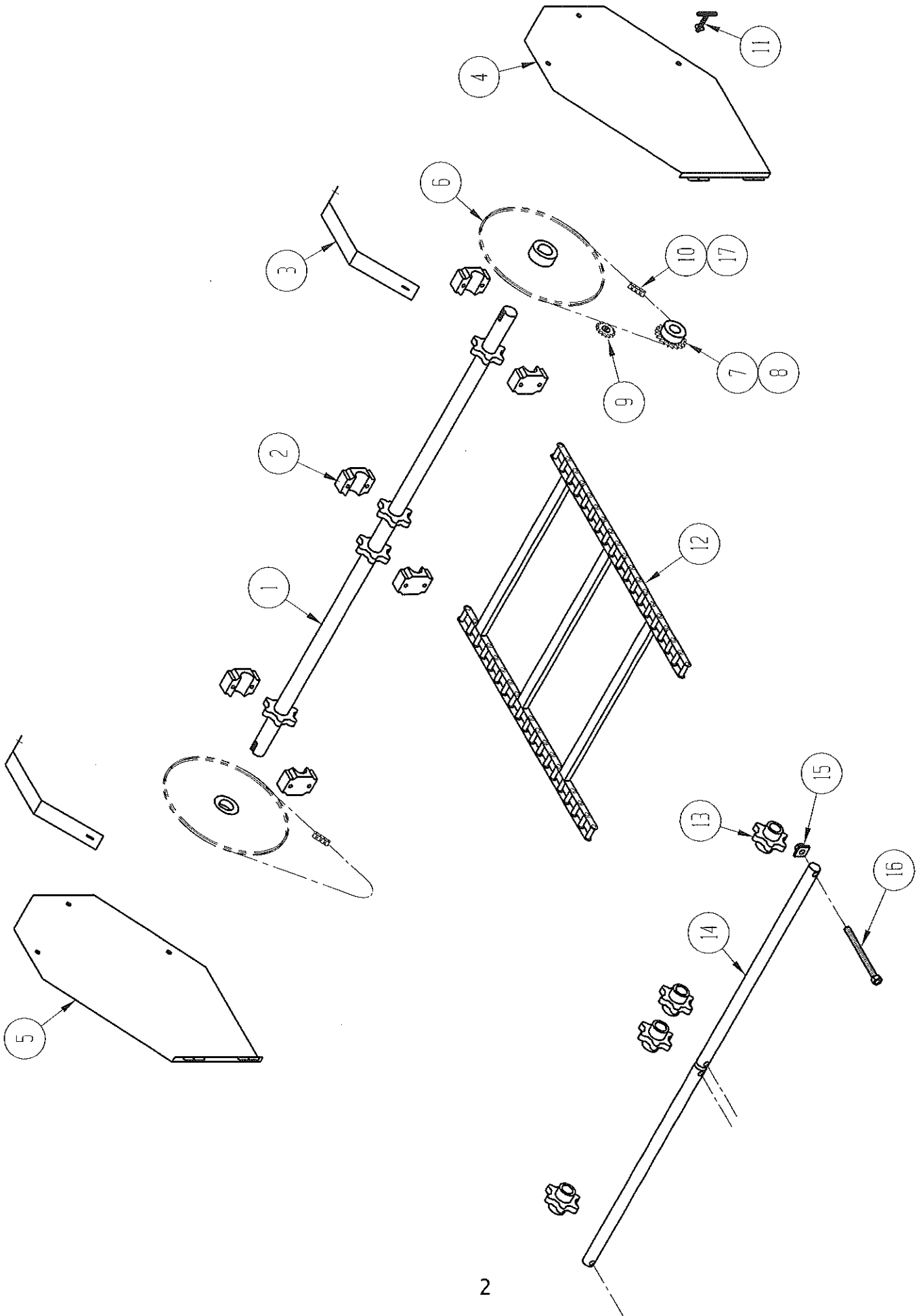
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# HYDRAULICS



