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SECTION 1 - OPERATION

1.1) A Word to Owner, Operator, and Service Personnel about Safety

Anyone who will operate, service or work around the loader should first read this manual. It is important that all workers understand the safety, operational, service, and repair requirements of the loader. Death or serious injury can result from improper use or maintenance of the loader.

As an owner or employer, it is your responsibility to know the specific requirements, governmental regulations, precautions, and work hazards that exist. You should make these known to all personnel working with the equipment or in the area. It is your responsibility to instruct the operator in the safe operation of the equipment and to provide the operator with properly maintained equipment.

It is the operator's responsibility to operate the loader with skill, good judgment and caution. Following recognized safety procedures helps to avoid accidents.

Do not allow untrained personnel, even on a temporary basis, to operate this equipment. Operators must be trained by an experienced citrus loader operator who is familiar with all aspects of operation, safety, and maintenance of this equipment. Keep children, visitors and untrained personnel away from the equipment.

The Petersen Citrus *Lightning Loader™* is an off-the-road vehicle that was designed to work in citrus groves. Some citrus loader owners choose to transport the loader to the grove on a flat bed trailer. For operators who drive the *Lightning Loaders™* to and from the grove on public roads, use caution. You are driving a vehicle designed for agricultural use. Petersen recommends a maximum speed of 40 m.p.h. when driving on public roads. Petersen recommends that the driver wear the seatbelt at any time the vehicle is in motion. When traveling with an empty dump body, the boom and pick-up attachment must be stowed within the dump body sides, at rest on the dump body floor. When traveling with a pallet bed only, the boom and pick-up attachment must be stowed at its lowest level, and the attachment lashed to the bed of the vehicle.

WARNING! – Failure to stow the boom and pick-up attachment as instructed could allow the boom to slew (swing) out over the side of the truck dump body or bed. Loss of boom control could result in damage to objects in the vicinity of the citrus loader, and/or serious injury or death to people in the vicinity of the citrus loader.

The Petersen Citrus *Lightning Loader™* is designed to carry one person, the operator. **Never allow other riders on the loader. There is not a safe place for riders to sit or stand. Follow these safety instructions:**

- **Instruct all citrus loader operators that they are not to allow riders on their equipment for any reason. They should be instructed not to operate the equipment if anyone is on, or within 20 feet of the equipment.**

- **Instruct all grove workers, including pickers and crew leaders, that they are not allowed on the citrus loader. Riding and/or hanging on to the citrus loader could result in serious personal injury or death.**

- **Instruct all grove workers that the minimal safe clearance for citrus loader operations is 20 feet, and that they should remain clear of the citrus loader by that distance during operations. Failure to "STAND CLEAR" during operations, could result in serious personal injury or death.**

Do not attempt to operate the loader under the influence of drugs, alcohol, prescription medication or anything that might impair the operator's abilities.

Modifications to any part of this *Lightning Loader™* can create a safety hazard and therefore shall not be made without the manufacturer's written approval. Use only factory approved parts to repair or maintain this equipment. If this equipment is rebuilt or remounted, mounting procedures and retesting is required in accordance with factory instructions.

1.2) Daily Inspections – Before Operating the Lightning Loader™

One of the most important factors in the prevention of accidents is a positive attitude towards safety. The habit of anticipating possible problems normally prevents many accidents from occurring.

Each morning, prior to operating the *Lightning Loader™*, the following inspections should be made:

a) Check oil level and battery.

b) Check the brakes and backup alarm. The backup alarm must always be sounding prior to backing up. Any time the transmission gear is in "R", reverse position, the alarm must be sounding. If your unit is equipped with any additional alarms or warning lights, check these items also for proper operation.

c) Check rearview mirrors and adjust if necessary.

d) Check tires for proper inflation, cuts, and loose wheel nuts.

e) Check head and tail lights for proper operation.

f) Check the hydraulic system for any unusual conditions such as pools of hydraulic fluid or lubricating oil under the chassis.

g) Check the hydraulic hoses for cuts and abrasions or evidence of binding.

Any insufficiencies found during this inspection must be corrected prior to use of the equipment.

Do not operate the loader under any circumstance if the operator has reason to believe the unit is broken or malfunctioning. **Do not** attempt to place the boom of a broken or malfunctioning unit in the body of the loader unit without assistance from another crane or lifting device. Any attempt to use or move a broken or malfunctioning unit could result in serious bodily injury or death.

Consult the truck manufacturer's manual for vehicle checks recommended by them.

1.3) Safety Devices

First we will discuss some of the components designed into the loader system to ensure that safe loader control is maintained. There are hydraulic system flow devices designed into the loader system to control the flow of hydraulic fluid. Loader control and speed are essential to the safe operation of, and longevity of the loader.

To maintain safe loader control you must ensure that proper engine speed is observed.

- Recommended engine RPM during loader functions: 1600 RPM
- Do not over-rev the engine during loader functions.
- Make sure that all oil flow restrictors are in place and have not been modified.
- Make sure that all valves are operating properly.
- You must not remove, or tamper with the manufacturer's recommended settings of oil flow devices.

Excessive operating speed causes erratic operation of the loader. Excessive operating speed decreases operator control and increases the stresses on the loader's supporting structures, which could cause unexpected component failure. The result of unexpected component failure could be damage to the equipment and/or serious bodily injury or death.

1.3.1) Flow Restrictors

Swing Actuator Restrictors: The swing actuator flow restrictors control the swing speed of the loader boom. These restrictors are located on the swing drive motor, one on each port. These restrictors are factory preset and must not be removed or drilled out.

Model HA36 Rotary Actuator, Restrictor Size = .096

Some signs of restrictor removal or modification are:

1. Excessive boom swing speed.

2. Broken or bent head (swing) stops. Catastrophic actuator damage will result if head stops are damaged or missing.

3. Excessive swing speed causes excessive wear on the main boom/tip boom connecting pin and bushings.

Bin Head Motor Restrictors: The bin head motor restrictors control the speed of the bin head rotation. These restrictors are located on the motor ports. These restrictors are factory preset and must not be removed or drilled out.

Restrictor Size: .046

Some signs of restrictor removal or modification are:

1. Excessive bin head rotation speed.

2. Broken bin head rotator motor mounting bolts.

3. Broken bin head motor shaft and/or housing.

1.3.2) Lock Collar

The lock collar is an integral part of the citrus loader that holds the head and spindle assembly in the pedestal. The lock collar must be in place and the lock collar bolt properly torqued prior to use of the citrus loader. The lock collar must be tight against the bottom of the spindle bearing housing with a maximum gap of one-quarter inch (1/4"). To locate the lock collar, see Item #24 on Drawing No. 0202020011, CL3 Head and Pedestal Assembly, found in the “Diagrams & Drawings” section of this manual.

Under normal operating conditions, there is very little load applied to the lock collar. However, the following improper operating practices could put excess stress on the lock collar and therefore must be avoided.

- Forcing the dump body down with the tip boom. Evidence of this may be the bulkhead of the body is dented down.

- Improper positioning of the boom prior to raising the dump body. Evidence of this may be the underside of the main boom will be dented and scarred.

Improper lock collar installation and/or the improper operating practices listed above, could result in the head assembly being pulled up out of the pedestal assembly. The separation of these two loader components will result in equipment damage, and could result in serious personal injury or death.

Maintenance and shop personnel must continuously check for the above listed signs of abuse, and must report their observations to the person responsible for the operation practices of the citrus loader operators. Corrective measures must be taken to stop abusive loading practices.

1.3.3) Back-Up Alarm

The back-up alarm is installed on your loader so that it sounds anytime the transmission gearshift selector is in the reverse, “R”, position. **Do not** operate the vehicle if the alarm is not sounding when the transmission is in the reverse position. If the back-up alarm is malfunctioning, it must be repaired prior to operating the vehicle.

⚠ WARNING
ALARM MUST SOUND WHEN BACKING UP. DO NOT BACK UP WITHOUT HAVING SOMEONE CLEAR BEHIND THIS VEHICLE.

It is the operator’s responsibility to make sure that the area behind the loader is clear before backing up.

1.4) Safety Decals

Your loader has required safety decals that alert those operating, working around, or performing maintenance on the loader of certain safety hazards. The safety decals are used to show the consequence of human interaction with a hazard in terms of:

1. The degree of severity.
   (minor injury, severe injury, death)

2. The probability of severity.
   (WILL result in, COULD result in)

The following definitions for identifying hazard levels are provided with their respective signal words.

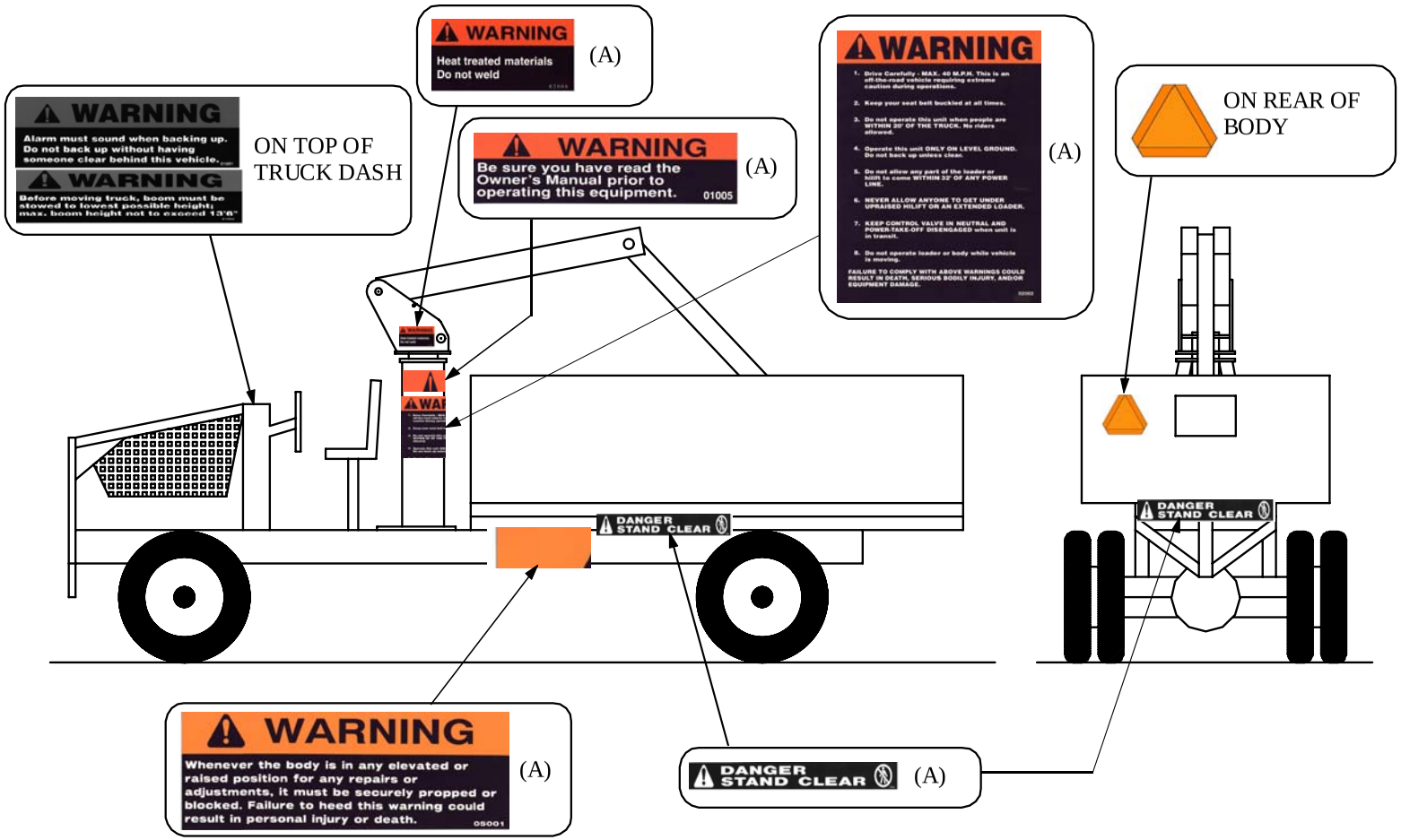
DANGER Immediate hazards which WILL result in severe personal injury or death.

