



Sutphen Corporation

OPERATION MANUAL

Models SL75, SA75 & SP70
Aerial Ladders and Aerial Platform

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INTRODUCTION


This manual has been written by service and engineering specialists. This manual will help acquaint you with the operation and maintenance of your apparatus, as well as the set-up and use of the tower during emergencies. You are urged to read this manual carefully. Following the instructions and recommendations in this manual will help assure the safe and reliable operation of your apparatus.


After you have read this manual, it should be stored in the apparatus or another location for quick and easy reference for all firefighters.


Throughout this manual safety alerts are provided at sections where special attention should be exercised. These areas are identified with the following signal words and symbols.

 **DANGER** DANGER indicates a hazardous situation which, if not avoided, will result in death or serious injury.

 **WARNING** WARNING indicates a hazardous situation which, if not avoided, could result in death or serious injury.

 **CAUTION** CAUTION indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.

 **NOTICE** NOTICE is used to address practices not related to physical injury.

 **SAFETY INSTRUCTIONS** Safety Instructions signs indicate specific safety-related instructions or procedures.

These serve as reminders to follow all instructions carefully. Failure to follow instructions could cause personal injury or damage to your apparatus.

There may be circumstances that arise throughout the life of this apparatus which do not appear in this manual. At all times, common sense and safety should be your first consideration.

Thank you for purchasing your apparatus from Sutphen. We work toward giving you complete satisfaction. Sutphen knows your apparatus best and has the parts and factory-trained technicians available. Please do not hesitate to contact Sutphen at 1-800-343-2712.

OPERATION SAFETY POINTS

The aerial tower is only as good or as safe as the operator is competent. Continued training and familiarization is essential.

Personnel should not climb the aerial tower until the ground operator indicates it is safe to do so.

Do not operate turntable controls while personnel are climbing the tower.

Personnel should use a life belt when operating off aerial tower.

At night, the entire aerial tower should be well lighted.

Do not forcefully extend the end of the tower against a structure.

Never use the tower as a battering ram.

Never use the aerial tower for pulling down walls or structural members.

Never willingly or intentionally abuse an aerial tower by careless handling, overloading, or use for which it was not designed.

Operate the aerial tower with deliberate motions and smooth application of power.

The operator should always remain at the aerial controls while the aerial tower is in use.

Stabilizers with ground pads should always be used when operating the aerial tower.

Safety locks on stabilizers should always be in place.

Most problems encountered with operation of the tower are caused by inadequate maintenance. To keep the tower fully operational, routine maintenance policies must be followed.

Frequently inspect the chassis and running gear, and maintain in good mechanical condition following recommended schedules in this manual. The aerial tower is of no use unless it can be transported to where it is needed. Careful, safe driving rules should be observed for the same reason.

Carefully and frequently check and inspect the entire aerial tower equipment for loose bolts or rivets; unlubricated bearing surfaces; bent, warped, or twisted parts; hydraulic leaks; defective electric

control equipment; etc. Follow the recommended maintenance schedules in this manual.

All members should frequently practice the different phases of aerial tower operations.

Never set up the aerial tower on marshy ground, freshly filled ground, or other soft surfaces.

Never apply opposing alternating control when operating the aerial tower, either in a side to side motion, a front to rear motion, or an up and down motion. This may set up an accelerated oscillation which could put undue strain on the structure, cause immediate or eventual failure of the aerial tower, or cause injury to the occupants or bystanders.

Do not overload the tower. Observe the load limit. The load limit is 1000 lbs. on the 75' aerials and 70' platform without water in the waterway, in any position of operation. Do not exceed the number of persons it can hold.

Although the tower is designed for a one person operation, it is a good safety practice to designate a person to observe the right side stabilizer when the stabilizers are being set up. This person can place the stabilizer pad, observe that it is placed evenly and correctly, and make sure the stabilizer is set properly.

Do not permit an untrained person, or a person who is not thoroughly familiar with this tower, to operate it unless constantly supervised.

The operator must:

1. Be capable of spotting the tower properly.
2. Be able to stabilize the tower properly.
3. Know the location of every control.
4. Know what each control does and how it works.
5. Be able to operate all controls smoothly and safely⁶. Know the location of safety devices, how they work and how to operate.
7. Be familiar with the loads that the tower can safely accommodate under various operating conditions.
8. Be aware of how to operate the tower under unusual circumstances.

When you consider the lives at stake, the cost of an aerial tower and the damage that could occur to the equipment, the importance of training and practice becomes very clear.

GENERAL WARNING

DO NOT OPERATE THIS APPARATUS UNTIL YOU ARE:

- **THOROUGHLY FAMILIAR WITH THIS INSTRUCTION MANUAL.**
- **THOROUGHLY TRAINED IN THE OPERATION OF THIS APPARATUS.**
- **ABLE TO OPERATE THIS APPARATUS IN STRICT ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.**
- **ABLE TO OPERATE THIS APPARATUS IN ACCORDANCE WITH DEPARTMENTAL RULES AND REGULATIONS.**

NOTE: FAILURE TO DO SO COULD RESULT IN DAMAGE TO THIS APPARATUS, AND/OR RESULT IN INJURY OR DEATH TO PERSONS OPERATING, OR WORKING ON OR AROUND THIS APPARATUS.

AERIAL TOWER OPERATION

RATED CAPACITIES:

65' & 75' Aerials (built prior to August 18, 2006)

The rated capacity of the 65' and 75' aerials is 500 lbs. with or without water in the waterway, in any position of operation.

70' Platforms (SP70) (built prior to August 18, 2006)

The rated capacity of the 70' aerial platform is 500 lbs. with or water in the waterway, 750 lbs. without water in the waterway, in any position of operation.

75' Aerials(SA75) and 70' Platforms (SP70) (built after to August 18, 2006)

The rated capacity of the 70' aerial platform and 75' box boom is 750 lbs. with water in the waterway, 1000 lbs. without water in the waterway, in any position of operation.

75' Aerials(SL75)

The rated capacity of the 75' aerial ladder is 750 lbs. with water in the waterway, 1000 lbs. without water in the waterway, in any position of operation.

Do not exceed the rated capacities!

CAB SET-UP FOR AERIAL OPERATION

1. Spot the rig about 20 feet from the building when possible.
2. Set the parking brake and place the transmission in neutral.

STEPS FOR PLACING PTO IN GEAR

ENGAGE THE POWER TAKE-OFF (PTO) PLACING PTO IN GEAR

The PTO operates the hydraulic pump, which provides pressure to the hydraulic system.

NOTICE An electric switch located near the center of the cab dash panel activates the PTO. A pilot light will come on when the PTO switch is moved to the "in" position.

- A. Engine must be at idle R.P.M.
- B. Be sure there is at least 90 lbs. air pressure on truck air system.
- C. Truck must be at complete stop, parking brake set, and transmission in neutral.
- D. Move PTO switch on dash to "in" position. (Wait about 2 seconds.)



The cab controls are now set to operate the tower. The operator should move to the hydraulic system control compartment, located on the driver's side, at the first door, left of the pump panel.

If the fire pump is not in use, proceed to **AERIAL TOWER SET-UP** on page 12 of these instructions.

CAB SET-UP FOR PUMP OPERATION

NOTICE

See Fire Pump Manufacturer's Manual for more detailed information.

TO PLACE FIRE PUMP IN GEAR:

1. Truck must be stopped and parking brake set.
2. Truck transmission should be in "neutral" position.
3. Engine must be at idle R.P.M.
4. Move the pump shift lever from "road" position to "pump" position. Do this by pulling back on the lever. At the same time the pump shift is activated, the lock-up for the automatic transmission is also engaged. The pump shift lever holds the transmission in the pumping gear position.
5. Shift transmission to Drive position. Power from the engine is now being transferred to the pump drive gear and pump impellers are turning. Observe the illuminated green indicator light next to the shift lever. If the light is not lit, the pump is not engaged, and you need to repeat steps 1-5 and observe for pump engagement.
6. Leave transmission selector in "neutral" for the pump to be ready to operate without churning. For pump operations, put transmission selector in Drive.

SET UP FOR SIMULTANEOUS TOWER AND PUMP OPERATIONS

- 1 Follow STEPS FOR PLACING PTO IN GEAR on page 9.
- 2 Follow AERIAL TOWER SET-UP instructions on page 12.
- 3 Leave transmission selector in "neutral" for the pump to be ready to operate without churning.
- 4 Repeat steps 4 through 6 for placing pump in gear on this page.

When arriving at a structure fire or on occasion where the tower is not immediately needed, but the fire pump is being used, place the PTO in gear and deploy the ground stabilizers before placing the fire pump in gear. Then, if the need to use the tower arises while the fire pump is being used, the stabilizers can be set and the tower will be ready for immediate use. If the PTO is not engaged before the pump is set up, then slow the engine to idle before engaging PTO.

NOTICE

Attempting to place the PTO in gear with the pump in gear will result in serious damage to the PTO and transmission -- unless engine RPMs are at idle -- approximately 700 RPM.

AERIAL TOWER SET-UP

1. Leave transmission in neutral.
2. Set parking brake.
3. Engage PTO at engine idle.
4. Exit cab.
5. Place wheel chocks approximately 3" in front of and behind rear tires.
6. Pull out operator's step.
7. Set ground pads and stabilizers. Do this by pressing the "LOWER" control switch (*See figure 1*). This is located near the control box, on the vertical face of the compartment adjacent to the pump panel. Next, use the high speed until the jacks are all the way out and down. Then, set the pins in place and ensure that both locks are down.

 **DANGER**

Power lines should always be observed and avoided at all times.

 **WARNING**

This Aerial Device is rated for service in winds up to 30 mph sustained or 50 mph gusts.



Figure 1

The aerial is now ready for operation. The automatic jack locks should have engaged, and hydraulic power diverted to the aerial controls. (See figures 2 & 3).