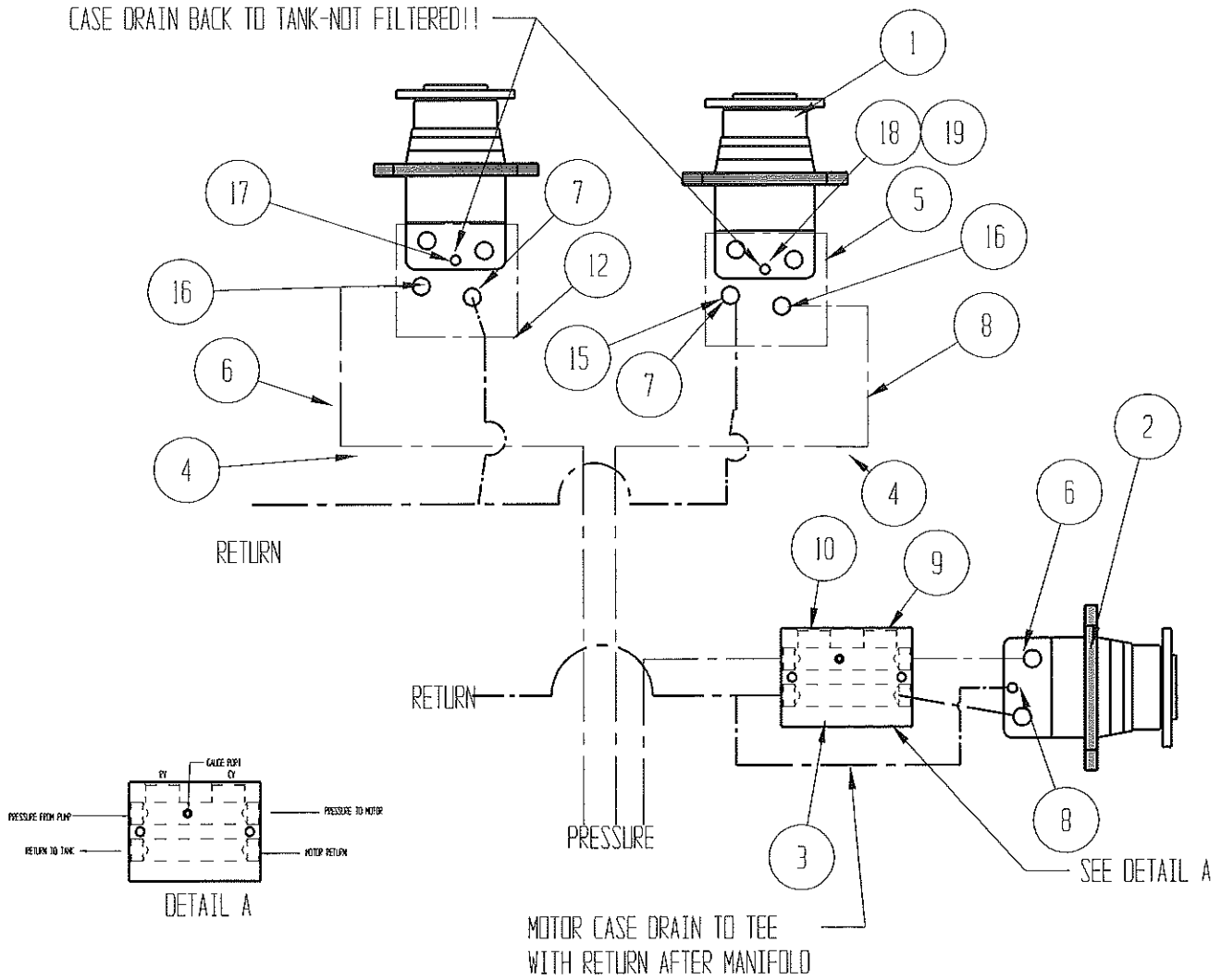
1	1	701742	MANIFOLD, 003 3-BANK
2	1	701729	CYLINDER VALVE(USE WITH P.O. CHECK)
3	1	701660	BOLT KIT
4	1	701659	P.O. CHECK VALVE
5	2	701597	CYLINDER VALVE
6	2	701598	BOLT KIT
7	1	701746	ROUND TANK ASM
8	1	701749	HYDRAULIC PUMP, PC F SERIES
9	1	701750	HYDROSTATIC PUMP, SERIES 40-44cc
10	1	701131	FILTER HEAD
11	1	701130	FILTER ELEMENT
12	1	701604	FILTER HEAD ASSEM. CHARGE PUMP
13	1	701606	FILTER ELEMENT-CHARGE PUMP
14	6	701629	VALVE CABLE, 3' PIGTAIL
15	1	700323	ELECTRICAL CONTROLS
16	2	700514	CLEVIS
17	1	700277	SHIFT CABLE
18	1	701509	PUMP MOUNT
19	1	701751	GEAR PUMP, CYLINDERS LH
20	1	701839	TRUNION WLD
21	1	701651	RELIEF VALVE, SAUER DANFOSS
22	1	290062	O-RING, # 236
23	1	701404	O-RING # 242



## FLOOR CHAIN DRIVE ASSEMBLY

ITEM NO.	QUANTITY	PART NO.	DESCRIPTION
1	1	720057	Floor Shaft
2	3	700397	Floor Drive Bearing
3	2	700044	Chain Slot Cover
4	1	700395	LH Drive Door
5	1	700399	RH Drive Door
6	2	720249	Sprocket, 80C70
7	2	701212	Sprocket, 80B11, 1 1/4" Bore (5/16" Key)
8	-	-	-
9	2	980751	Idler Sprocket, RC80, 12T
10	2	980912	Roller Chain, RC80 HD, 96"
	-	-	-
11	1	700398	Latch Key
12	8	700143	Chain Section, Floor (10 Ft.)
13	4	700246	Idler Sprocket, 1 15/16 Bore
14	2	700194	Idler Shaft
15	4	700129	Tensioner Nut
16	4	700204	Tensioner Rod
17	1	980927	Master Link, RC80 Hvy Duty
18	2	701224	Floor Motor, TMK400(not shown)