WARNING Hazards or unsafe practices which COULD result in severe personal injury or death.

CAUTION Hazards or unsafe practices which COULD result in minor personal injury or product or property damage.

The following page shows the required safety decals for the Petersen Citrus *Lightning Loader™*. Before operating this equipment, the operator must be familiar with all safety decals. If your loader is missing these decals, or they have become defaced or illegible, call Petersen immediately to order them.

CITRUS LOADER - REQUIRED SAFETY DECALS



(A) ONE DECAL ON EACH SIDE OF LOADER IN LOCATION SH0WN

1.5) Training

Before operating the loader, all loader operators must become thoroughly familiar with the operation of controls, the correct operating procedures, maximum lifting capacities, safety precautions, and the location and purpose of safety and instructions decals. Operator training is essential. The following pages contain safety precautions, information, and operating instructions that must be observed while performing work operations.

The health, safety and well-being of each member of the crew is of primary importance. Consequently, each member has an obligation to himself, and to his fellow workers, to make sure safe operating procedures are followed. All operating regulations recommended by the manufacturer, the employer and by municipal, state and federal agencies must be observed. The operating procedures set up in this manual are Petersen's recommendations and do not necessarily cover employer and governmental regulations. Each operator must know and observe those regulations.

Become familiar with all equipment checks. You should make daily equipment inspections and be able to spot any abnormality or malfunctions before beginning an assigned task, while working or after completing the task. There is a high degree of reliability built into your equipment, but there is always a possibility of mechanical failure or power failure due to incomplete service or abnormal wear. An operator should never take another's word. He should always thoroughly check the equipment himself.

Each operator must receive thorough instructions on the care and maintenance of this machine, thus enabling him to identify and anticipate any problems that may occur. Knowing how the equipment operates will help you recognize when it is not operating properly and that repairs or adjustments are required.

1.5.1) Controls

Power-Take-Off Manual Transmission

Manual Shift Control – The PTO is engaged when the knob on the dash or floor are pulled out, and disengaged when the knob is pushed in. The truck gear shift lever must be in neutral and the clutch depressed whenever the knob is moved.

Air Shift Control – The PTO is engaged when the switch is moved to apply air to PTO and disengaged when switch is in off position. The truck gear shift lever must be in neutral and clutch depressed when switch is moved.

The manual shift PTO, and the air shift PTO allow for the vehicle to travel, and the PTO to remain engaged at the same time. For safety, Petersen recommends that the PTO be disengaged at any time the vehicle is in motion.

Power-Take-Off Automatic Transmission

Electrical Shift Control – Sometimes called a “Hotshift PTO”, is engaged by flipping the PTO rocker switch to the “ON” position. The PTO is disengaged by flipping the same switch to the “OFF” position. The most common practice used in the citrus industry is for the operator to engage the PTO once the vehicle is in the grove and ready to load fruit. The PTO remains in the “ON” position as the vehicle proceeds through the grove loading fruit. The PTO is wired so that it will automatically engage when the PTO is “ON” and the transmission is in “N”, neutral. The PTO automatically disengages any time the operator shifts the transmission out of neutral. Therefore, the PTO engages when the operator stops and places the transmission in neutral for loading, and automatically disengages when the driver moves forward or backward by placing the transmission in drive or reverse.

The operator should never leave the work station with the PTO in the “ON” position. If the operator needs to leave the work station, make sure the PTO is in “OFF” position to prevent any accidental activation of the control functions by other people in the grove area.

The operator must use discretion and good judgment regarding when it is necessary to use the parking brake during loading operations. If the loading terrain is not flat, the operator must use the parking brake when the vehicle is stopped, and the transmission is in neutral for loading.

See the “Vendor Inserts” section of this manual to find information from the PTO manufacturer regarding service and safety of the PTO.

Loader and Hilift Control Functions - Your loader control functions will be either the standard valve handle option, or the joystick control option.

Standard Valve Handle Option

Figure 1

Standard Valve Handle Option: The photo to the left shows the standard valve handle configuration for the Citrus Lightning Loader™.

The loader control decals, as shown to the left, indicate the function that will be activated by moving the handle in the up or down direction.

Decals - Standard Valve Handle Configuration

Body – Raise/Lower: Lift the handle to raise the hilift. Pull the handle down to lower the hilift.

Body Dump – Up/Down: Lift the handle to dump the load. Pull the handle down to lower body over the hilift.

Grab – Close/Open: Lift handle to fasten the tub head or box head to the tub or box. Push handle down to release the tub or box.

NOTE: The following decal includes dual instructions. The decal shows instructions for the either the pallet bar rotation or the tub dump. Follow the instructions for whichever attachment you are using.

Pallet Bar Rotate – Right/Left: Lift handle to rotate the box to the right (clockwise). Pull the handle down to rotate box to the left (counter clockwise).

Tub Dump – Up/Down: Lift the handle to dump the tub. Pull the handle down to lower the tub.

Main Boom – Up/Down: Lift handle to raise boom. Pull handle down to lower boom.

Tip Boom – Out/In: Lift handle to extend the tip boom away from the operator. Pull handle down to retract the tip boom toward the operator.

Swing – Right/Left: Lift handle to swing boom to the right (clockwise). Pull handle down to swing boom to the left (counter clockwise).

Joystick Controls

The photo to the left shows the joystick valve handle configuration for the Citrus Lightning Loader™.

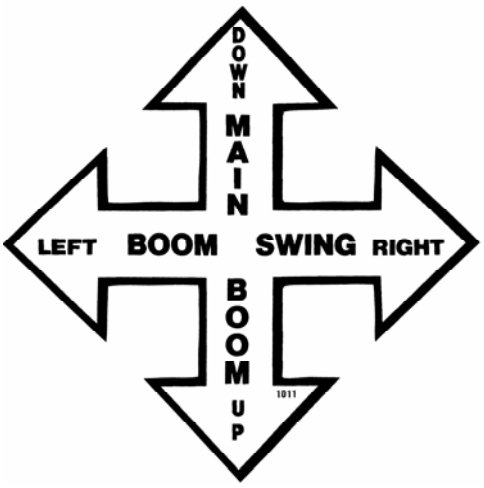
The top left handle, #1, controls the Main Boom functions.

The top right handle, #2, controls the Tip Boom functions, and the Tub Head or Bin Head functions.

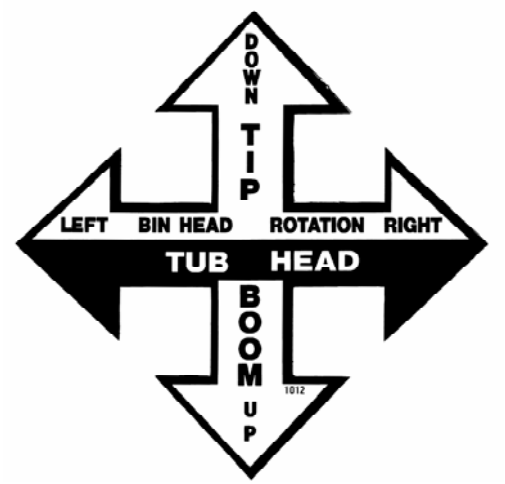
The center lower left knob, #3, controls the Body functions.

The center lower right knob, #4, controls the Body Dump functions.

Figure 2



Handle #1, shown in Figure 2 with decal illustrated to the left, controls the raising, lowering and the rotation of the main boom. To raise the main boom, the operator pulls the handle to the 6 o'clock position. To lower the main boom, the operator pushes the handle to the 12 o'clock position. To swing the boom left (counter-clockwise), the operator pushes the handle left to the 9 o'clock position. To swing the boom to the right (clock wise), the operator pushes the handle right to the 3 o'clock position. It is possible for an experienced operator to combine these functions. That is to raise or lower and swing the main boom at the same time. For example, while swinging the loader to the left (handle at the 9 o'clock position) the operator can pull the handle back to the 7 o'clock position to raise the boom at the same time.

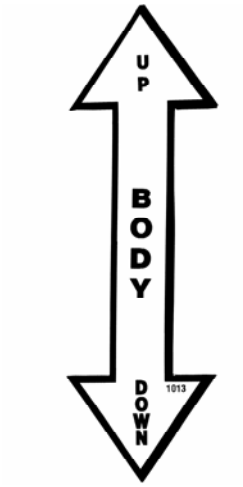


Handle #2, shown in Figure 2 with decals illustrated to the left, is “T” shaped and controls three separate functions. Pull the handle to the 6 o’clock position to extend the tip boom away from the operator. Push the handle to the 12 o’clock position to retract the tip boom toward the operator. If the loader is equipped with a “bin head”, pushing the handle left to the 9 o’clock position will rotate the attachment to the left (counter clockwise). Pushing the handle right to the 3 o’clock position will rotate the attachment to the right (clockwise).

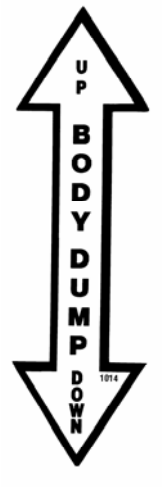
When the loader is equipped with a “tub head”, pushing the handle right to the 3 o’clock position will dump the tub. Pushing the handle left to the 9 o’clock position will return the tub head to its normal position.

Twisting the “T” handle counter clockwise will cause the attachment (tub head or bin head) to clamp. Twisting the handle clockwise will cause the attachment to release.