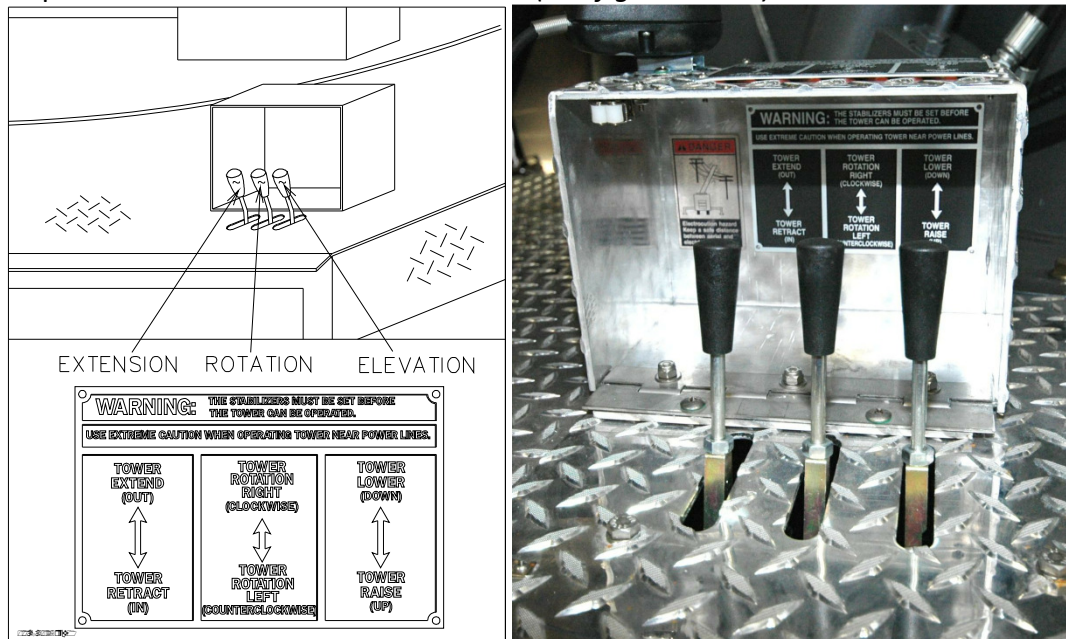


Figure 2



Figure 3

The aerial ladder must be operated with respect, discretion, and proper training. The aerial ladder should move on low speed when there is any danger, electric wires, buildings, at close operations, returning to the cradle, and during operation around the cab. When the aerial is returned to the cradle, remove jack pins and push the "Jack Release" switch. A hydraulic valve will transfer power from the aerial to the jacks, locking out the aerial ladder functions and allowing jack operation.

⚠ DANGER

Always place pads under stabilizers to ground the truck in the event the tower comes in contact with power lines. Failure to do so could result in serious injury or death.

⚠ DANGER

Operator must install safety pins and locks on stabilizers.

⚠ DANGER

Operator must always stand on the operator's step to help prevent operator from becoming the ground in the event tower comes in contact with power lines. Failure to do so could result in serious injury or death.

8. Switch ON the "Upper Power" and "Bucket Power" switches (if equipped) located on the pump panel.

All operating controls at the turntable are hydraulic.

All operating controls in the platforms are electric.

"Upper Power" switch controls lighting, intercom (if equipped) and rung alignment light (if equipped).

9. Verify with all personnel that the tower is ready to operate. When stabilizers and ground pads are properly set on stable ground, the tower is designed to operate at optimum operational height and horizontal reach with rated payload. Always operate the tower with precaution so it does not strike the cab or any other portion of the truck.

TOWER OPERATION

⚠ DANGER

Never operate the tower without first deploying the stabilizer jacks with proper ground pads beneath them.

⚠ DANGER

At all times, the ground operator must be at the controls, standing on the slide out step, for safe operation.

GROUND STABILIZERS

The ground stabilizers of the underslung design, consists of an outrigger with inner and outer tube and a down jack hydraulic cylinder. The inner tube extends out from the outer tube of the outrigger; this assembly is angled down to the ground by the jack cylinder, for a total span of 16 feet.

Operate the stabilizers by depressing the lower switch, located near the control box.

NOTICE

When operating jacks, the "high speed" switch should always be used to increase engine RPMs and to apply correct pressures on the stabilizers.

⚠ DANGER

Always place metal pads under stabilizers to ground the truck in the event the tower comes in contact with power lines. Failure to do so could result in serious injury or death.

RAISE/LOWER

When lifting the tower from the cradle, the first motion of the tower should be "Tower Raise". This should continue until the tower is well above the truck.

Raise the tower by pulling the right lever, located at the control box, outward.

Lower the tower by pushing the right lever, located at the control box, inward.

Controls in platforms (if equipped) are duplicates of lower controls.

⚠ DANGER

When raising the tower, extreme caution must be used near power lines. The operator must see the tower structure from base to tip to make sure the tower is clear.

NOTICE

Make sure the tower has cleared the truck body, cab, and lights before rotating. The recommended procedure for tower operation is a slow, steady movement of the control lever. This will produce a smooth tower operation.

CAUTION

Rapid movement of the control levers will result in rough jerking of the tower. This will create excessive loading on the tower structure. This kind of operation is unsafe and will lead to premature wear and possible structure failure.

The tower can be elevated from minus 4 degrees to plus 75 degrees from-horizontal while in any position that does not cause an interference with the body or cab.

EXTEND AND RETRACT

Extend the tower by pushing the left control lever, located at the control box, inward.

Retract the tower by pulling the left control lever, located at the control box, outward.

ROTATION

Rotate the tower to the left by pushing the center control lever, located at the control box, inward.

Rotate the tower to the right by pulling the center control lever, located at the control box, outward.

The tower can rotate a continuous 360 degrees either to the left or to the right.

HIGH SPEED CONTROL

A "High-Speed" switch is located on or adjacent to the pump panel. This switch increases the engine speed and hydraulic pressure at the same time. The speed of any operation of the tower can be increased with this switch. **CAUTION MUST BE TAKEN WHEN USING THIS "HIGH-SPEED" SWITCH.**

NOTICE Before engaging the "High-Speed" switch, the operations control lever must be in position. When coming off "High-Speed", release the switch, then release the control lever to complete movement. This will give a smooth and safe operation.

When extending the tower and using the "High-Speed" control, release the "High-Speed" switch before reaching maximum extension. Tower extension will stop at maximum extension of the tower. (There is no signal device for indicating full extension.)

When retracting the tower and using the "High-Speed" switch, the same procedure applies to the use of the "High-Speed" control. Make sure to release the "High-Speed" switch before reaching full retracted position.

The tower can rotate a continuous 360 degrees to the left or right. Use the "High-Speed" switch, if it is necessary to rotate the tower at a faster speed.

The rotation control lever must be engaged before engaging the "High-Speed" switch. When coming off "High-Speed", release the "High-Speed" switch before releasing the rotational control lever. This will give a smooth operation. **WHILE ROTATING THE TOWER, THE OPERATOR SHOULD NOT CHANGE DIRECTIONS BEFORE THE TOWER COMES TO A COMPLETE STOP!** If the operator accidentally changes rotation direction with the tower not coming to a complete stop, a built-in relief valve is provided to reduce the shock. However, in no way should this be an operational practice!

AUXILIARY HYDRAULIC POWER SWITCH

NOTICE The auxiliary hydraulic power switch is to be used only to place the ladder back into cradle and to raise the jacks - not to be used for normal operations.

The auxiliary hydraulic power switch is located inside the hydraulic compartment. Use the auxiliary hydraulic power switch if a main hydraulic pump fails in the tower or if the truck engine fails. The auxiliary power is an electric motor, operating from the truck battery system which operates the auxiliary hydraulic pump.

Operate the motor by activating the momentary auxiliary power switch.

All tower functions can be operated on auxiliary power.

CAUTION Prolonged operation could cause the motor to overheat. The operator should avoid overheating and burning out the motor. If the motor becomes hot, shut down and allow it to cool. Failure to do so could result in serious damage to the motor.

SAFETY INTERLOCK SYSTEM

The safety interlock system prevents operating the tower until the stabilizers are properly set. The system is an electric hydraulic locking device. When the stabilizers are properly set, hydraulic power is transferred to the aerial controls.

To operate, place the PTO in gear according to the instructions in the cab. To operate the aerial properly, pull out the step at the pump panel. Depress the "LOWER" switch. Use the "Hi-Speed" until the jacks are completely out and down. Set the pins.



The aerial is now ready for operation. The hydraulic transfer valve should have shifted from jack to aerial position, allowing the controls to operate the aerial ladder. The aerial ladder must move on low speed when there is any danger, electric wires, buildings, at close operations, returning to the cradle, and during operation around the cab. Return the aerial to the cradle, remove jack pins, and push the "Jack Release" switch. The hydraulic circuit will transfer, locking out the aerial ladder functions and allowing jack operation. The aerial ladder must be operated with respect, discretion, and proper training.

⚠ WARNING

The stabilizers must be visually checked by the operator or a designated person to make sure the stabilizers and pads are properly set and safety pins inserted.

INTERLOCK JACK RELEASE

The safety interlock system is provided with a "Jack Release" switch. (See figure 4)



Figure 4

⚠ DANGER

Never operate the tower unless the stabilizers and pads are properly set.

The "Jack Release" switch, when activated, transfers operation to the stabilizers. Use this switch only when operations are complete and ladder is back in cradle.

WATERWAY AND NOZZLE OPERATION AND USE

The waterway through which water from the pump is transferred to the nozzle is a three (3) or four (4) section telescopic aluminum device. It is located within the tower sections, mounted and cushioned to eliminate any undue stress or strain under tower operations conditions.

The waterway is fed from the pump through the main feed line. It comes up through the turntable and passes through a large, stainless steel flex tube which is directly attached to the waterway. Special packing gland seals are provided at the attachment location of each waterway section to assure constant alignment and eliminate wear to the tubes.

The feed line for the waterway is provided through a ball valve at the lower entrance of the water supply. This is to make sure no undue water surge is applied to the waterway.

A relief valve is installed in the waterway system to help prevent excessive pressure in the waterway. Should the operator retract the tower without opening the waterway drain, or should pump pressure exceed the capacity of the waterway, the relief valve will open. Do not exceed 250 PSI discharge pressure. The waterway drain should always be left open when tower is not being operated.