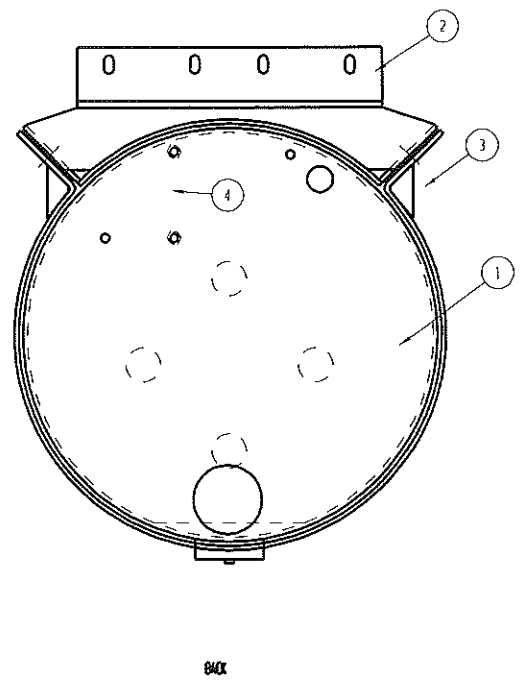
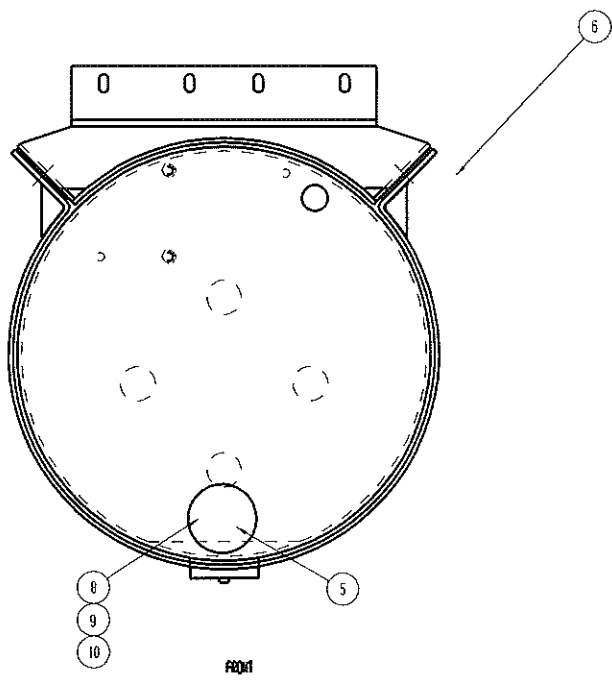
CASE DRAIN BACK TO TANK-NOT FILTERED!!