As with Handle #1, it is possible for an experienced operator to combine two of these operations at once.



Handle #3, shown in Figure 2 with decal illustrated to the left, raises and lowers the hi-lift body. Lift the handle to raise the body. Push down on the handle to lower the body.



Handle #4, shown on Figure 2 with decal illustrated to the left, dumps the hi-lift body to the left side of the vehicle. Lift the handle to dump the body. Push down on the handle to re-center the body over the hi-lift.

Very Important Note:

Before attempting any work with this unit, a new operator must be coached on its proper use by an experienced operator. The new operator should also be given sufficient time to practice the newly learned skills using empty containers (tubs and/or bins). This practice should take place in an open area with no physical obstructions and no people except the coach. Once the coach is convinced that the new operator has mastered the basics, they should go into an inactive grove for field trials. Empty containers should be placed in "real world" positions and the operator should be required to load the containers as though they were full. The time required for this learning will vary depending on the skills of the operator. The new operator should <u>never</u> be released for work until the experienced operator is certain that he is ready for fieldwork. It is the responsibility of the owner of this vehicle to ensure that all operators are properly trained before putting them to work.

1.5.2) Setting Up at the Job Site

An important prerequisite to proper setting up at the job site is to thoroughly plan the lift before positioning the vehicle.

Always seek the best possible work site when parking the vehicle. An ideal parking location at a job site is firm, level dry ground or pavement, located in close proximity to the work station. Avoid uneven, rocky or muddy terrain, or steep grades.

WARNING! - Because the citrus loader is operated in an off-road environment, a combination of load, excessive speed or uneven surfaces may result in a vehicle overturning condition which could cause serious personal injury or death.

Your vehicle should be positioned in an area free from overhead obstructions and to allow performance of the entire task without repositioning, if possible. The operator must be familiar with the swing arc of the loader. You should position your vehicle so that the load is well within this arc. The swing arc is controlled by positive stops. Damaged or missing head and pedestal stops poses an unsafe condition by allowing the boom to swing too far resulting in damage to the swing actuator, which could also result in loss of boom swing control.

The maximum lifting capacity of the loader is 1,000 lbs. Do not attempt to lift loads heavier than the standard containers for which the loader was designed.

Once the vehicle is in position for loading, please follow these precautions and procedures for loading:

<u>Precautions and Procedures for Loading:</u>

- Engage all safety lights, place the transmission in neutral, and set the truck brake.

- Always be aware of other vehicle traffic and pedestrians in the grove. You must always be aware of the picking crews in the groves. Petersen recommends a safe working distance of 20 feet between the loader and people that are in the work area.

- The vehicle should be positioned so that it is impossible for any portion of the equipment to come within the minimum required safe distance to any energized power line. Maintain a clearance of at least 10 feet between any part of the loader and any electrical line. Remember, power lines deflect in winds and additional clearances must be allowed. Death or serious injury may result from contact or arcing due to inadequate clearance to anyone working on or around the loader. All overhead wires should be considered energized.

- Do not operate the loader during electrical storms, when high wind conditions exist, or in poorly lighted conditions.

- Do not allow any person under a raised dump body or extended boom.

- Use provided handhold and step(s) for access to the loader station. Face the step, and use handhold when getting on and off of the loader. Never use the controls as a handhold. Do not mount the loader station if the handhold or step(s) is broken or missing. Repair them first.

- **Do not allow others on the loader.** The Petersen Citrus Lightning Loader™ is designed to carry one person, the operator. **It was not designed to carry passengers under any circumstances. Do not allow others to ride or hang-on to the equipment.**

- Operator should always be certain that all is clear behind the dump body before backing up the truck. In addition, the back-up alarm must always sound prior to backing up.

- Do not operate the loader or dump body when the truck is in motion.

- Do not leave a load suspended when the truck is in motion.

Failure to heed these instructions can result in serious personal injury or death.

SECTION 2 – MAINTENANCE & SERVICE

2.1) Introduction

Petersen citrus loaders are designed to give reliable, long-lasting service, but do require regular maintenance and the correct hydraulic oil. This maintenance and service section is to provide the owner and operator with a maintenance schedule and diagrams and parts lists.

The hydraulic system power source is a power-take-off (PTO) mounted on the transmission, which is connected to the hydraulic pump by a drive assembly. A 25 gallon hydraulic fluid reservoir (tank) is mounted to the truck frame. There are two units mounted to the hydraulic fluid line that runs from the tank to the pump. One is a cut-off valve that is used to cut off the flow of hydraulic fluid, which facilitates cleaning the filter. The other is the filter which cleans the impurities in the hydraulic fluid before it enters the pump. It is important that hydraulic components be rated at proper flow and pressure.

The pump is a gear type that supplies approximately 18 gallons per minute to the control bank.

The control bank, or valve bank, is an open center type (free flow) which gives constant oil circulation while the pump is in operation. The hydraulic fluid flows into the inlet side, through the valve bank, through the outlet side, and back to the tank. See hydraulic schematic(s) in the “Diagrams & Drawings” section of this manual.

Always keep the loader free from sand and other foreign particles to ensure trouble-free operation and to avoid excessive wear. Air entering the oil tank carries with it small quantities of impurities and moisture. In addition, there is always a little natural wear within the hydraulic system itself. Therefore, the hydraulic oil should be drained at least once a year to rid the system of any contamination and condensation.

Please follow the recommended maintenance schedule in this section to ensure reliable and safe service from your loader.

2.2) Safety Procedures and Precautions for Service and Repair

Before adjustments and repairs are started on a loader, the following precautions shall be taken as applicable:

1. Loader is placed where it will cause the least interference with other equipment or operations in the area.

2. All controls at the off position and all operating features in the neutral position.

3. **STARTING MEANS RENDERED INOPERATIVE. REMOVE KEY FROM IGNITION, AND/OR USE LOCKOUT/TAGOUT PROCEDURE. SEE LOCK-OUT/TAG-OUT PROCEDURES ON FOLLOWING PAGE.**

4. Rest the main and tip boom on the ground or floor of the dump body. The main and tip boom should be at rest at their lowest energy level.

5. Relieve the hydraulic oil pressure from all hydraulic lines by working all controls in all directions with the engine off. **Do not disconnect hydraulic connections under pressure. Hot hydraulic fluid can cause serious injury. Stay clear of hydraulic leaks as high pressure and hot hydraulic fluid can cause serious injury.**

6. Whenever the hilift body is in any elevated or raised position for service, it must be securely propped or blocked so it can not fall on anyone. Be sure that the body is unloaded before using prop.

Lock-out/Tag-out Procedure (LOTO)

1. With the vehicle parked on level firm ground, set the parking brake and chock the wheels.

2. Place operating equipment at lowest potential energy level or position so as not to be subject to possible free fall, and/or install additional blocking device(s) to prevent this potential for any raised or elevated equipment such as bodies, tail or side gates, booms, bin head, tub head, or other attachments.

3. If work on the bin head or tub head is required, place the attachment outside the body by positioning the attachment over the side of the truck and lowering the boom until the attachment is on the ground.

4. If it is necessary to raise the body during LOTO, the body prop must be in place to secure the body from falling.

5. Disengage the PTO and shut down the truck engine.

6. Remove the key from the ignition.

7. Using a non-reusable fastener, secure a LOTO tag to the steering wheel indicating the vehicle is out of service.

8. Relieve stored energy from the hydraulic components by moving each control handle back and forth several times.

2.3) Service Requirements

Every 40 Hours of Service

- ☐ Grease all fittings. Grease fittings that are worn and will not hold the the grease gun, or those that have a stuck check ball, must be replaced.
- ☐ Check hydraulic hoses for cuts or abrasions, or any evidence of binding or leakage. Replace damaged hoses.
- ☐ Check hydraulic fittings to make sure they are in place and do not show signs of leakage. Tighten or replace leaking fittings.
- ☐ Check oil level. All oil levels are to be checked with the loader parked on a level surface in transport position, and while the oil is cold, unless otherwise specified. Oil level should be two to three (2" to 3") inches from top of tank. The hydraulic oil must be premium quality, anti-wear and anti-foam with high V's and low pour points for wide temperature usage. In regions with mild temperatures, use SAE Grade 20W. SAE Grade 10W should be used in areas more subject to cold weather.
- ☐ Check lock collar for excess clearance. Lock collar must be tight against bottom of spindle bearing housing with maximum gap of one-quarter inch (1/4").
- ☐ Check back-up alarm. Repair or replace if not working properly.

Every 80 Hours of Service

- ☐ Repeat 40 Hour Service Requirements listed above.
- ☐ Re-torque the boom swing actuator bolts (Item #31 on Drawing #0202020011, CL3 Head and Pedestal Assembly).

Every 160 Hours of Service

- ☐ Repeat 40 and 80 Hour Service Requirements listed on the previous page.

- ☐ Examine all loader pivot points (head and pedestal, main boom, tip boom, boom attachments, and dump body) for visible play. If visible play is observed at pivot points, bushings and/or pins must be replaced as needed.

- ☐ Check truck frame for cracks, loose or missing bolts, rivets, damaged springs or loose shackles. Repair as needed using truck manufacturer's recommendations.

- ☐ Visually inspect complete loader for damage to structural components, especially cracks in weldments. It is necessary for your loader to be clean of oil and grease for these inspections to be made. Any damaged components must be replaced prior to use.

  Note: The Petersen rotating head assembly has special high strength steel components that are welded together. After welding, the entire assembly receives post-weld heat treatment. <u>Do not weld on the rotating head assembly.</u> Welding on the rotating head could reduce its load bearing capacity and fatigue life, and may result in personal injury or death.

- ☐ Check all pins, sheaves, retainers, bolts and nuts. Tighten and/or replace as needed.

- ☐ Retighten main boom and tip boom connecting bolts. Replace if needed.

- ☐ Check PTO and pump drive train. Check for loose or missing bolts. Replace seals if needed.

- ☐ Re-torque loader tie-down bolts. Torque to 400 ft. lbs.—dry threads.