Maintenance is minor and is described in the section under lubrication.

NOTICE

Before retracting the tower, make sure the nozzle and the waterway drain are open to avoid compressing the water in the waterway. Failure to do so can result in serious damage to the waterway.

DRAINING OF WATERWAY AND NOZZLE

NOTICE

Waterway drain valve at pump panel must be carried in the open position when water tower is not being used.

PROCEDURE FOR DRAINING WATERWAY:

1. Open all nozzles at fly end of ladder.
2. Open waterway drain valve.
3. After all water has drained out, go to step #4.
4. Fully extend ladder.
5. Lower ladder off the side of truck at below grade angle.
6. Wait until water has drained completely from nozzles and drains at fly section.
7. Retract ladder and return to cradle.

NOTICE

These steps must be followed in the above order to completely drain waterway and all nozzles. This will prevent freezing in cold weather.

PLATFORM MOUNTING AND LEVELING SYSTEM

At all times, the platform must be maintained in a level position relative to the turntable. This is accomplished by a self-contained electrical system, eliminating any hydraulic lines up the tower. This system operates the hydraulic leveling motor. The pivot point of the platform is above the centerline of the platform, providing a pendulum effect. This reduces the energy required to level the platform. The system is electrically activated and is to be kept level during any function of the tower. The pendulum effect of the platform will keep the platform level. This is an exclusive safety feature of this tower.

MANUAL OVERRIDE: In case of Electric and/or Hydraulic Failure

If there is an electric or hydraulic failure, two (2) needle valves are located at the end of the boom on the right side. When these valves are open, the hydraulic cylinder will operate with the weight in the platform. This will keep the platform level.

OPTIONAL BREATHING AIR SYSTEM

A life support breathing system is installed on the aerial platform. This system has an air cylinder mounted in brackets on the tower base section, a shut-off valve, and a constant flow air regulator.

Air is piped from the regulator by a heavy duty air hose through an air reel, located in the base section of the tower to the platform.

In the platform, there are air connections available to connect fire department air mask respirators. Boxes are mounted on the platform to store masks.

Air to the connections can be regulated from the air supply cylinder by presetting the regulator at approximately 80 PSI. Once the air pressure is regulated, as required by the operator, turn the air on at the air cylinder valve to provide air to the platform. The air valve should always be turned off when not in use. Use of the air system should be determined by the personnel using the platform.

RETURN AERIAL TO TRAVEL POSITION

RETRACT THE TOWER

Retract the tower fully by pulling the left control lever, located at the control box, outward.

CAUTION

If the waterway has been used before retracting the tower, the nozzle and waterway drain must be open to avoid compressing the water in the waterway. Allow enough time for the waterway to drain before retracting the tower. Failure to do so can result in serious damage to the waterway.

ROTATE THE TOWER

To rotate the tower to the left, push the center control lever, located at the control box, inward. To rotate the tower to the right, pull the control lever, outward. To store the aerial, rotate the tower until it is properly aligned to lower into the cradle.

NOTICE

The trucks are equipped with an alignment light. This light is an amber light located at the left front corner of the hose bed. It will light when the tower is in position to come down directly in the middle of the support cradle.

Aerial towers are also equipped with alignment arrows. One arrow is affixed to the turntable and the other arrow is affixed to the treadplate deck. They are located behind the control box.

Rotate the tower until the points of both arrows align. The tower is now in position to lower into the support cradle.

LOWER THE TOWER

At engine idle - only.

After the tower is lowered into the cradle, continue to hold the control lever in the lower position for a few seconds. Then, release the lever to permit a pilot check valve in the hydraulic circuit to trip and lock at its preset pressure. This locks the tower in the cradle for travel.

REMOVE WHEEL CHOCKS

NOTICE

Always remove the wheel chocks before releasing the stabilizers. Failure to do so could result in wedging the chocks tightly against the tires making them unremovable. Remove safety pins on stabilizers.

RETRACT THE STABILIZERS

Remove jack pins.

Activate switch marked "Jack Release", located inside the hydraulic compartment.

Retract the stabilizers by depressing the "RAISE" switch, located near the control box. Release the "Jack Release" switch and activate "Hi-Speed" switch on pump panel until jacks are fully retracted.

Push the operator's step in and lock in place.

Turn the switches marked "Upper Power" and "Bucket Power" off.

Enter the cab and disengage the fire pump, if used.

1. Shift transmission to neutral.
2. Wait until speedometer registers "0" miles per hour.
3. Move pump shift lever from "pump" position to "road" position.
4. Disengage the PTO switch from "in" to "out" position. Make sure the red pilot light goes out.
5. Release the parking brake.
6. Place transmission in appropriate gear (Drive 1-4 or Reverse).

CAUTION

Before driving away, the operator should make a quick inspection around the truck to make sure all tools and appliances have been removed and stowed, compartment doors closed, and the vehicle is unobstructed. Operator must also check the four (4) warning lights above the windshield marked "Upper Power", "Jacks Down", "Cab Door Open", and "Compartment Open" to make sure they are not lighted.

WARNING

All personnel must be seated and seat belts fastened before unit is moved.

WARNING

Never back the truck unless a guide has been placed at the rear of the truck, giving clear signals to the operator. If the guide disappears from view, the movement must be stopped until the guide appears.

AERIAL TOWER LUBRICATION AND SERVICE

STABILIZERS

When the stabilizers are extended completely to the ground, an area of the inner sleeve becomes exposed. This exposed area also comes in contact with the inside surface of the outer tube. This area should be periodically coated with a light film of grease. Visually check safety pins and locks. Lubricate grease fittings on each jack cylinder, and air lock cylinders with air lubrication oil.

MAIN LIFT CYLINDERS

The main lift cylinders are located on each side of the main base section of the tower assembly. Each cylinder has two (2) lube points. One (1) lube point is on the rod end where the rod eye attaches to the side plate of the tower assembly. One (1) lube point is on the bottom end where the cylinder is attached to the turntable. At each point, a grease fitting is installed. These points should be lubricated with a good grade of multi-purpose grease every 25 hours of operation, or annually, whichever comes first.

PIVOT SHAFT BEARINGS

There are two (2) pivot shaft bearings located on top of the upper assembly side plates, one on each side, which rotate on the pivot shaft. The pivot shaft is permanently attached to the turntable side plates on the outside of the side plates. Grease fittings are installed on the pivot shaft bearings. These bearings need to be lubricated with a good grade, multi-purpose grease every 25 hours of operation, or annually, whichever comes first.

TURNTABLE BEARING

The bearing and drive gear assembly is located directly under the turntable. The entire turntable and tower assembly rotates on this bearing. This bearing is pre-lubricated at the factory with a multi-purpose grease. Grease fittings are provided on the inside of the bearing accessible through the top of the upper assembly. Lubrication should be done three (3) months after delivery, then annually. Use multi-purpose grease.

NOTICE

At this time, we recommend all bolts attaching the turntable to the bearing, and all bolts attaching the bearing to the main frame (where applicable) be checked for tightness. SEE TURNTABLE ATTACHMENTS, page 40.

ROTATION GEAR REDUCER

This device rotates the turntable and tower assembly. It is attached to the lower assembly, below the gear, on the left side of the assembly.

It is driven by a hydraulic motor, directly attached to the high speed worm gear shaft. No lubrication is required for the hydraulic motor. On the main gear case, there are three (3) plugs, located on the right hand outboard side. The top plug is the oil fill vent plug. The one on the side is the fill level plug. The bottom one is the drain plug.

Under normal tower operation conditions, the lube oil in this gear reducer needs to be changed three (3) months after the delivery date of the tower. Thereafter, lube oil needs to be changed every 12 months (average 4 hours per day operation). Never over fill the unit. Check oil level every three (3) months. Use a good grade of 140 weight gear lube oil. At the upper portion of the main gear case, there is a grease fitting. This fitting needs to be greased every 25 hours of operations, or annually, with a good grade of EP bearing grease.

There are three (3) plugs on the primary rotation gear housing. The one on top (1/4") is the filler-breather plug. The one on the side (1/4") is the lube level plug. The one in the bottom of the high speed gear housing (1/4") is the drain plug.

Maintain oil level to Oil Level plug. Check oil level every three (3) months. Use a good grade of 140 weight gear lube oil.

NOTICE

Access to the rotation gear reducer is gained by removing the inspection plate, located in the turntable stairway.

DRIVE GEARS

The drive pinion gear and the turntable bearing gear are lubricated with a special elastic lube, designed to endure the life of the unit.

TOWER EXTENSION/RETRACTION CYLINDER (Model SL75 only)

Located on each side of the ladder base section, is a cylinder which extends and retracts the ladder assembly. There are two points on each of these cylinders that require lubrication. One is at the base end, nearest the turntable, the other is at the tip end, where the rod eye attaches to the next section. These need to be lubricated two (2) times a year. Use multi-purpose grease. At each end of the cylinder, there are bolts attaching the cylinder to the tower. These

bolts need to be checked every three (3) months for tightness.

SHEAVES AND CABLES

There are sheaves and cables which are part of the tower extension/retraction system from the second section up. Each sheave has a bearing and requires periodic lubrication. In the sheave bearing pin, there is a grease fitting provided. Each sheave needs to be greased every 25 hours of service, or annually. A high grade chassis grease, designed for heavy duty service, is recommended.

When servicing the sheaves, the tower should be extended horizontally to maximum position and the cables wiped free of any dirt and/or grime with a slightly moist Naptha cloth. Then, lubricate with a thin film of oil. Oil on a cloth permits this to be done easily and adequately.



Stabilizers must be set before performing this operation.

EXTENSION SYSTEM

CABLE ADJUSTMENT PROCEDURE

Before beginning cable adjustment, be aware that this adjustment not only affects the tension of the cables, but also the position of the ladder sections. Follow the steps outlined below to maintain rung alignment throughout all sections as the cables are adjusted.