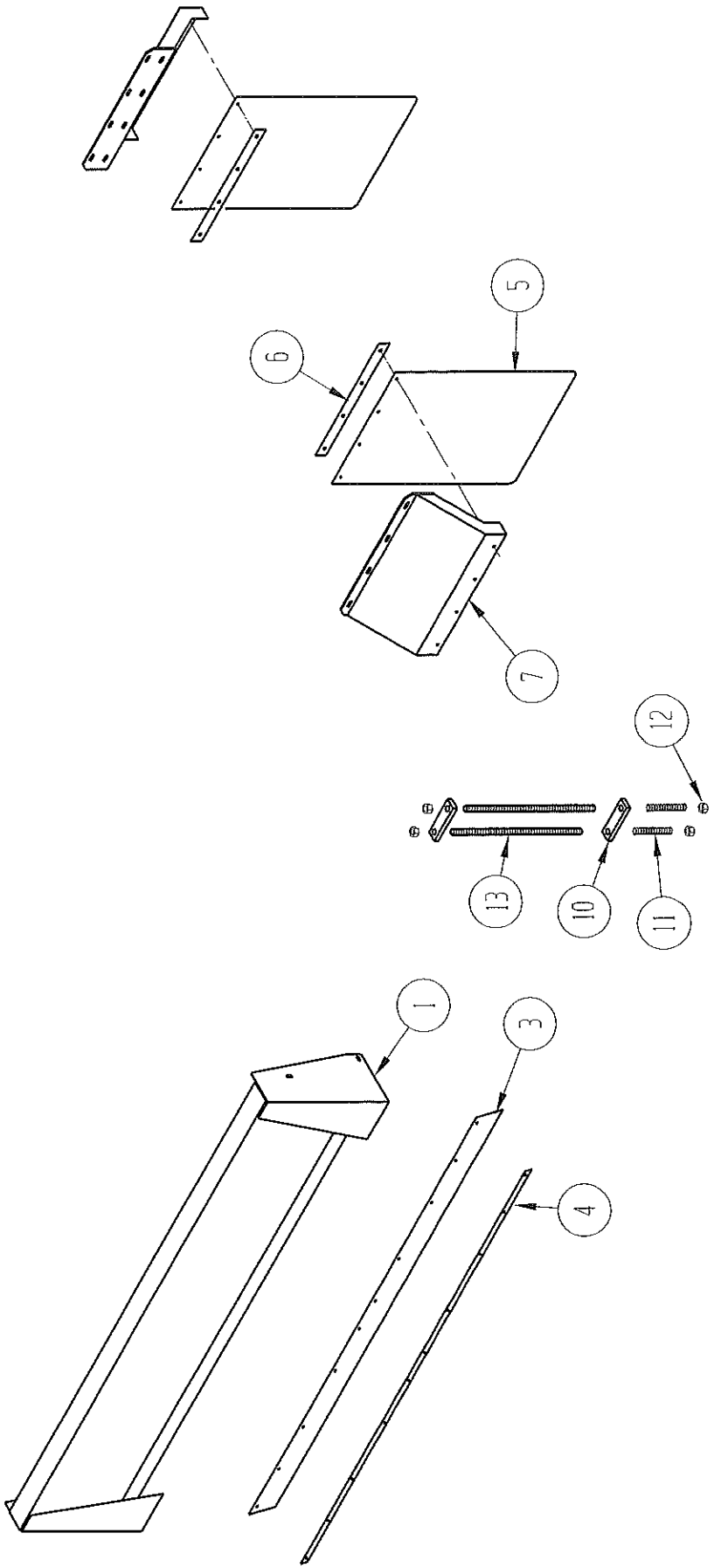
# SPINNER HYDRAULIC DRIVE COMPONENTS

ITEM NO.	QUANTITY	PART NO.	DESCRIPTION
1	2	700965	Hydraulic Motor, TMTW400
2	1	701116	Hydraulic Motor, Beater
3	1	700921	CV and RV Manifold
4	4	451TC-12	Hydraulic Hose, 3/4"
5	1	700954	Manifold, TMTW RH
6	2	3503-12-12	Fitting
7	2	0503-12-16	Fitting
8	1	3503-6-6	Fitting
9	3	700918	Check Valve
10	3	700919	Relief Valve
11	1	3903-16-16	Fitting
12	1	700953	Manifold, TMTW LH
13	10	700971	Hex Socket Head Bolt
14	10	700972	High-Collar Lock Washer
15	1	393T-16-16	Fitting
16	2	2503-12-12	Fitting
17	1	2503-4-6	Fitting
18	1	0506-4-6	Fitting
19	1	033T-6-6	Fitting



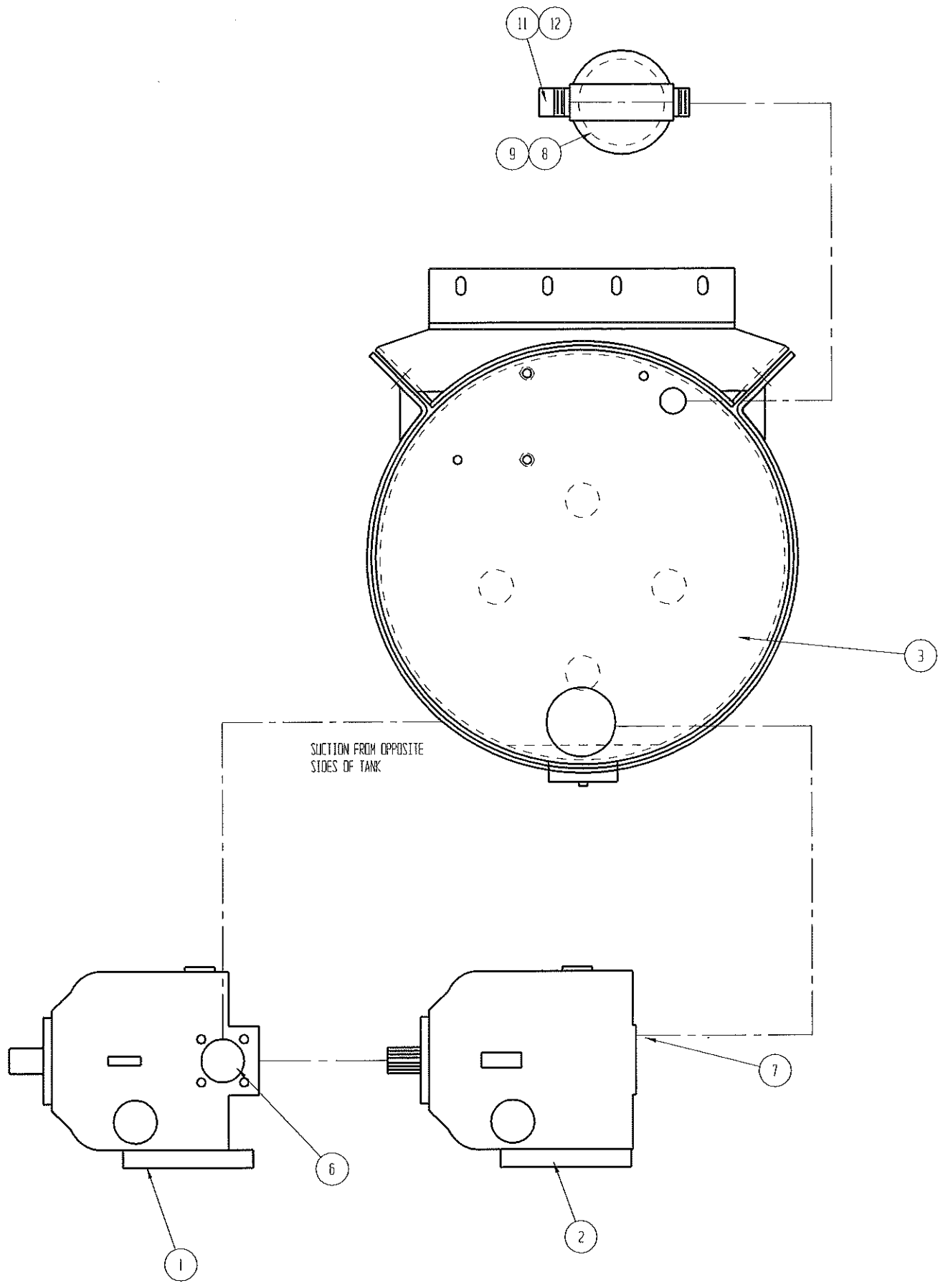
# SPINNER HYDRAULIC RESERVOIR ASSEMBLY

ITEM NO.	QUANTITY	PART NO.	DESCRIPTION
1	1	701403	Saddle Tank Wld
2	2	701411	Mount Wld Reservoir
3	2	701413	Tank Strap Wld
4	2	700231	Sight Temp Gauge
5	2	700866	Tank Strainer
6	2	701211	Filler Breather
7	1	701428	Rubber
8	2	-----	Nipple, 3" Close
9	2	-----	3" Ball Valve
10	2	-----	King Nipple, 3"