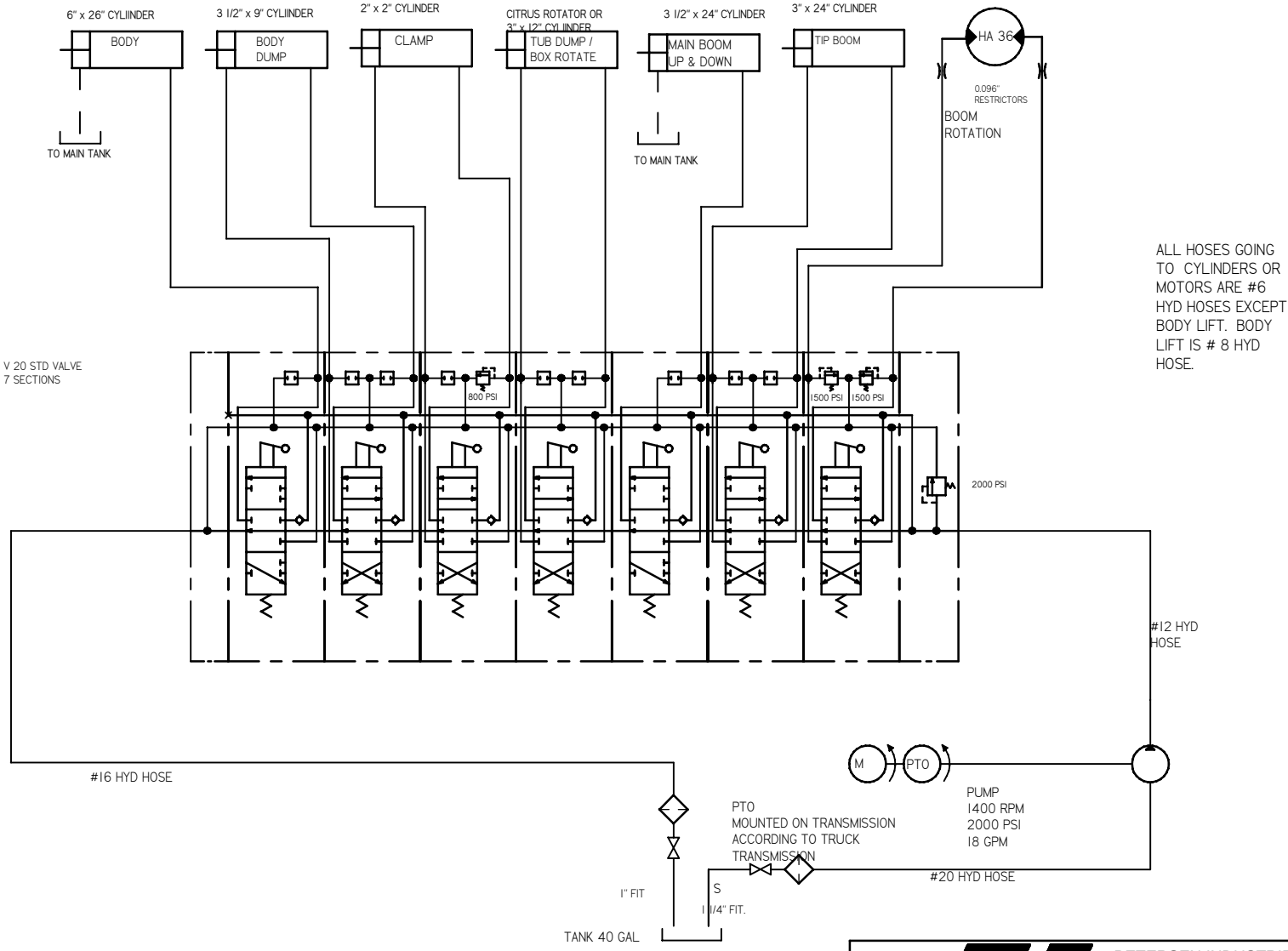
- ☐ Clean hydraulic oil filter on suction line, and replace return line filter cartridge.

- ☐ Check decals for presence and legibility. Check the decal listing on Page 8 of the "Operation" section of this manual for required operational and safety decals. Replace missing or illegible decals.

Spare Parts:

Spare parts are shown in the “Diagrams & Drawings” section of this manual. It is important that you use factory replacement parts to ensure that size and capacity are as the original part. It is important that the hydraulic components be rated at proper flow and pressure.

Alteration of loader components without written manufacturer’s approval voids the warranty.