1. Set up aerial device according to the operator's manual. Rotate the ladder to one side of the apparatus and position the aerial so the cables below rung level can be serviced from the ground.
2. Assure the aerial slide areas and the waterway are clean and well-lubricated.
3. Inspect all cables for kinks, wear, and any signs of damage.
4. Extend the ladder at least 2/3 of full extension and stop on extend stroke when the rung alignment indicator lights.
5. Adjust the retract cables for excessive slack. Loosen the cable rod locknut and tighten the adjusting nuts, but do not tighten so much as to allow the metal spacers to contact the cable anchors. (See figure 5 below.) This would put tension on both the extend and retract cables at the same time, possibly causing excessive cable stretch or damage to other components. Re-tighten the locknut.

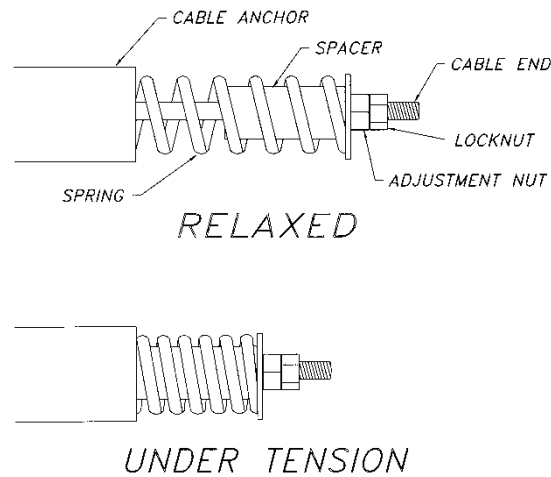


Figure 5

6. Extend and retract the ladder a few times; then with the ladder extended at least 2/3 of full extension, retract the ladder and stop on retract stroke when the rung alignment lights.
7. Adjust the extend cables as outlined in step 5 above. Remember there will always be some slack in the cables not doing the work of the function performed. (i.e., there will be slack in the retract cables when extending the ladder.)
8. Note the rung alignment indicator is mounted on the first ladder section and senses the position of the second section rungs. When the rung alignment indicator is illuminated, these rungs will always be aligned. Higher aerial sections, however, rely on proper cable adjustment to maintain alignment. Note the position of the rungs on the third section before beginning cable adjustment on this section. If the rungs are running behind the second section rungs, the extend cables need more tightening. If the rungs are ahead of the second section rungs, the retract cables need tightening. If the cables have already been adjusted for slack, one set or the other may need to be loosened to put the ladder section into proper position. Be sure to check the cables for binding; at no time should both the extend and retract cable spacers be against the anchors.
9. Operate the ladder throughout the extend and retract strokes. Stop the ladder when the rung alignment indicator illuminates. Recheck the cable adjustment; then check the position of the third ladder section rungs. Readjust as necessary. Be sure the cable tension and rung position is satisfactory before moving on to the fourth ladder section. If the third section cables are readjusted after the fourth section cables are adjusted, the rung position of the fourth section will be affected.
10. When adjustment is complete, operate the ladder throughout the extend and retract strokes at different angles of elevation. The ladder sections should move smoothly, with all sections moving simultaneously. Sections should not drift back when the ladder is elevated. At no time should the sections collide while retracting. Stop the ladder at the rung alignment point and recheck adjustment.
11. It is important to remember there will always be a certain amount of slack in the cables not pulling the ladder sections. At high angles of elevation, however, the extend cables will have always have tension, even while retracting the ladder. This is due to the fact that the weight

of the sections being pulled down by gravity is supported by the extend cables. Because of this, the extend cables are more likely to experience stretching and require adjustment. The retract cables are actually pulling only at elevations near or below horizontal.

SLIDE BLOCKS

These devices are attached to the ends of the tower at both the upper and lower positions on each section. There are 24 slide blocks in the tower. They support each section of the tower so no metal-to-metal contact occurs.

The material is "UHMW POLYETHYLENE" compound. It is designed to withstand heavy loading. Lubrication is required in the path in which the slide blocks travel on each section. The slide block paths are lubricated at the factory with McLube dry lubricant. The slide block paths lubrication needs to be checked every 25 hours of operation, or annually. Any bare spots should be cleaned and McLube reapplied.

There are exceptions to this schedule that should be considered. Should the tower be operated at a fire and exposed to excessive dirt and grime, it is recommended that the slide block travel paths be cleaned, and the lubricant be reapplied.

WATERWAY AND SEALS

This is the telescopic tube device inside the tower which carries the water to the tower nozzle. It has seals which ride on the internal honed surface of the tubes. These seals are made with an impregnated lubricant. In cases when the tower is operated many times without pumping water through the waterway, it is necessary to provide additional lubrication to the seals through the waterway. The procedure is as follows:

DANGER

Never extend or move the tower in any way while persons are on the tower. The person oiling the waterway should wear a life belt while on the tower.

DANGER

Stabilizers must be set before performing this operation.

This service should be done following any extensive use of the tower without pumping water, or monthly. The outsides of the tubes are provided with nylon bearing collar assemblies built into the mounting collar of each section. The outside of these tubes should be kept free of dirt and grime to protect the bearing collars.

Should the tower be used under extremely dirty conditions, the waterway should be wiped off promptly with Naptha or similar solvent to assure that the surface of the tubes are free of abrasive particles.

Procedure: (Models SP70, SA75 & SL75 – black waterways)

1. Set up truck for tower operation.
2. Raise and rotate ladder off the side of truck.
3. Fully extend ladder out.
4. Use a clean towel and wipe off the outer sections of the waterway tubes.
5. Apply Dexron III Transmission Oil to a clean towel and wipe the oil on the entire length of each waterway tube, except for the main outside large tube.
6. Retract ladder fully and return ladder to cradle.

WATERWAY NOZZLE

NOTICE

Refer to Nozzle Manufacturer's instructions for more detailed information.

The gears must be kept greased at all times. Low-Temp Lubriplate grease should be applied to the grease fittings annually. Grease should be applied until visible through the swivel plugs.

PLATFORM MOUNTING AND LEVELING SYSTEM

The platform is suspended in the yoke, anchored on each side with special self-alignment bearings and high tensile steel bolts. The bolts holding the bucket to the yoke have special locking devices to assure positive safe operation.

The platform is maintained in a level position relative to the turntable at all times. This is accomplished by a self-contained hydraulic system, eliminating any hydraulic lines up the tower.

To properly check hydraulic fluid level in the bucket leveling system, raise the ladder to full elevation. Shut off the upper power switch. Lower the ladder to horizontal position. Remove vent plug on reservoir tank and check, add if needed Dexron III (the hydraulic fluid). Raise the ladder, turn on the "Upper Power Switch" and let the bucket level.

This system operates two (2) hydraulic cylinders which are attached to the platform supporting yoke and to the platform directly below the supporting pivot point of the platform. The attached pivot point of the platform is above the center line of the platform, providing a pendulum effect, reducing extreme amounts of energy required to level the platform. The system is electrically activated and kept level during any function of the tower. A manual emergency override is provided in the leveling system. Should the leveling system fail for any reason, two valves are located at the end of the boom on the yoke side plate directly behind the platform. By opening these valves, fluid is permitted to flow freely from one side of the leveling cylinder piston to the other. The weight in the platform and the pendulum effect of the

platform will keep the platform level. This is an exclusive safety feature of this tower.

HYDRAULIC OIL TANK

The tank, located in under the left side rear cab entrance, has a capacity of 32 gallons. The hydraulic oil furnished in your aerial tower hydraulic system is filtered **Dexron III** hydraulic oil. Maintain the oil level to the mark on the dipstick attached to the tank cap. Ensure the new hydraulic fluid is filtered to ISO code 22/18/13.

⚠ CAUTION When checking or adding oil, make sure all hydraulic systems are at rest (retracted). Failure to do so will result in overfilling the system.

The hydraulic oil filters should be changed after the first three (3) months of service and changed annually thereafter.

This is done as follows:

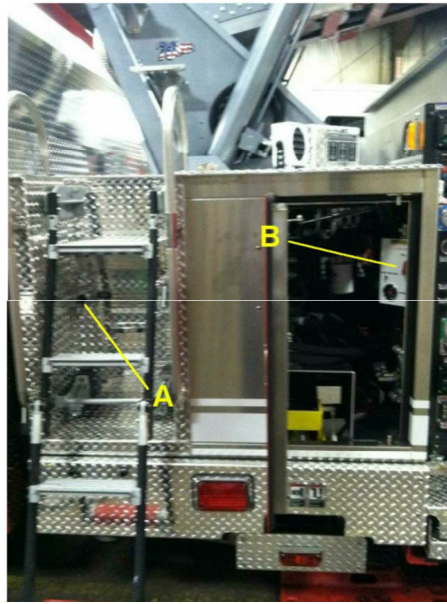
1. Shut off oil to filter at tank valve.
2. Remove the filter.
3. Inspect oil in the filter. Do this by using a piece of clear glass, a white cloth or piece of paper, and pouring some of the oil in the filter onto it. This way any dirt, filings, and moisture will be observed.
4. Replace the filter.

⚠ CAUTION There are three filters in the hydraulic system, one located in the reservoir lid (6 micron), one in the high pressure portion of the system (6 micron), and one at the fill location (3 micron). Each must be replaced in kind. Failure to do so could result in damage to the hydraulic system or cause poor operation of the tower.

5. After replacing the filter, turn the shutoff valves on.
6. Run the hydraulic system for 1 to 2 minutes to circulate oil through the filter.
7. Check the oil level and add oil to the proper level, if required.

NOTICE All hydraulic cylinders and actuators, except cab lift, must be in the retracted position (i.e.: travel position)

1. Locate the TOFU suction hose supplied with the vehicle, the Hydraulic Tank Fill port (A), and the Hydraulic Tank Fill switch (B).



2. Raise the cab and locate the Fill Level Dip Stick on top of the Hydraulic Fluid Reservoir, which is located behind the driver's side front tire.



3. Check the current oil level. Proceed only if it is below the full level (line on dip stick). If it is at, or above the full mark, the system is full. Replace the dip stick and return the cab to travel position.