## BOX ACCESSORIES

ITEM NO.	QUANTITY	PART NO.	DESCRIPTION
1	1	701054	Front Wall Extension(if equipped)
2	-	-	-
3	1	701049	Slope Seal Belt
4	1	701042	Slope Seal Bar
5	4	720624	Mud Flap-PARMA
6	4	700557	Mud Flap Attaching Bar
7	4	700445	Fender
8	-	-	-
9	-	-	-
10	6	700141	Clamp Bar
11	4	700272	Spring
12	8	-----	Lock Nut, 7/8
13	4	700203	Clamp Rod



# SPINNER HYDRAULIC PUMP ASSEMBLY

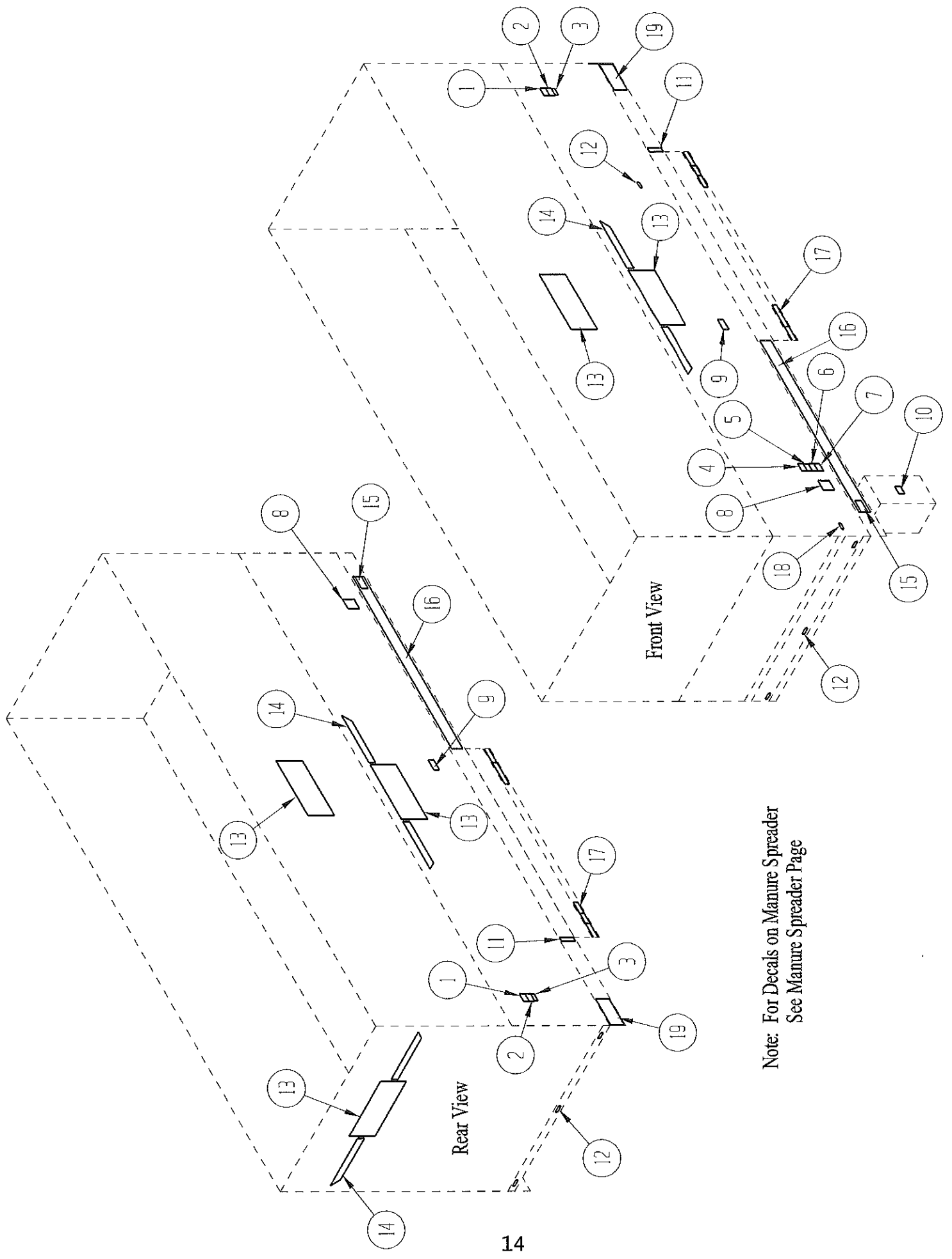
ITEM NO.	QUANTITY	PART NO.	DESCRIPTION
1	1	701652	Hydraulic Pump, E-130 Front
2	1	701653	Hydraulic Pump, E-130 Back
3	1	701674	Round Tank Asm
4	1	20XEQ2	Code 62 Fiting
5	1	20XHQ2	Code 62 Fitting
6	1	23867-40-40	Fitting
7	1	23876-40-40	Fitting
8	1	701131	Filter Head
9	2	701130	Filter Element
10	2	10643-20-16	Fitting
11	2	0103-20-20	Fitting
12	6	10643-20-20	Fitting
13	2	10343-20-20	Fitting
14	2	5151HK-40	Flange Kit 2 ½" Code 61
15	2	HFHFHK-20	Flange Kit, 1 ¼" Code 62