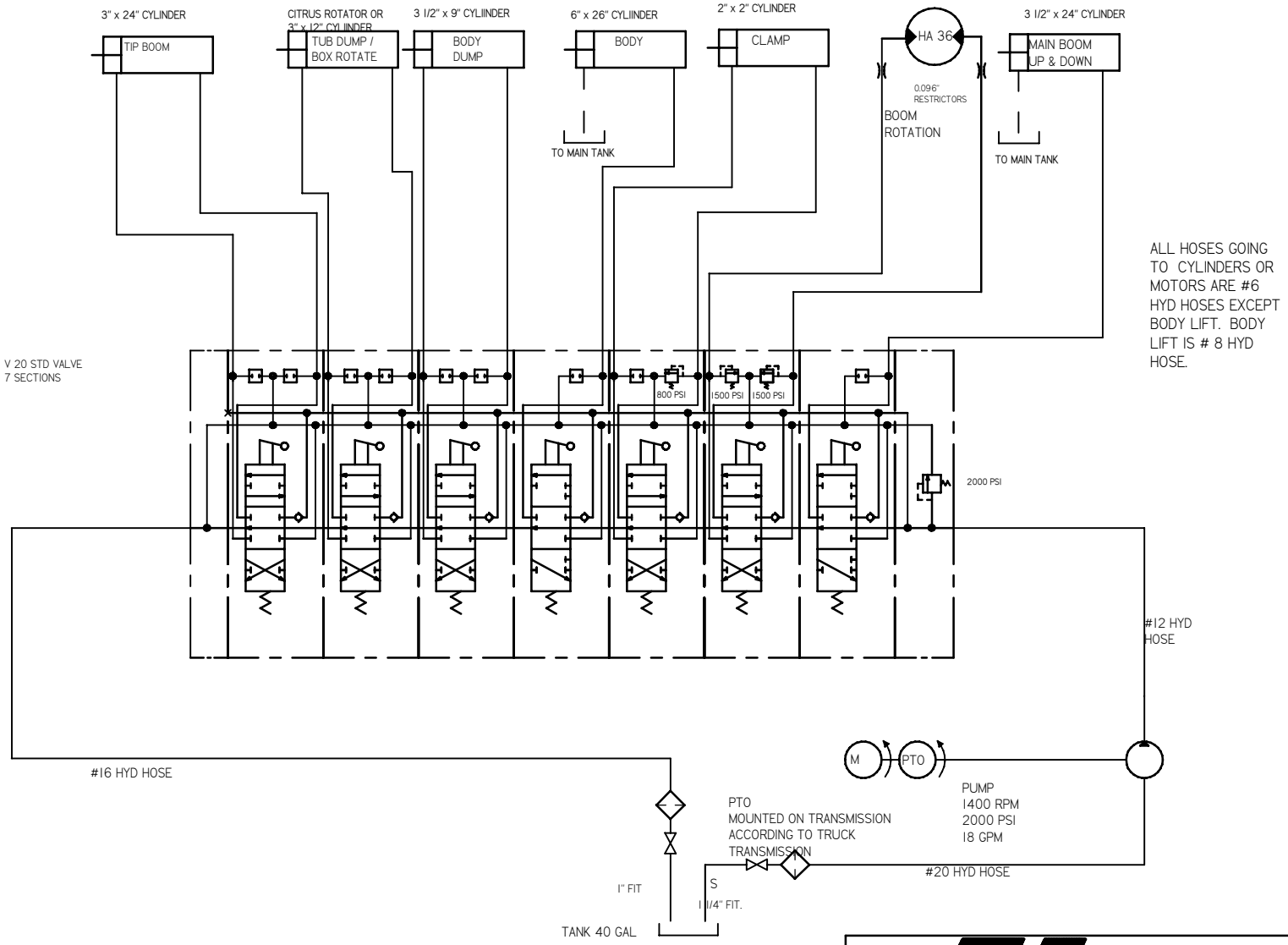


PETERSEN INDUSTRIES INC.
20165 HWY 27
LAKE WALES, FL 33853
(863)676-1493 FX (863)676-6844

TITLE: HYDRAULIC CIRCUIT FOR CITRUS-STANDARD

CAD NO.:	PART NO.:	SCALE
52 07 08 001 0		N/A

DRAWN BY:	APPROVED:	DATE:	SHEET:
EJB.		8/12/99	1 OF 1

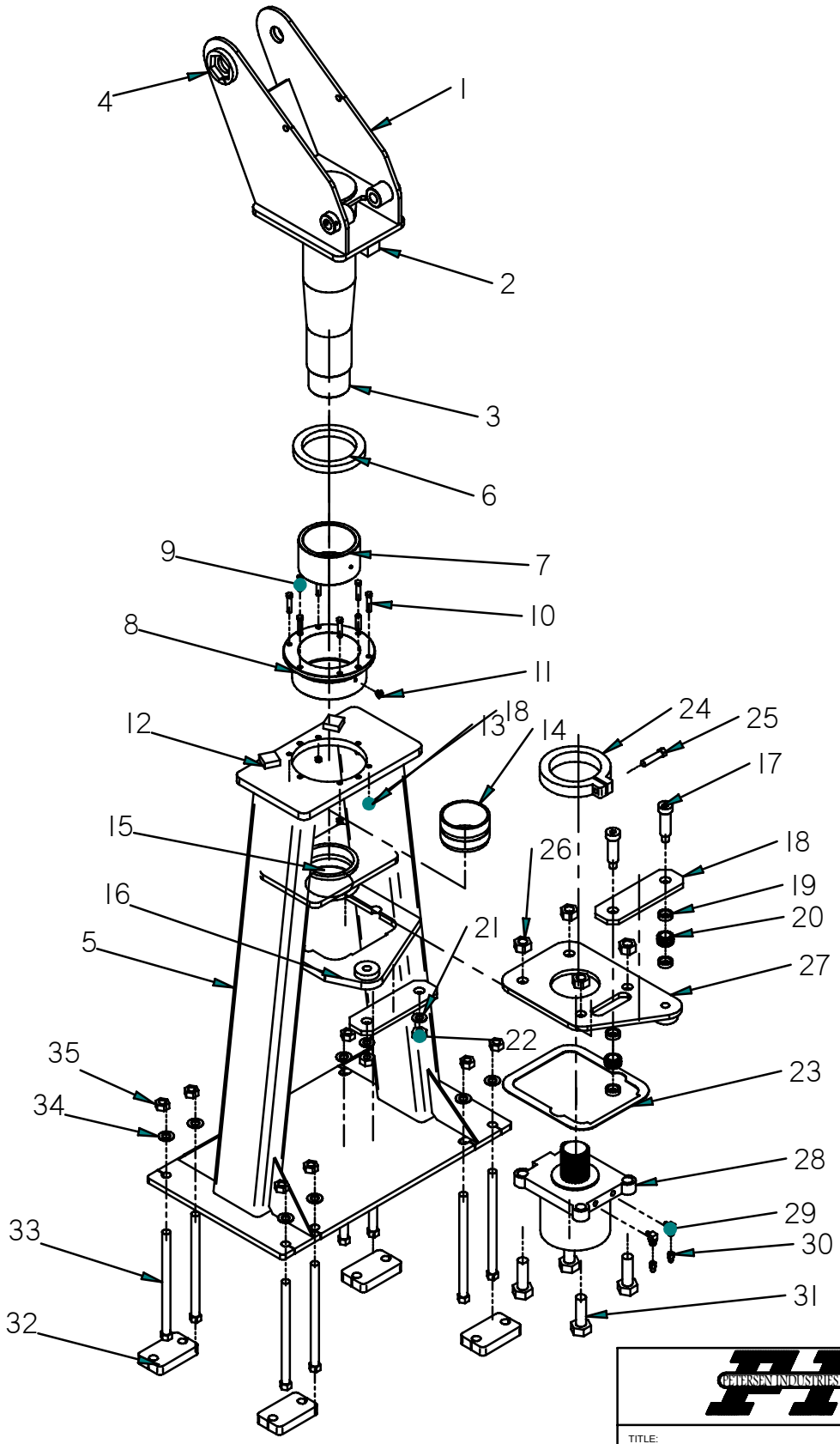


PETERSEN INDUSTRIES INC.
20165 HWY 27
LAKE WALES, FL 33853
(863)676-1493 FX (863)676-6844

TITLE: HYDRAULIC CIRCUIT FOR CITRUS JOYSTICKS

CAD NO.:	PART NO.:	SCALE
52 07 07 001 0		N/A

DRAWN BY:	APPROVED:	DATE:	SHEET:
EJB.		8/12/99	1 OF 1



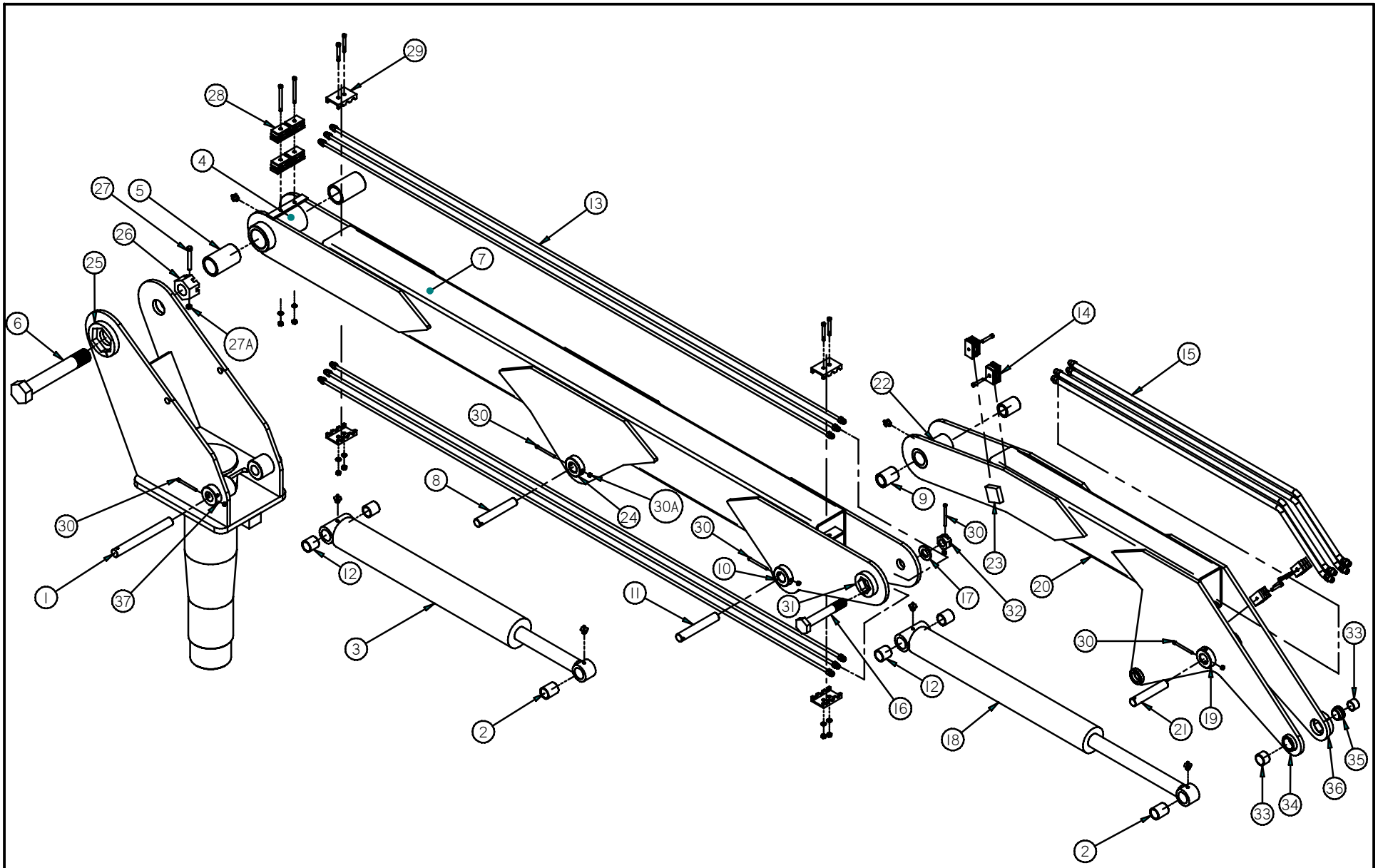
PETERSEN INDUSTRIES INC.
446 US HWY. 27 N.
LAKE WALES,FL.33853
(941) 676 1493 FX (941) 676 6844

TITLE: CL-3 HEAD & PEDESTAL ASSEMBLY

CAD NO.:	PART NO.:	SCALE
02 02 02 001 1		N/A

DRAWN BY:	APPROVED:	DATE:	SHEET:
		3/8/00	1 OF 1

Dia. No.		Part Name	Order By This Part No.
MODEL CL3 HEAD & PEDESTAL ASSEMBLY			
CAD No.: 0202020011			
1		**Head and Spindle Assembly**	**107101**
2		Stop - Head and Pedestal	107156
3		Spline, Adapter	HC99002
4		Hex Collar, Main Boom Bolt	116202
		Pedestal Assembly	**106101**
5		Pedestal Weldment	106151
6		Nylatron Bushing - Thrust Bearing	BU509001
7		Nylatron Bushing - Upper Spindle	BU508001
8		Upper Bearing Housing	106208
9		Dowel Pin	FA031032
10		Bolt, Upper Bearing Housing	BL308040U513
11		Grease Fitting, 1/8" Straight	HF2002S
12		Stop - Head and Pedestal	106209
13		Locknut - Upper Bearing Housing	NUS08U
14		Nylatron Bushing - Lower Spindle	BU507001
15		Lower Bearing Housing Weldment	106202
16		Support Plate Weldment, HA36 Actuator	114301
17		Bolt, Twin Torque Link	BL120056U8
18		Twin Torque Arm Link	114401
19		Spacer, Twin Torque Link	114451
20		Spherical Bearing, Twin Torque Arm	BE04N12SF20
21		Flat Washer, Twin Torque Link	WAF14S8
22		Nut, 7/8" Centerlock	NUC14U
23		Wear Pad	BU313001
		Parts Needed to Complete Assembly	
24		Lock Collar - Spindle	117102
25		Bolt - Lock Collar	SCA1240W
26		Nut, 1 1/4" Centerlock	NUC20U
27		Mt. Plate Weldment, HA36 Actuator	114201
28		Actuator Hydraulic - Boom Swing	HC01001
29		Hydraulic Fitting	HF806069M
30		Restrictor Fitting, .096	HF906063096FM
31		Bolt - Hydraulic Actuator	SCA2056C
		Parts Not Included in Assembly	
32		Tie Down Block	125201
33		Bolt, Tie Down	
34		Washer, 1" Flat	
35		Nut, 1" Nylon Lock	



PETERSEN INDUSTRIES INC.
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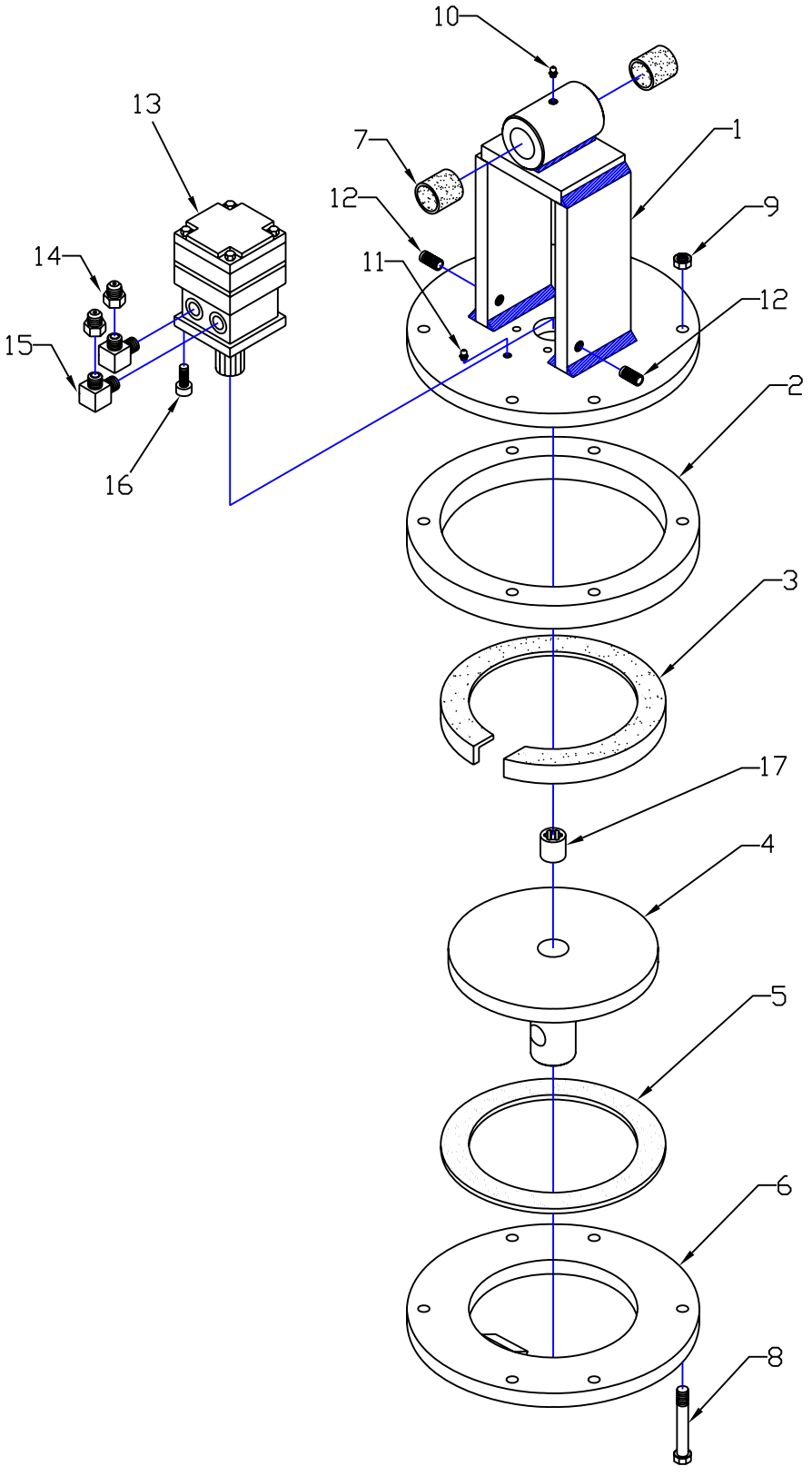
TITLE: CL 3 MAIN AND TIP BOOM ASSEMBLY