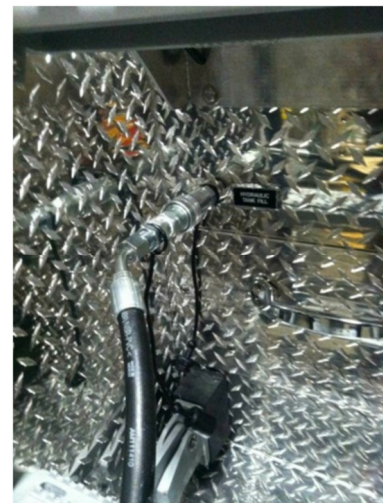
4. Remove the rubber Hydraulic Fill Port plug; by pushing in the quick connect lock ring, and pulling the plug out of the port.



5. Remove the plug from the inlet side of the suction hose.



6. Insert the quick connect end of the suction hose into the fill port.



7. Connect or submerge the inlet side of the suction hose to/into a container of Dexron III hydraulic fluid.



8. Lift the red safety cover over the Hydraulic Tank Fill switch, and move the switch to the up position.

9. Activate the Aux. Motor switch for 30 seconds. This will begin to draw approximately ½ gallon fluid from the container.

10. Check the fluid level in the reservoir.

11. If the fluid level is below the full level, repeat steps 9 and 10. Adjusting the time period as necessary. CAUTION: Do not run the Aux. Motor for more than 10 minutes



12. When the fluid level reaches the full level (approximately 2" from the top); push the Hydraulic Tank Fill switch red safety cover down. This will turn the switch off.

13. Remove the suction hose from the Hydraulic Tank Fill port, and securely replace the rubber plug.

14. Drain the remaining fluid in the suction hose back into the fluid source, and replace the metal plug.



15. Return the cab to the stowed position.

High Pressure Filtration System

SP70, SL75 and SA75 fitted with KFS4596 reservoir assembly:

The return filter is fitted with a by-pass indicator. Change this filter if the By-Pass indicator is going into the red. This must be observed when the unit is in operation. With the unit fully set up at high idle observe the by-pass indicator when running retract and lower at the same time at high idle. This is the highest flow rate the filter will see. Otherwise change this filter after the 1st 50 hours of operation and 250 hours thereafter.

Replace with MP Filtri original equipment element # CSG100A06A. The KFS4596-C reservoir assembly is fitted with a Dipstick. This reservoir is full with all stabilizers and the aerial stowed at 2-3" from the top of the tank. Hydraulic fluid should be replaced every 500 hours of operation or one year of operation, whichever comes first. Ensure the new hydraulic fluid is filtered to ISO code 22/18/13. New oil from the refinery or oil distributor has not been filtered to this ISO code, it is typically 24/22/20.

MAINTENANCE OF STRUCTURE

ALUMINUM TOWER STRUCTURE

The tower structure members are #6061-T6 aluminum alloy extrusion. This alloy is resistant to corrosion and requires little maintenance. Periodic washing with clear water only is recommended. Use mineral spirits for removal of tar, oil and smoke film. If a brighter appearance is desired, use any quality automotive polish, a mag and aluminum wheel cleaner, or a Scotch-brite pad.

 **Do not use any alkylne (base) polishes.**

TURNTABLE ATTACHMENTS

The bolts attaching the turntable assembly to the rotation bearing are 5/8-11 NC X 2" long-grade 8. They are special bolts with self-locking threads. Should replacement be necessary, they must be replaced with an equivalent bolt (contact Sutphen Towers, Inc. for detailed requirements).

There are 24 bolts on the turntable. These bolts have a SAE hardened washer and are factory-installed to torque of 200-210 ft. lbs. This torque should be checked every three (3) months. Any indication of loosening or bolt failure should be reported to Sutphen Towers, Inc. for evaluation and disposition.

There are 30 bolts attaching the rotation bearing to the support structure. They are 5/8-11 NC

X 4 1/2" long-grade 8 with an SAE hardened washer under the head and a grade "C" lock nut. These assemblies are factory-installed to a torque of 200-210 ft. lbs. and should be checked every three (3) months. The heads of these bolts are accessible through two 3" diameter holes in the turntable plate.

The turntable must be rotated for access to check all bolts. Any indication of loosening or bolt failure should be reported to Sutphen Towers, Inc. for evaluation and disposition.

▲ DANGER

The person operating the turntable for bolt alignment must make sure all persons and tools are free and clear before rotating turntable.

ATTACHMENT OF SUPPORT STRUCTURE TO TRUCK FRAME

Your vehicle was assembled with one of two methods of attaching the aerial support structure to the chassis.

Method 1: Threaded Bolts

There are eight (8) bolt assemblies on each side of the tower support structure, four (4) front and four (4) rear each side. These sixteen (16) assemblies are 3/4-10 X 2 1/2" long-grade 8 flange bolts with grade "C" lock nuts. The assemblies are factory-installed to a torque of 300-325 ft. lbs. on the nut and should be checked every three (3) months. Any indication of loosening or bolt failure should be reported to Sutphen Towers, Inc. for evaluation and disposition.

Method 2: Huck Fasteners

There are twelve (12) fasteners on each side of the aerial support structure, six (6) front and six (6) rear each side. These twenty-four (24) assemblies are 16mm Huck Bobtail Lockbolts. These fasteners are factory installed with specialized equipment, and do not require retorquing. They should be inspected every three months. Any indication of loosening or bolt failure should be reported to Sutphen Towers, Inc. for evaluation and disposition.

NOTICE

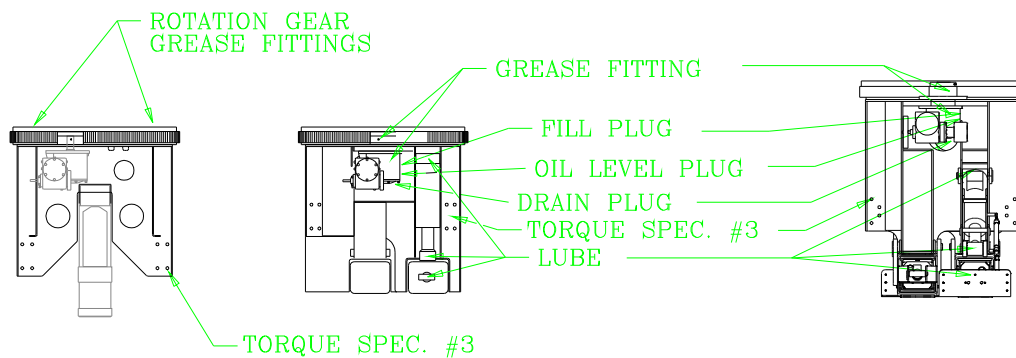
Sutphen recommends that once a week the ladder be raised to full elevation, full extension, and rotated 360 degrees in both directions.

AERIAL TOWER LUBRICATION AND MAINTENANCE SCHEDULE				
LUBRICATION POINTS	LUBRICANT	INTERVAL	MONTHLY	ANNUALLY
STABILIZERS	Multi-Purpose Grease	AS NEEDED OR		X
MAIN LIFT CYLINDER	Multi-Purpose Grease	25 OPERATING HOURS OR		X
PIVOT SHAFT BEARING	Multi-Purpose Grease	25 OPERATING HOURS OR		X
TURNTABLE BEARING	Multi-Purpose Grease	FIRST 3 MO. THEN		X
DRIVE GEAR	None Required			
ROTATION GEAR	140 wt. Gear Oil	AS NEEDED OR		X
EXTENSION-RETRACTION CYLINDER(S)	Multi-Purpose Grease (SL75 only)	EVERY 6 MONTHS OR		X
OUTRIGGER PINS	Multi-Purpose Grease		X	X
SHEAVES AND CABLES	Multi-Purpose Grease	25 OPERATING HOURS OR		X
SLIDE BLOCKS	McLube	25 OPERATING HOURS OR	X	X
WATERWAY AND SEALS	30 wt. Non-Detergent Motor Oil/Dextron III		X	
WATERWAY NOZZLE	Multi-Purpose Grease			X
PLATFORM POWER CABLE	Dow #4 Silicone Grease	AS NEEDED OR		X
LEVELING SYSTEM	Dextron III			X
HYDRAULIC OIL	Dextron III	ADD AS NEEDED		2 YRS.
HYDRAULIC OIL FILTER(S)	None Required	CHANGE AT 50 OPERATING HOURS or FIRST 3 MONTHS (whichever comes first) THEN		X