## SPINNER ASSEMBLY

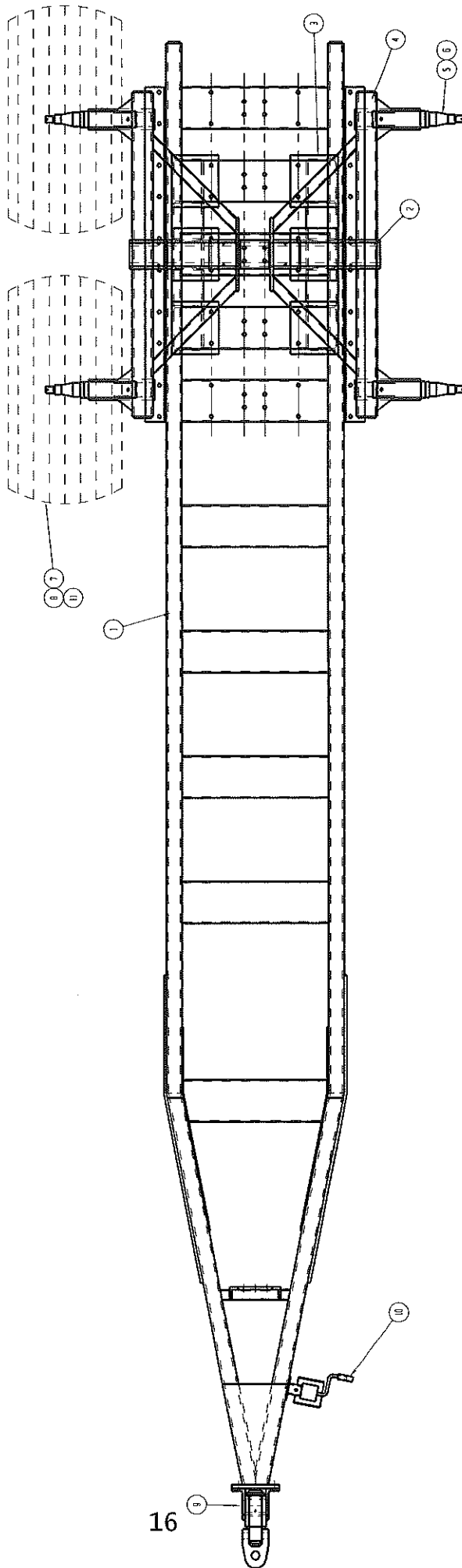
ITEM NO.	QUANTITY	PART NO.	DESCRIPTION
1	1	701095	Spinner Frame Wld
2	1	701061	Sliding Gate, Asm
3	1	701066	Bearing Plate Wld
4	2	700786	Cylinder, 2 ½ x 36"
5	2	701080	Plate, Spinner TMTW
6	2	701082	Plastic Cover, Spinner TMTW
7	12	701081	Fin, Spinner
8	24	-	Carriage Bolt, 5/8"
9	24	-	Lock Nut, 5/8"
10	1	701103	Plate, Spreader Deflector
11	2	701077	Drop-In Hinge Weld, WB
12	2	-	Hex Bolt, 1 x 3 ½"
13	2	-	Lock Nut, 1"
14	2	998942	Cylinder, 2 x 24"
15	1	701122	Motor Mount Plate
16	2	701091	Support Bar
17	2	701092	Rubber Cleaning Strip
18	1	700245	Bearing, 2 7/16" 4-Bolt Flange
19	1	701398	Plate, Center Divider
20	1	701073	Beater Wld, Spinner WB
21	23	700773	Beater Paddle
22	3	701387	Hose Clamp
23	1	701491	Rubber Backing Strip
24	6	701549	Spring, Motor Mount
25	15	701125	Lockwasher M14
26	15	700983	Hex Bolt, M14 x 30mm x 1.5 Pitch
27	1	701121	Beater Paddle
28	1	701104	Taillight Mount Wld
29	1	720175	Taillight RH
30	1	720174	Taillight LH
31	1	700829	Decal, Spinner Warning
32	1	701107	Rubber Beater Flap
33	1	701108	Bracket
34	1	701085	Deflector, Side Panel
35	1	701064	Rubber Belting
36	1	701063	Rubber Backing Strip