CAD NO.:	PART NO.:	SCALE
01 00 00 010 1		N/A

DRAWN BY:	APPROVED:	DATE:	SHEET:
E.B.		11/29/01	1 OF 1

Dia. No.		Part Name	Order By This Part No.
CL3 Main and Tip Boom Assembly			
Drawing No. 0100000100			
1		Pin, Lift Cylinder/Base End	PI18184F
2		Bushing, Lift & Tip Cylinder/Rod End	BU402006
3		Cylinder, Lift	CY01003
4		Spool, Main Boom Pivot	115122
5		Bushing, Main Boom (2 required)	BU503002
6		Bolt, Main Boom	BL132204U845
7		Main Boom Weldment	108151
8		Pin, Lift Cylinder/Rod End	PI18124F
9		Bushing, Main to Tip Connecting (2 required)	BU502003
10		Spool, Tip Cylinder/Base End with Hole	115117
10A		Spool, Tip Cylinder/Base End without Hole (not show	115118
11		Pin, Tip Cylinder/Base End	PI18124F
12		Bushing, Lift & Tip Cylinder/Base End	BU402005
13		Pipes, Main Boom	TU01001
14		Clamp, 2-Hole Pipe	CLH2AP
15		Pipes, Tip Boom	TU06001
16		Bolt, Tip Boom	BL120128U87T
17		Collar, #42 without Hole	116102
18		Cylinder, Tip Boom	CY02004
19		Spool, Tip Cylinder/Rod End with Hole	115119
19A		Spool, Tip Cylinder/Rod End without Hole (not shown	115120
20		Tip Boom Weldment	109151
21		Pin, Tip Cylinder/Rod End	PI18108F
22		Spool, Tip Boom Pivot	115121
23		Stop Block, Tip Boom	109203
24		Spool, Lift Cylinder/Rod End with Hole	115115
24A		Spool, Lift Cylinder/Rod End without Hole (not shown	115116
25		Hex Collar, Main Boom Bolt	116202
26		Nut, 2" Main Boom Bolt	NUB32HU
27		Bolt, 7/16 x 4 Retainer	BL307064U514
27A		Nut, 7/16 Lock for Retainer Bolt	NUS07U
28		Clamp, 2-Hole Stacking	CL5G220
29		Clamp, Main Boom Pipe	CLP3C
30		Bolt, 5/16 x 3 Retainer	BL305048U518
30A		Nut, 5/16 Lock for Retainer Bolt	NUS05U
31		Hex Collar, Main to Tip Connecting Bolt	116204
32		Nut, 1 1/4 for Connecting Bolt	NUB20U
33		Bushing, Tip Boom Collar	BU402003
34		Spool, Right Side End of Tip Boom	115130
35		Spool, Left Side End of Tip Boom	115132
36		Hex Collar, End of Tip Boom	116204
37		Spool, Lift Cylinder/Base End with Hole	115113
37A		Spool, Lift Cylinder/Base End without Hole (not show	115114

ZONE	REV.	DESCRIPTION	DATE	APRV.



PETERSEN INDUSTRIES INC.
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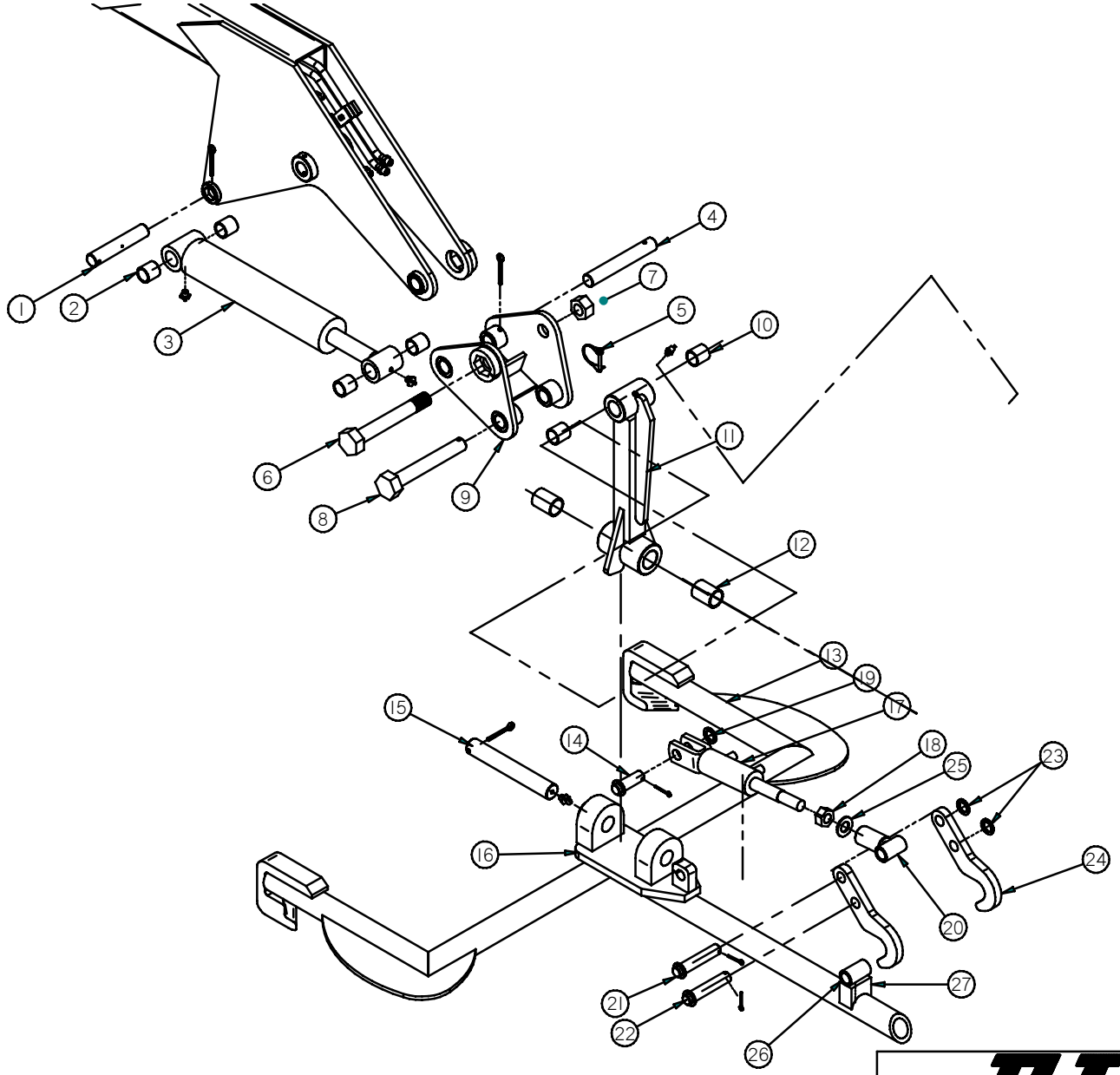
TITLE:
CITRUS BIN HEAD ROTATOR ASSEMBLY

CAD NO.:	DIAGRAM NO.:	SCALE
22 10 01 005 0	6001	N/A

DRAWN BY:	APPROVED:	DATE:	SHEET:
E.P.		7/31/01	1 OF 1

Dia. No.		Part Name	Order By This Part No.
CITRUS BIN HEAD ROTATOR ASSEMBLY			
Diagram No. 6001			118300
1		Rotator Weldment Assembly	118320
		(Weldment includes Item #1, #2, & #6)	
2		Center Ring to Rotator Weldment	Sold as part of Item #1
3		Upper Bushing, Rotator Washer	BU510001
4		Swivel Plate Assembly	118326
5		Lower Bushing, Rotator Disk	BU510004
6		Lower Ring with Stop	Sold as part of Item #1
7		Bushing (2 required)	BU402005
8		Bolt (6 required)	BL308056U513
9		Nut (6 required)	NUS08U
10		Grease Fitting, 1/8" 45 degree	HF20024
11		Grease Fitting, 1/8" 45 degree	HF20024
12		Motor Stabilizer Set Screw (2 required)	SCB0824W
13		Rotator Motor	HC03003
14		Restrictor Fitting (2 required)	HF906063046FM
15		Hydraulic Fitting (2 required)	HF806089M
16		Motor Mounting Bolt (4 required)	SCA0616C
17		Spline Adapter, 6-Spline	124102