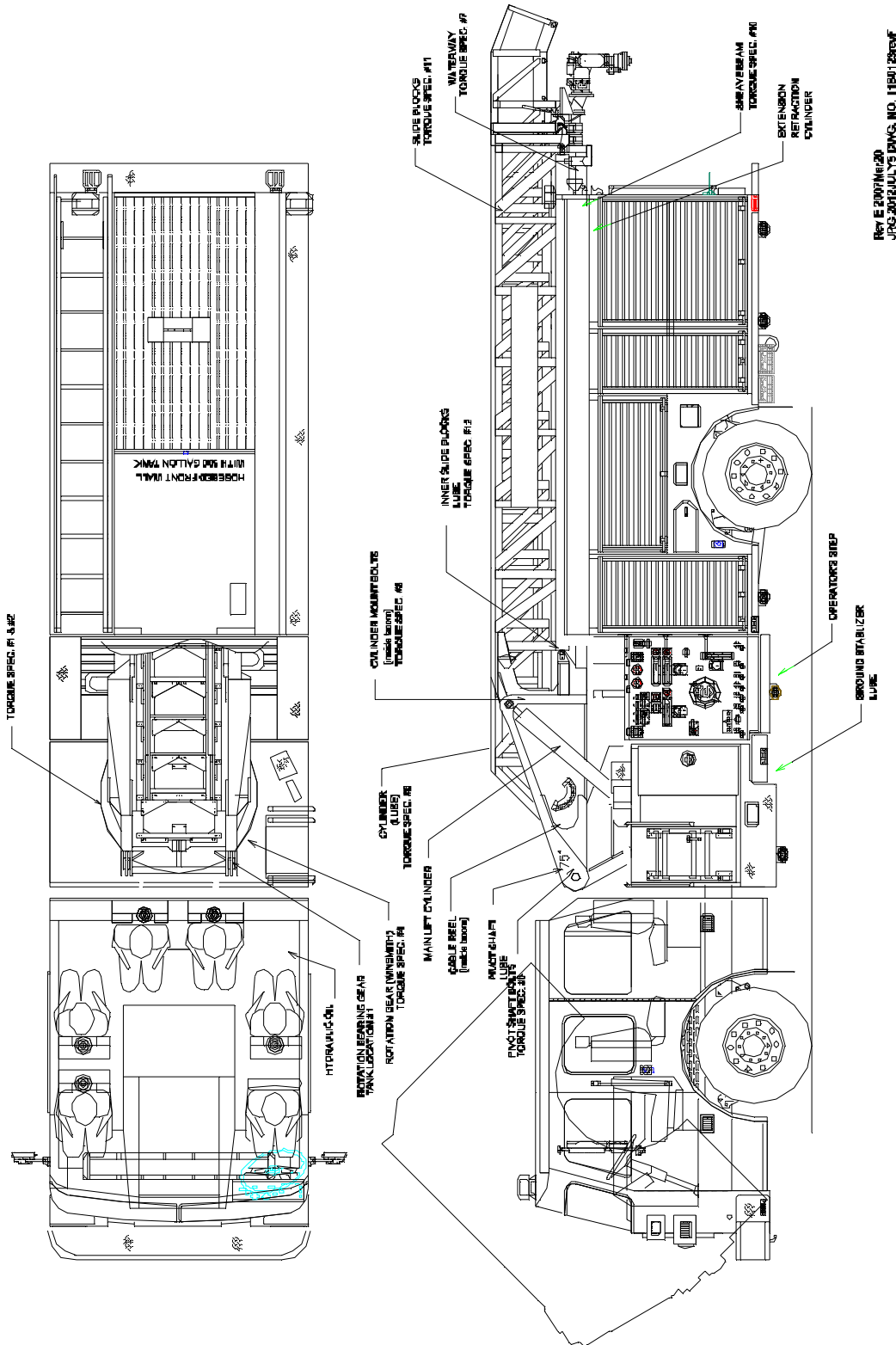
TORQUE SPECIFICATIONS

ITEM	TORQUE	INTERVAL	MONTHLY	ANNUALLY
#1. TURNTABLE TO ROTATION BEARING	200 FT. LBS.	FIRST 3 MO. THEN		X
#2. ROTATION BEARING TO SUPPORT STRUCTURE	200 FT. LBS.	FIRST 3 MO. THEN		X
#3. LOWER ASSEMBLY SIDE PLATE TO TRUCK FRAME (where applicable)	300 FT. LBS.	FIRST 3 MO. THEN		X
#4. ROTATION GEAR MOUNTING (WINSMITH BOLTS)	100 FT. LBS.	FIRST 3 MO. THEN		X
#5. YOKE TO LADDER BOLTS (PLATFORM ONLY)	25 FT. LBS.	FIRST 3 MO. THEN		X
#6. PIVOT SHAFT BEARING BOLTS	55 FT. LBS.	FIRST 3 MO. THEN		X
#7. WATERWAY MOUNT BOLTS	TIGHT	FIRST 3 MO. THEN		X
#8. CYLINDER MOUNT BOLTS	35 FT. LBS.	FIRST 3 MO. THEN		X
#9. CABLE ADJUSTMENTS	-----	FIRST 3 MO. THEN	X	
#10. SHEAVE BEAM BOLTS	35 FT. LBS.	FIRST 3 MO. THEN		X
#11. SLIDE BLOCK BOLTS	SNUG	FIRST 3 MO. THEN		X

LUBE POINTS
LADDER TO TRUCK FRAME
LOWER ASSEMBLY

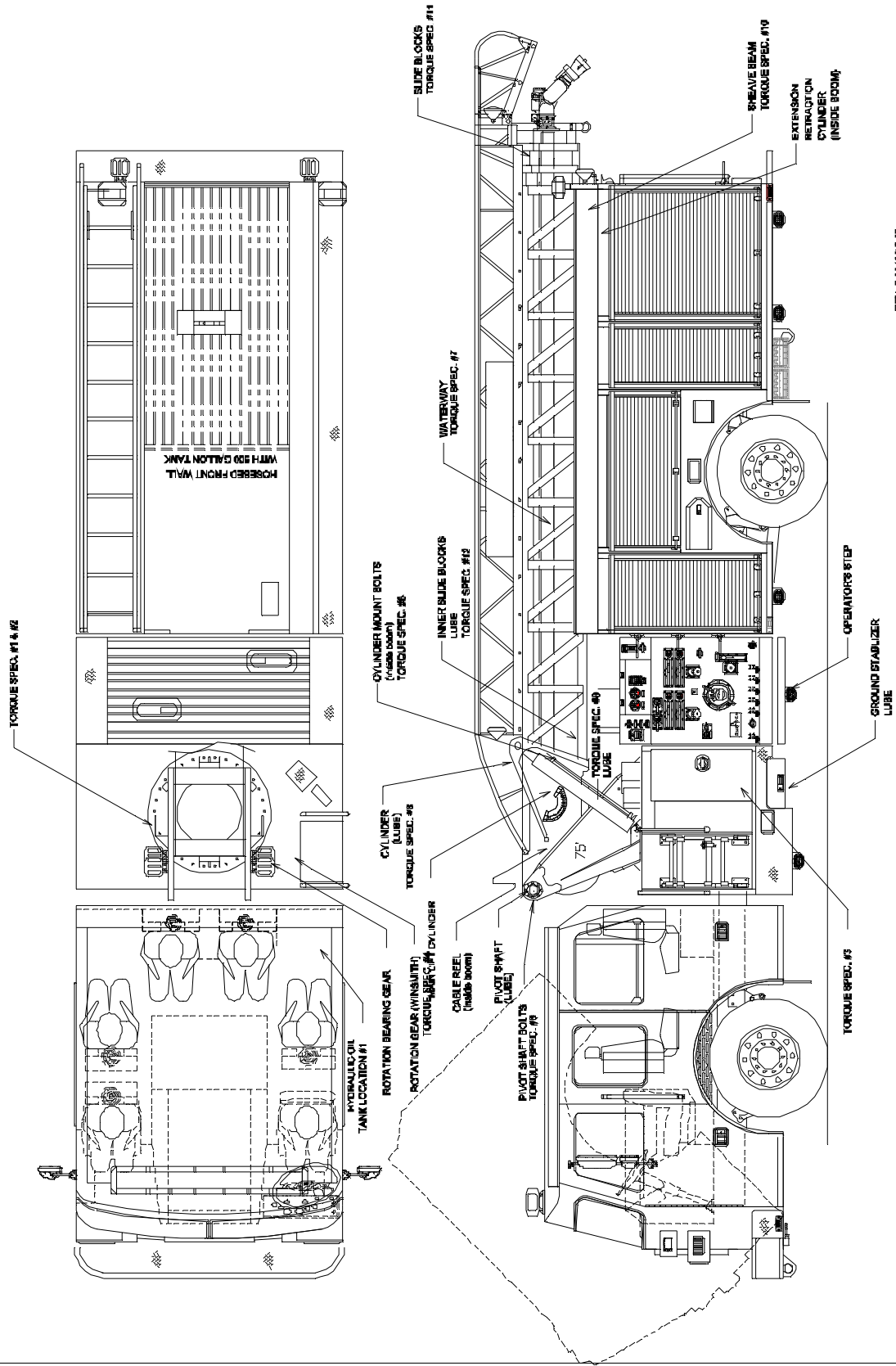


LUBRICATION AND TORQUE POINTS



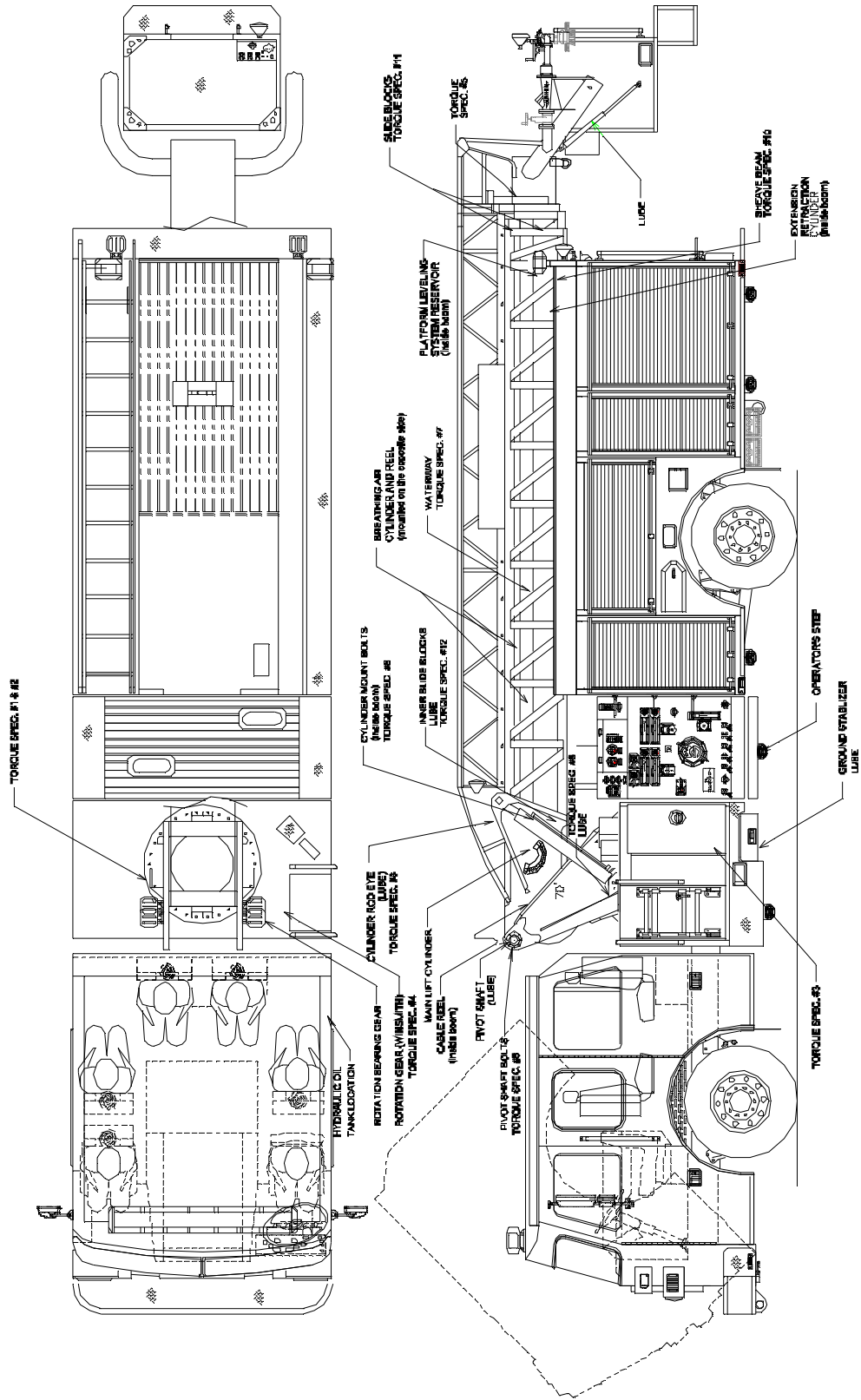
REV. E 2007/06/20
JRS 2012/01/15 DWG. NO. 11801 2506W