Note: For Decals on Manure Spreader  
See Manure Spreader Page

# DECAL GROUP

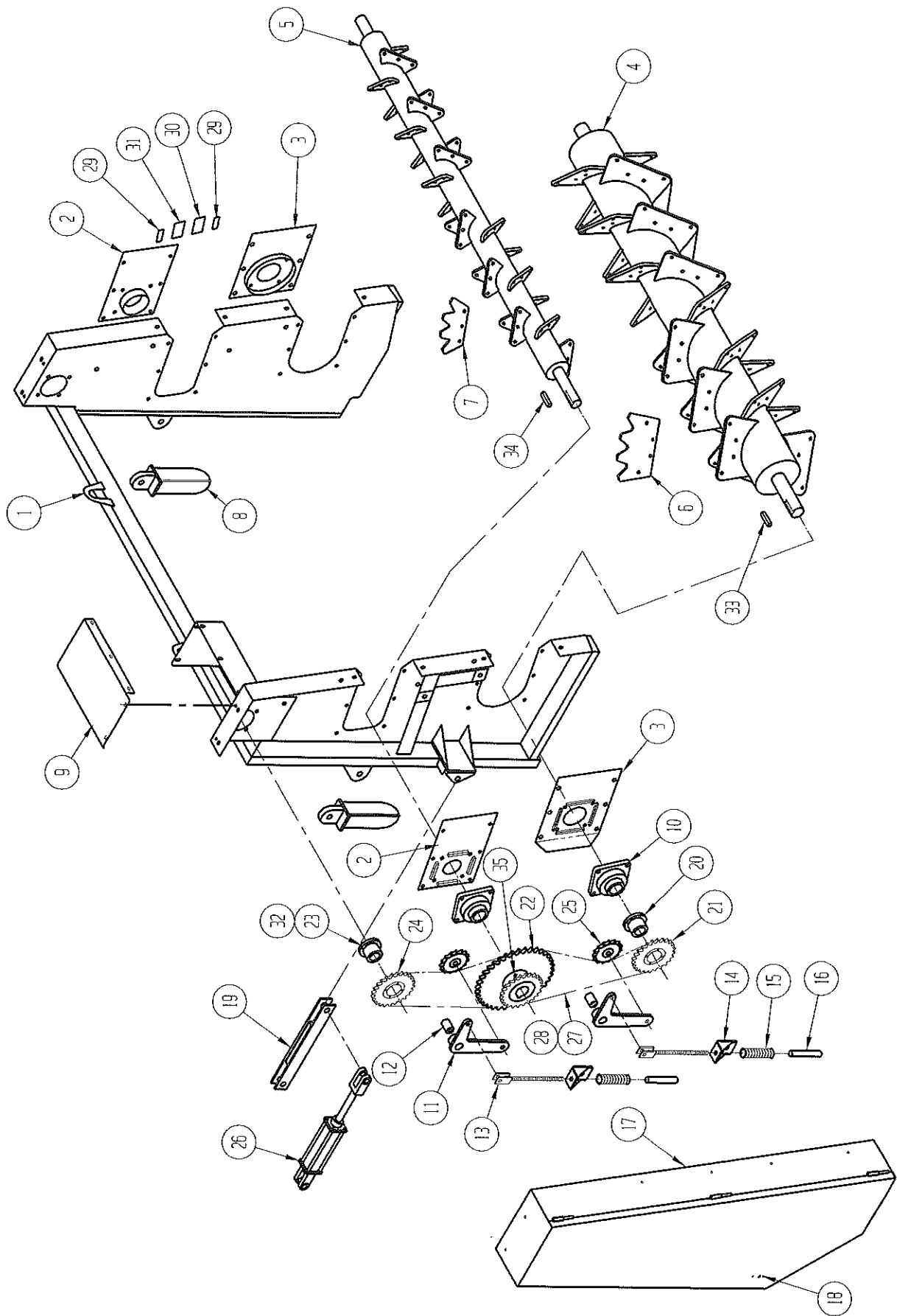
ITEM NO.	QUANTITY	PART NO.	DESCRIPTION
1	2	700500	Decal, Always Turn
2	2	700502	Decal, Replace Shields
3	2	700498	Decal, Chain Lube
4	1	700503	Decal, Prevent Injury
5	1	700492	Decal, Lubricate
6	1	700491	Decal, Grease
7	1	700489	Decal, Adjust chains
8	2	700490	Decal, Supra Box
9	2	700493	Decal, Do Not
10	1	700488	Decal, Hydraulic Oil
11	2	700563	Decal, Yellow Strip 2"
12	7	700497	Decal, Grease Gun
13	5	700496	Decal, By Parma
14	6	700499	Decal, Stripe
15	2	817764	Decal, Parma Oval
16	2	700563	Decal, Yellow Strip 87 ¼"
17	4	700495	Decal, Reflector Strip
18	1	100749	Serial Tag
19	2	700563	Decal, Yellow Strip 13 ½"