PETERSEN INDUSTRIES INC.
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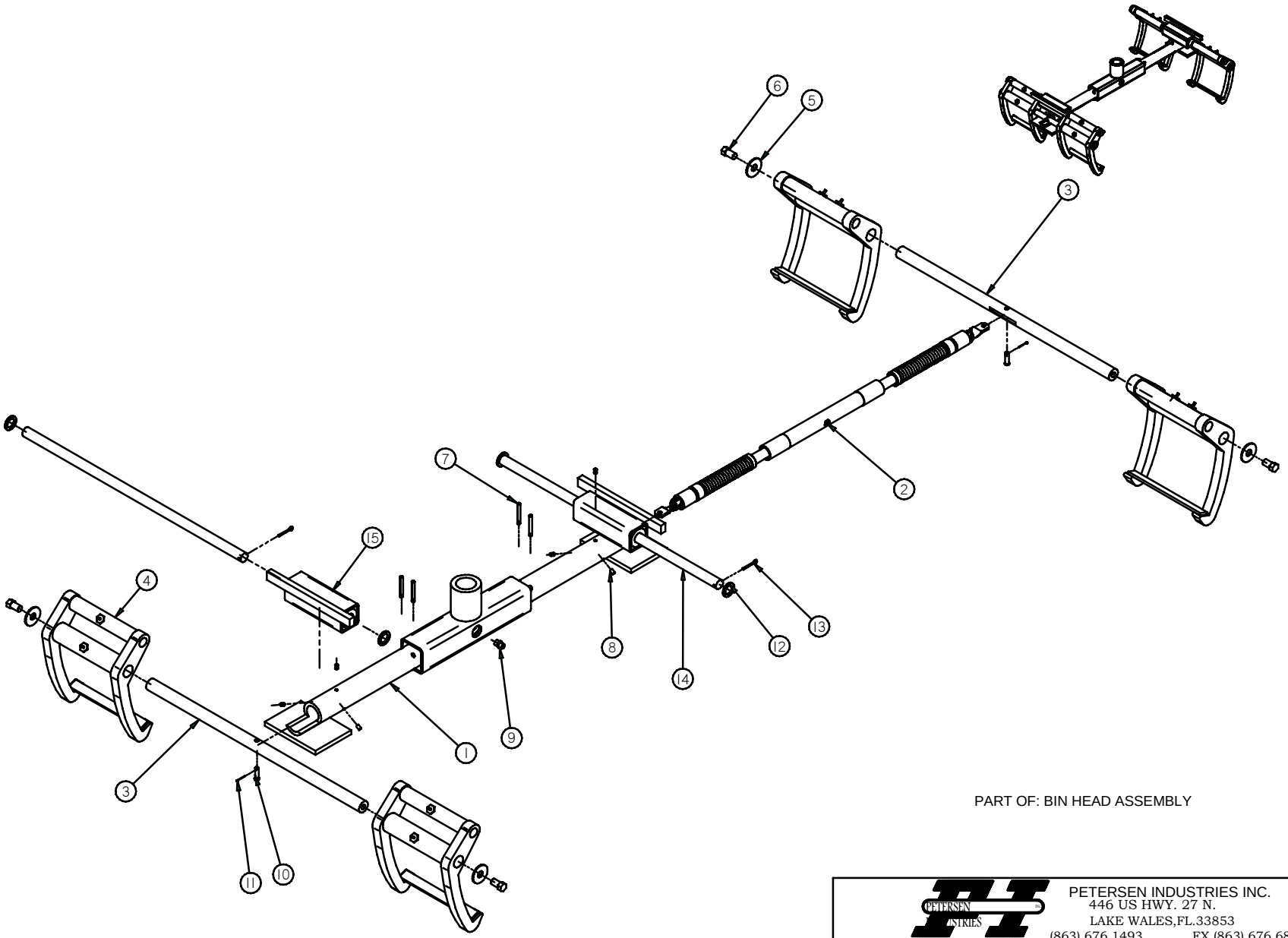
(863) 676 1493 FX (863) 676 6844

TITLE: TUB HEAD ASSEMBLY CL3 TIP BOOM

CAD NO.:	PART NO.:	SCALE
01 00 00 017 0		1:20

DRAWN BY:	APPROVED:	DATE:	SHEET:
E.B.		2/22/02	1 OF 1

Dia. No.		Part Name	Order By This Part No.
CL3 Tub Head Assembly			120101
Drawing #0100000170			
1		Pin, Dump Cylinder/Base End	PI18104F
2		Bushing, Dump Cylinder/Base End	BU402005
3		Cylinder, Tub Dump	CY03001
4		Pin, Dump Cylinder/Rod End	PI18132F1
5		Snapper Pin	PI04000S0
6		Bolt, Tub Dump Mounting	BL120144U87
7		Nut, Tub Dump Mounting Bolt	NUC20U
8		Pin, Tub Dump	BL120140B8
9		Triangle Plate Weldment without Pins	120121
		Triangle Plate Weldment with Pins	120122
10		Bushing, Upper Solid Link	BU402005
11		Solid Link	120123
12		Bushing, Lower Solid Link	BU402015
13		10 Box Tub Head with Clamp Cylinder	120124
14		Pin, Clamp Cylinder/Base End	PI16052FW
15		Pin, Lower Solid Link	PI22164F
16		Swivel Anchor Weldment	120125
17		Cylinder, 10 Box Clamp	CY04002
18		Nut	NUA16U
19		Washer, Clamp Cylinder Pin	WAB1624
20		Threaded Spool w/ Tub Hook Mt. Spool	120126
21		Pin, Clamp Cylinder/Rod End	PI16084FW
22		Pin, Tub Hook Mounting	PI16084FW
23		Washers, Hook and Clamp Pin	WAB1624
24		Tub Hook	120127
25		Lockwasher, Threaded Spool	WAS168
26		Spool, Tub Hook Mounting	115124
27		Tub Hook Mounting Block Assembly	120128



PART OF: BIN HEAD ASSEMBLY

PETERSEN INDUSTRIES INC.
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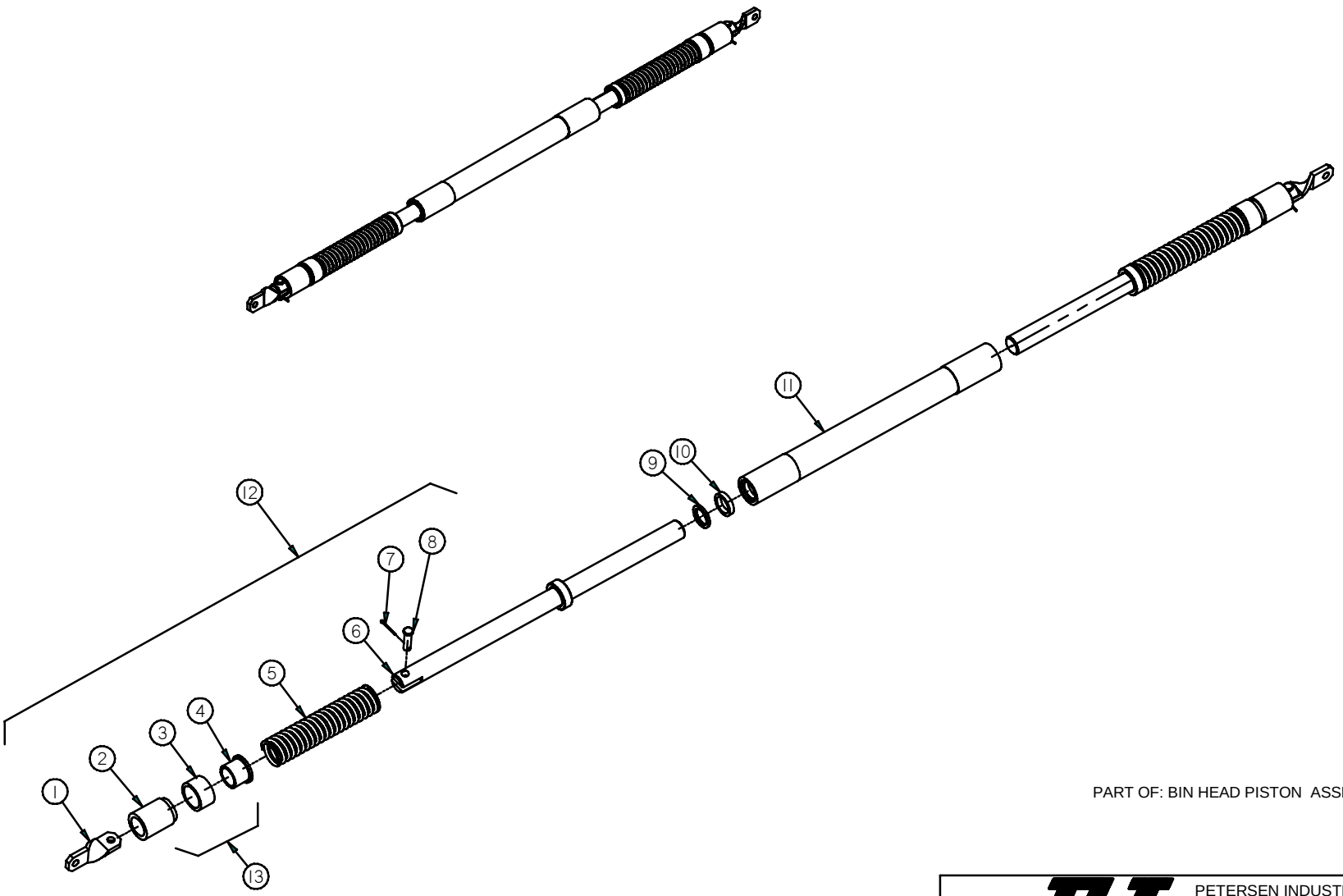
TITLE: BIN HEAD ASSEMBLY			
CAD NO.: 22 10 01 004 2	PART NO.:		SCALE: N/A
DRAWN BY: E.B	APPROVED:	DATE: 7/18/00	SHEET: 1 OF 1

Dia. No.		Part Name	Order By This Part No.
8-HOOK BIN HEAD ASSEMBLY #2210010042			
1		Bin Head Housing Assembly	118103
2		Bin Head Piston Assembly	118102
3		Bin Head Equalizer Bar	118104
4		Bin Head Hook Assembly	118105
5		Flat Washer, 5/8"	WAF10U
6		Bolt, 5/8 x 1	BL310016U511
7		Roll Pin, 5/16 x 1 1/2	FA040524
8		Screw, 3/8" Socket Set Half Dog w/Patch	SCD0608W
9		Hydraulic Fitting, 6-4 Male Connector	HF060604
10		Clevis Pin, 3/8 x 1 1/2	FA010624
11		Cotter Pin, 1/8 x 1	FA020216
12		Washer, 1" Pick Up	WAB1624
13		Cotter Pin, 3/16 x 2	FA020332
14		Saddle Pin	118107
15		Saddle Assembly	118109