LUBRICATION AND TORQUE POINTS



REV. E 2012 JUL 05
JRG 2001NOV21 DWG. NO. 11 B00123a

LUBRICATION AND TORQUE POINTS



REV. 250506V14
JRG 2001NOV25 DWG. NO. 11 B00121a

Warning/ Danger/ Caution Labels List

Tag 38-1	Horizontal Fumes Caution	Tag 17	Avoid Electrocution Danger
Tag 382	Pressurized Inlets Warning	Tag 18	Pinch Point Caution
Tag 385	Jump Stud	Tag 57A	Seated & Belted Warning
Tag 395C	Pump Overheat Procedure	Tag 58	Traction Warning
Tag 405	Power Line Down	Tag 59	Fan Warning
Tag 406	Manual Override Outrigger Controls	Tag 60	Close Crosslay Cover Warning
Tag 37	Enclosed Seats Warning	Tag 66	Stand Clear of Outrigger Warning
Tag 370	Platform Equipment	Tag 449B	Water Tank Refill Caution
Tag 371	Drain Yoke Caution	Tag 450B	Pressure Governor RPM Warning
Tag 375	Set Rear Jacks Caution	Tag 452	Generator PTO
Tag 38	Fumes Caution	Tag 454B	Generator Wattage Caution
Tag 381	ABS Code Switch	Tag 499	Sutphen Logo
Tag 326	Aerial Rappel Warning	Tag 55	Battery Safety Precaution
Tag 327	Leveling Override Instruction	Tag 56	Explosion Warning
Tag 328	Open Valves	Tag 439	Install Safety Pin Label-Vertical
Tag 36	Fire Caution	Tag 440	Equipment Weight Limit
Tag 365	Vehicle Capacity & Height Warning	Tag 441	Manual Override Outrigger Controls (SPH)
Tag 368	Engage PTO Instruction	Tag 442B	Lifting Eye Warning
Tag 282	Stabilizer Interlock System	Tag 446	Lifting Eye Capacity
Tag 310	Computer Code Switch	Tag 448	Differential Lock Engagement
Tag 322	Lowering Cab Warning	Tag 433	Power Source Specs.
Tag 323A	Cab Safety Precautions	Tag 434B	Front Suction Elbow Caution
Tag 324	Cab Tilt	Tag 437	Ladder Rack Up/Down
Tag 325	Cab Tilt Latch	Tag 438	Waterway Valve Override
Tag 19	Stand Clear Crushing Injury Warning	Tag 417	Engage Generator Instruction
Tag 20	Aerial Electrocution Danger	Tag 427B	Bumper Warning
Tag 21B	Lifting Eye Warning	Tag 428	Pump Valve Handle Warning
Tag 22	Climb Boom Danger	Tag 430	Sutphen Towers Pump Data
Tag 23	Aerial Data	Tag 431	Chassis Data
Tag 281	Tire Chains Instruction	Tag 432	Fluid Data
Tag 455	Ladder Belt Tie-Off Point Warning	Tag 407B	Turntable Area Instruction
Tag 10	Alignment Light	Tag 408B	Down to Lock
Tag 15	Aerial Modification Warning	Tag 410	Do Not Walk Warning
Tag 16	Oil Caution	Tag 414	Install Safety Pins
		Tag 416	Safety Chain Fastened Warning



Sutphen Tag 38-1-A
IC Assembly P/N 3000587-0106
IC Label P/N 3000588-0106
IC Bezel P/N 3000586
Assembly, Size D Message Bezel with Horizontal Fumes Caution Label

TAG 38-1



Sutphen Tag 382
IC Assembly P/N 3000587-0009
IC Label P/N 3000588-0009
IC Bezel P/N 3000586
Assembly, Size D Message Bezel with Pressurized Inlets Warning Label

TAG 382



Sutphen Tag 385
IC Label P/N 3001294-0001
Jump Stud Label
50% Scale

TAG 385



Sutphen Tag 395-C
IC Assembly P/N 3000587-0020
IC Label P/N 3000588-0020
IC Bezel P/N 3000586
Assembly, Size D Message Bezel with Pump Overheat Procedure Label

TAG 395C



Sutphen Tag 405-A
IC Label P/N 3001033-0002
Power Line Danger Label
50% Scale

TAG 405



Sutphen Tag 406-A
IC Label P/N 3001035-0001
Manual Override Outrigger Controls Label
50% Scale

TAG 406



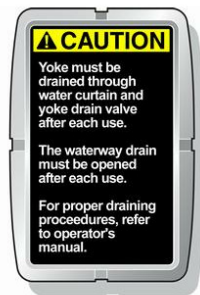
Sutphen Tag 37-A
 IC Assembly P/N 3000587-0010
 IC Label P/N 3000588-0010
 IC Bezel P/N 3000586
 Assembly, Size D Message Bezel with Enclosed Seats Warning Label

TAG 37

All equipment in the platform must be mounted in a holder. The total weight of equipment should not exceed 80 lbs.

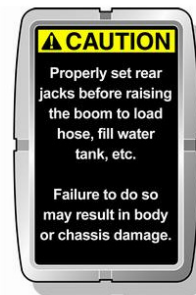
Sutphen Tag 370
 IC Label P/N 3001036-0001
 Platform Equipment Label

TAG 370



Sutphen Tag 371
 IC Assembly P/N 3000587-0049
 IC Label P/N 3000588-0049
 IC Bezel P/N 3000586
 Assembly, Size D Message Bezel with Drain Yoke Caution Label

TAG 371



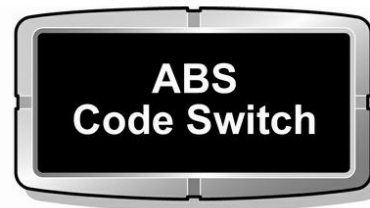
Sutphen Tag 375
 IC Assembly P/N 3000587-0024
 IC Label P/N 3000588-0024
 IC Bezel P/N 3000586
 Assembly, Size D Message Bezel with Set Rear Jacks Caution Label

TAG 375



Sutphen Tag 38
 IC Assembly P/N 3000587-0019
 IC Label P/N 3000588-0019
 IC Bezel P/N 3000586
 Assembly, Size D Message Bezel with Fumes Caution Label

TAG 38



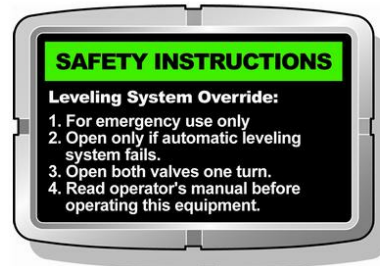
Sutphen Tag 381 -A
 IC Assembly P/N 3000582-0002
 IC Label P/N 3000584-0002
 IC Bezel P/N 3000583
 Assembly, Size C Message Bezel with ABS Code Switch Label

TAG 381



Sutphen Tag 326-A
IC Label P/N 3001033-0001
Aerial Rappell Warning Label
50% Scale

TAG 326



Sutphen Tag 327
IC Assembly P/N 3000587-0031
IC Label P/N 3000588-0031
IC Bezel P/N 3000586
Assembly, Size D Message Bezel with
Leveling Override Instruction Label

TAG 327



Sutphen Tag 328
IC Assembly P/N 3000587-0028
IC Label P/N 3000588-0028
IC Bezel P/N 3000586
Assembly, Size D Message Bezel with
Open Valves Fall Hazard Danger Label

TAG 328



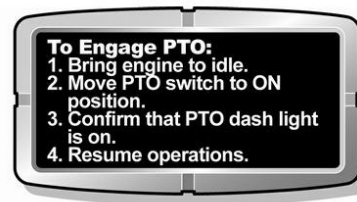
Sutphen Tag 36-A
IC Assembly P/N 3000587-0018
IC Label P/N 3000588-0018
IC Bezel P/N 3000586
Assembly, Size D Message Bezel with
Fire Caution Label

TAG 36



Sutphen Tag 365
IC Assembly P/N 3000587-0016
IC Label P/N 3000588-0016
IC Bezel P/N 3000586
Assembly, Size D Message Bezel with
Vehicle Capacity and Height Warning Label

TAG 365



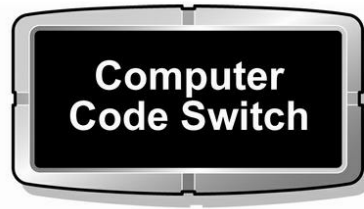
Sutphen Tag 368
IC Assembly P/N 3000582-0005
IC Label P/N 3000584-0005
IC Bezel P/N 3000583
Assembly, Size C Message Bezel with
Engage PTO Instruction Label