16

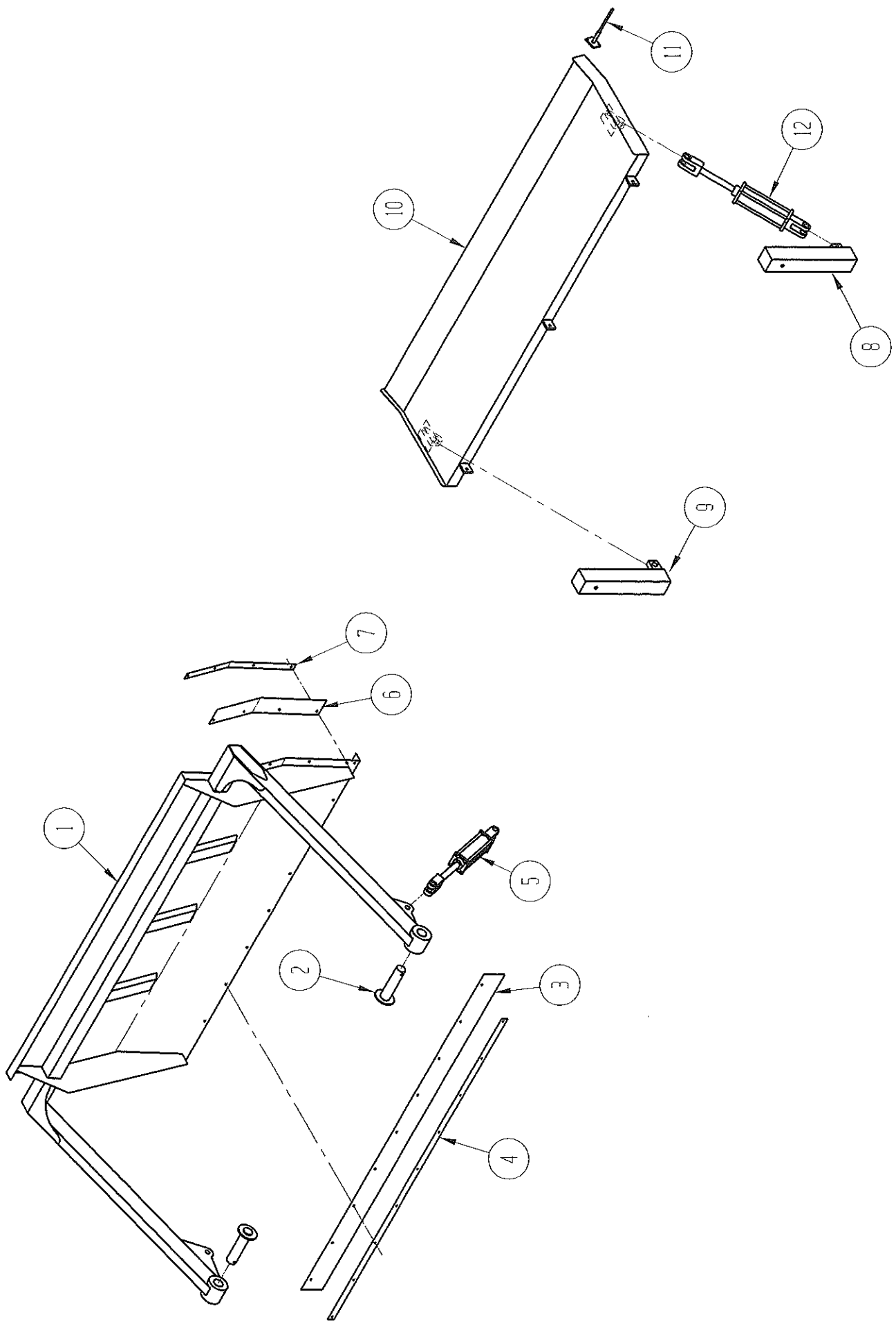
## TRAILER PARTS

ITEM NO.	QUANTITY	PART NO.	DESCRIPTION
1	1	701701	Frame Weld, Trailer
2	1	701321	Axle Weld, CB Trailer
3	2	701320	Mounting Weld, Axle
4	2	701311	Axle Pivot Weld
5	4	701282	Spindle, 871
6	4	701283	Hub Package, 871
7	4	701351	16.1" Wheel, 3 3/16 Offset
8	4	701280	Tire, 21.5L-16.1 FI
9	1	264654	Swivel Hitch
10	1	701324	Screw Jack
11	4	701325	Tire Tube



# MANURE SPREADER ASSEMBLY

ITEM NO.	QUANTITY	PART NO.	DESCRIPTION
1	1	721291	Spreader Chassis
2	2	700602	Top Bearing Plate
3	2	700604	Bottom Bearing Plate
4	1	721298	Bottom Beater
5	1	721293	Top Beater
6	24	701759	Bottom Paddle
7	24	701758	Top Paddle
8	2	701077	Drop In Hinge
9	1	700628	Top Motor Cover
10	4	700245	Flanged Bearing, 4- Hole, 2 7/16"
11	2	700599	Idler Arm
12	2	700596	Pivot Spacer
13	2	266538	Draw Bolt
14	2	264601	Take-Up Angle
15	2	700601	Tightener Spring
16	2	700600	Spring Spacer
17	1	700591	Drive Cover
18	1	700281	Latch
19	2	700660	Lock Bar
20	1	700630	Bushing, Q1-2 7/16"
21	1	700629	Sprocket, 100Q 20 Tooth
22	1	700582	Double Sprocket
23	1	700631	Bushing, Q1-2 1/4"
24	1	700632	Sprocket, H100Q 16 Tooth
25	1	700355	Idler Sprocket, #100
26	2	700424	Hydraulic Cylinder, 2 x 8
27	2	700258	Roller Chain, RC100 x 82 1/2" Long
28	2	700259	Master Link, RC100
29	2	700497	Decal, Grease Gun
30	1	700493	Decal, Do Not Enter
31	1	700494	Decal, Keep Hands & Feet
32	1	-----	Key, 1/2 Sq. x 2 1/2"
33	1	-----	Key, 5/8 Sq. x 3 7/8"
34	1	-----	Key, 5/8 Sq. x 3"
35	2	-----	Set Screw, 1/2 x 1 Sq. Head
36	1	700623	Hydraulic Motor
37	1	700918	Check Valve
38	1	700919	Relief Valve
39	1	700949	Motor Manifold





## SLOP GATE AND PAN OPTIONS

ITEM NO.	QUANTITY	PART NO.	DESCRIPTION
1	1	721300	Slop Gate
2	2	700412	Pivot Pin
3	1	721306	Bottom Seal
4	1	721307	Bottom Retainer Bar
5	2	998165	Hydraulic Cylinder, 3 x 10
6	2	700997	Side Seal
7	2	700996	Side Retainer Bar
8	1	701738	Cylinder Lug Insert, LH
9	1	701739	Cylinder Lug Insert, RH
10	1	701741	Slop Pan
11	1	-----	UHMW Strip, 3/8 x 2" x 10"
12	2	998902	Hydraulic Cylinder, 2 x 8

## NOTES