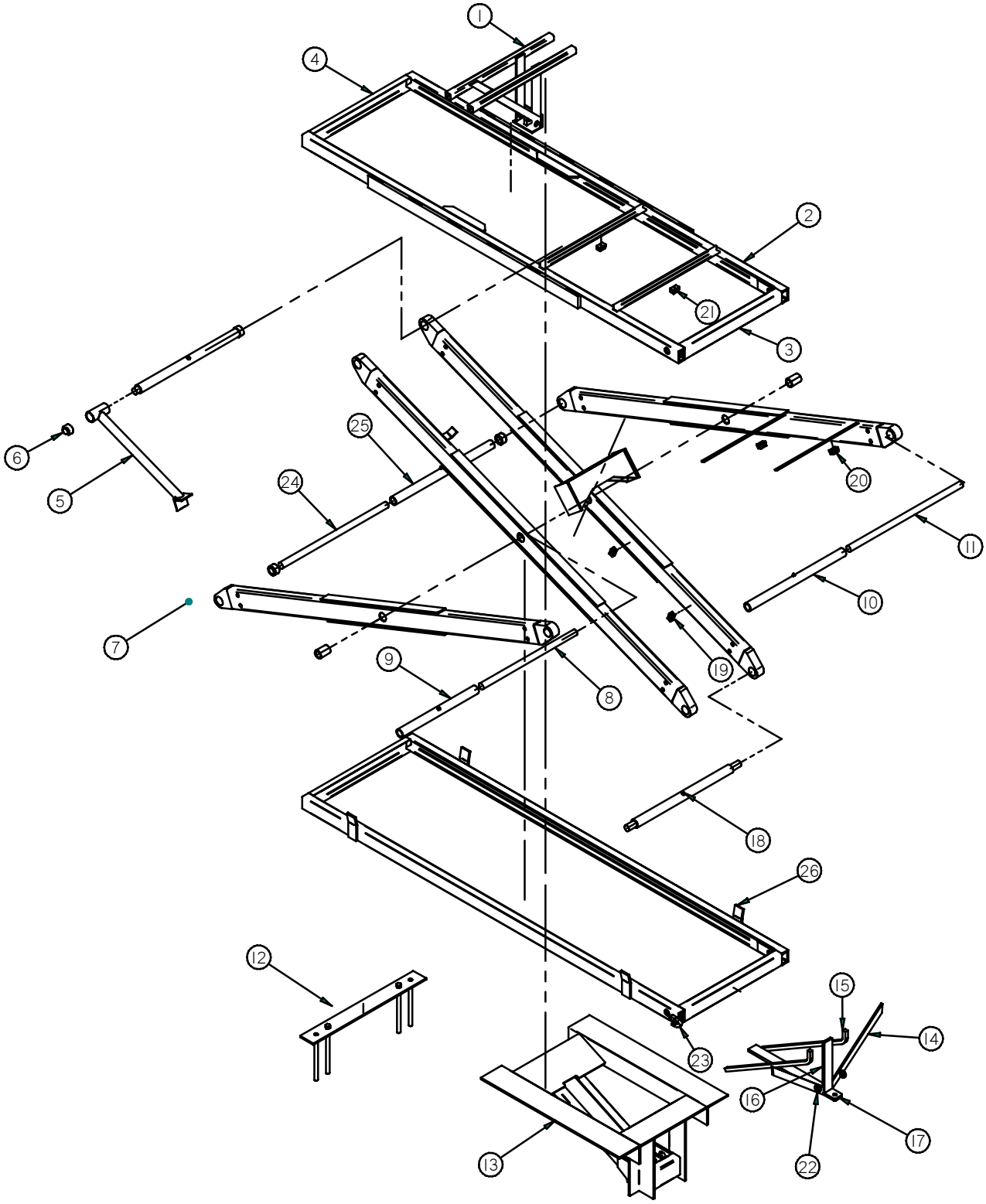


PART OF: BIN HEAD PISTON ASSEMBLY

PETERSEN INDUSTRIES INC.
446 US HWY. 27 N.
LAKE WALES,FL.33853
(863) 676 1493 FX (863) 676 6844

TITLE: BIN HEAD PISTON ASSEMBLY			
CAD NO.: 22 10 01 001 2	PART NO.:		SCALE: N/A
DRAWN BY: E.B	APPROVED:	DATE: 7/18/00	SHEET: 1 OF 1

Dia. No.		Part Name	Order By This Part No.
BIN HEAD PISTON ASSEMBLY #2210010012			
1		Twist Link	118112
2		Piston Spacer Spool	115101
3		Ram Bearing Housing Spool	115105
4		Ram Bearing Bushing	BU401004
5		Spring	SP03003
6		Piston Shaft with Collar	118116
7		Cotter Pin, 1/8" x 1"	FA020216
8		Clevis Pin, 3/8" x 1 1/4"	FA010620
9		Wiper Seal	HPW9815
10		Rod Seal	HPU021632
11		Trip Cylinder	118118
		Trip Cylinder Kit	HPK001DRU
12		Piston Shaft Assembly (one side)	118119
13		Ram Bearing Assembly	118117



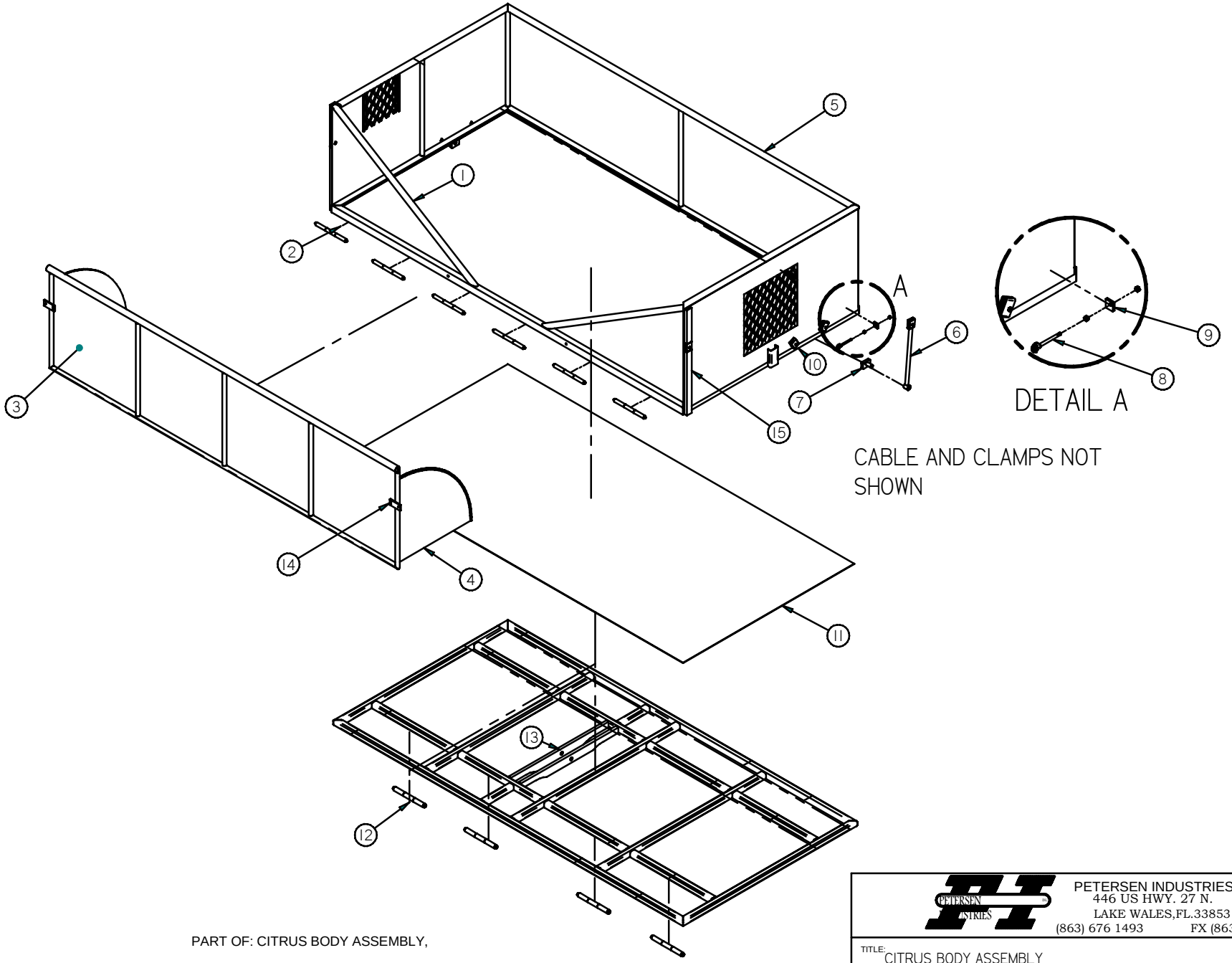
PETERSEN INDUSTRIES INC.
446 US HWY. 27 N.
LAKE WALES,FL.33853
(863) 676 1493 FX (863) 676 6844

TITLE: CITRUS HIGH LIFT ASSEMBLY

CAD NO.:	PART NO.:	SCALE
01 00 00 020 0		N/A

DRAWN BY:	APPROVED:	DATE:	SHEET:
		4/25/02	1 OF 1

Dia. No.		Part Name	Order By This Part No.
Citrus Hilift Assembly Drawing #0100000200			
1		Dump Cylinder Mount	111121
2		Hilift Side Rail	111122
3		Rear Sub Frame Channel	111123
4		Front Sub Frame Channel	111124
5		Body Prop	111125
6		Sub Frame Roller	111126
7		Scissor Arm End	111127
8		Hilift Shaft - Center	111128
9		Hilift Tube - Center	111129
10		Hilift Tube - Back	111130
11		Hilift Shaft - Back	111131
12		Hilift Tie Down Plate	111132
13		Hilift Lower Cylinder Mount	111133
14		Hitch, Diagonal Brace	111134
15		Hitch, Cylinder Mount Tie Down	111135
16		Hitch, Vertical Brace	111136
17		Hitch Bar	111137
18		Grease Fitting, 1/8" Straight	HF2002S
19		2 Hole Pipe Clamp	CLH2AP
20		2 Hole Pipe Clamp	CLH2AP
21		2 Hole Pipe Clamp	CLH2AP
22		Collar	116102
23		Tow Hook	AC1213
24		Hilift Shaft - Front	111138
25		Hilift Tube - Front	111139
26		Hilift Guide	111140



PART OF: CITRUS BODY ASSEMBLY,

PETERSEN INDUSTRIES INC.
446 US HWY. 27 N.
LAKE WALES,FL.33853
(863) 676 1493 FX (863) 676 6844

TITLE: CITRUS BODY ASSEMBLY			
CAD NO.: 01 00 00 021 0	PART NO.:		SCALE: N/A
DRAWN BY: E.B.	APPROVED:	DATE: 5/01/02	SHEET: 1 OF 1

Dia. No.		Part Name	Order By This Part No.
Citrus Hilift Body Assembly			
Drawing No. 0100000210			
1		Body Angle Brace	112156
2		Body Gate Hinge Assembly	112157
3		Body Gate	112158
4		Quadrant - 90/Box or 70/Box	112159
5		Body Sides with Sheave Roller	112151
6		Cable Carrier	112153
		Leco Cable Carrier	112169
7		Block and Pin Cable Carrier	112155
8		Eyebolt, 3/8" x 4 1/4"	BL506068U5
9		Bracket, Eye Bolt	112160
10		Sheave Roller Assembly	112154
		Sheave Roller only with bronze	112167
		Sheave Roller Housing	112168
11		Body Floor Sheet	112161
12		Body Hinge Assembly	112162
13		Dump Cylinder Mount, Upper	112163
14		Bracket, Cable Clamp	112164
15		Channel with Roller	112165
16		Body Floor	112166
		Body Gate with Quadrant	112152
		Body Sides and Gate with Quadrant	112150

NOTIFICATION OF TRANSFER OF OWNERSHIP

TO: Petersen Industries, Inc.
4000 SR 60 West
Lake Wales, FL 33859
Telephone: 800/930-5623, Ext. 256

FROM: _____

_____

_____

This is to advise you that our organization is no longer the owner of the Petersen loader listed below. We have listed the name and address of the subsequent owner. Would you please change your records accordingly.

Petersen Loader Serial Number: _____

VIN: _____

Name and Address of New Owner:

_____

_____

_____

Phone:_____

Contact: _____

BY: _____
(Name)

Date: _____