TAG 368



Sutphen Tag 282
IC Label P/N 3001037-0001
Stabilizer Interlock System Label

TAG 282



Sutphen Tag 310
IC Assembly P/N 3000582-0003
IC Label P/N 3000584-0003
IC Bezel P/N 3000583
Assembly, Size C Message Bezel with Computer Code Switch Label

TAG 310



Sutphen Tag 322-A
IC Assembly P/N 3000587-0004
IC Label P/N 3000588-0004
IC Bezel P/N 3000586
Assembly, Size D Message Bezel with Lowering Cab Warning Label

TAG 322



Sutphen Tag 323A
IC Assembly P/N 3000573-0001
IC Label P/N 3000575-0001
IC Bezel P/N 3000574
Assembly, Size B Message Bezel with Cab Safety Precautions Label

TAG 323A



Sutphen Tag 324
IC Assembly P/N 3000582-0001
IC Label P/N 3000584-0001
IC Bezel P/N 3000583
Assembly, Size C Message Bezel with Cab Tilt Label

TAG 324



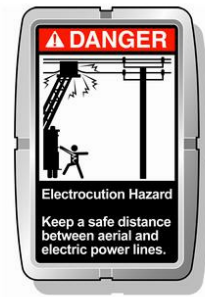
Sutphen Tag 325-A
IC Assembly P/N 3000582-0004
IC Label P/N 3000584-0004
IC Bezel P/N 3000583
Assembly, Size C Message Bezel with Cab Tilt Latch Label

TAG 325



Sutphen Tag 19-A
 IC Assembly P/N 3000587-0002
 IC Label P/N 3000588-0002
 IC Bezel P/N 3000586
 Assembly, Size D Message Bezel with
 Stand Clear Crushing Injury Warning Label

TAG 19



Sutphen Tag 20
 IC Assembly P/N 3000587-0026
 IC Label P/N 3000588-0026
 IC Bezel P/N 3000586
 Assembly, Size D Message Bezel with
 Aerial Electrocution Danger Label

TAG 20



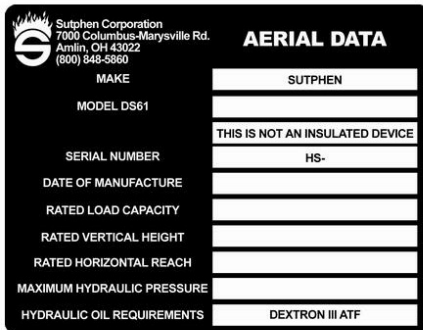
Sutphen Tag 21-B
 IC Label P/N 3001032-0001
 Lifting Eye Warning Label

TAG 21B



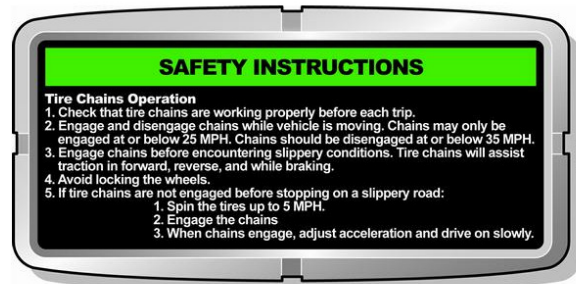
Sutphen Tag 22
 IC Assembly P/N 3000587-0027
 IC Label P/N 3000588-0027
 IC Bezel P/N 3000586
 Assembly, Size D Message Bezel with
 Climb Boom Danger Label

TAG 22



Sutphen Tag 23
 IC Label P/N 3001025-0001
 Aerial Data Label

TAG 23



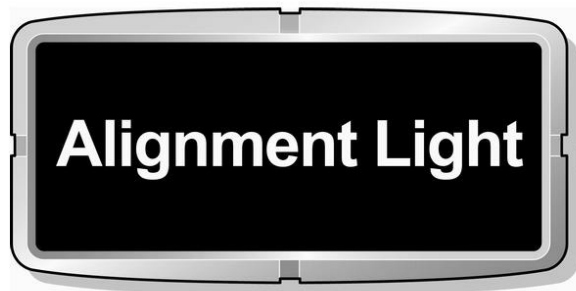
Sutphen Tag No. 281
 IC Assembly P/N 3000573-0002
 IC Label P/N 3000575-0002
 IC Bezel P/N 3000574
 Assembly, Size B Message Bezel with Tire Chains Instruction Label

TAG 281



Sutphen Tag No. 455-A
IC Label P/N 3001525-0001
Ladder Belt Tie-Off Point Warning Label

TAG 455



Sutphen Tag 10
IC Assembly P/N 3000573-0003
IC Label P/N 3000575-0003
IC Bezel P/N 3000574
Assembly, Size B Message Bezel with Alignment Light Label

TAG 10



Sutphen Tag 15-A
IC Assembly P/N 3000587-0017
IC Label P/N 3000588-0017
IC Bezel P/N 3000586
Assembly, Size D Message Bezel with Aerial Modification Warning Label

TAG 15



Sutphen Tag 16
IC Assembly P/N 3000587-0022
IC Label P/N 3000588-0022
IC Bezel P/N 3000586
Assembly, Size D Message Bezel with Oil Caution Label

TAG 16



Sutphen Tag 17
IC Assembly P/N 3000587-0025
IC Label P/N 3000588-0025
IC Bezel P/N 3000586
Assembly, Size D Message Bezel with Avoid Electrocution Danger Label

TAG 17



Sutphen Tag 18-A
IC Assembly P/N 3000587-0021
IC Label P/N 3000588-0021
IC Bezel P/N 3000586
Assembly, Size D Message Bezel with Pinch Point Caution Label

TAG 18



Sutphen Tag 57-A
 IC Assembly P/N 3000587-0001
 IC Label P/N 3000588-0001
 IC Bezel P/N 3000586
 Assembly, Size D Message Bezel with Seated and Belted Warning Label

TAG 57A



Sutphen Tag 58
 IC Assembly P/N 3000587-0012
 IC Label P/N 3000588-0012
 IC Bezel P/N 3000586
 Assembly, Size D Message Bezel with Traction Warning Label

TAG 58



Sutphen Tag 59-A
 IC Assembly P/N 3000587-0006
 IC Label P/N 3000588-0006
 IC Bezel P/N 3000586
 Assembly, Size D Message Bezel with Fan Warning Label

TAG 59



Sutphen Tag 60-A
 IC Assembly P/N 3000587-0007
 IC Label P/N 3000588-0007
 IC Bezel P/N 3000586
 Assembly, Size D Message Bezel with Close Crosslay Cover Warning Label

TAG 60



Sutphen Tag 66-A
 IC Assembly P/N 3000587-0003
 IC Label P/N 3000588-0003
 IC Bezel P/N 3000586
 Assembly, Size D Message Bezel with Stand Clear of Outrigger Warning Label

TAG 66



Sutphen Tag 449-B
 IC Assembly P/N 3000582-0021
 IC Label P/N 3000584-0021
 IC Bezel P/N 3000583
 Assembly, Size C Message Bezel with Water Tank Refill Caution Label

TAG449B



Sutphen Tag 450-B
 IC Assembly P/N 3000587-0110
 IC Label P/N 3000588-0110
 IC Bezel P/N 3000586
 Assembly, Size D Message Bezel with
 Pressure Governor RPM Warning Label

TAG 450B



Sutphen Tag 452-A
IC P/N 3001514-0001
Generator PTO Label

TAG 452



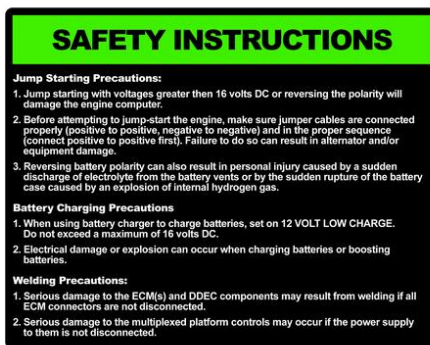
Sutphen Tag 454-B
 IC Assembly P/N 3001498-0016
 IC Label P/N 3001497-0016
 IC Bezel P/N 3001495
 Assembly, Size E Message Bezel with
 Generator Wattage Caution Label

TAG 454B



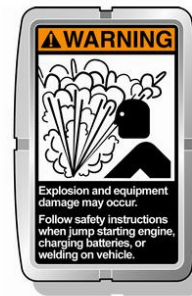
Sutphen Tag CHT-499
 IC Label P/N 3001431-0001
 Sutphen Logo Label

TAG 499



Sutphen Tag 55-A
 IC Label P/N 3001029-0001
 Battery Safety Precautions Label

TAG 55



Sutphen Tag 56-A
 IC Assembly P/N 3000587-0008
 IC Label P/N 3000588-0008
 IC Bezel P/N 3000586
 Assembly, Size D Message Bezel with
 Explosion Warning Label

TAG 56

INSTALL SAFETY PIN

Sutphen Tag 439
 IC Label P/N 3001228-0002
 Install Safety Pin Label - Vertical
 50% Scale

TAG 439



Sutphen Tag 440
 IC Assembly P/N 3000587-0104
 IC Label P/N 3000588-0104
 IC Bezel P/N 3000586
 Assembly, Size D Message Bezel with
 Equipment Weight Limit Label

TAG 440

UP Front Axle Lock	RET Right Front Stabilizer	RET Left Front Stabilizer	UP Right Stabilizer	UP Left Stabilizer	UP Rear Stabilizer
DOWN	EXT	EXT	DOWN	DOWN	DOWN

Sutphen Tag No. 441
 IC Label P/N 3001397-0001
 Manual Override Outrigger Controls Label (SPH)
 50% Scale

TAG 441

WARNING **WARNING** **WARNING**

Maximum lifting eye capacity of 800 lbs. Static load only. No rappelling from platform. Could result in personal injury or death. Any weight suspended from lifting eye must be subtracted from available platform payload.

Sutphen Tag 442-B
 IC Label P/N 3001032-0002
 Lifting Eye Warning Label

TAG 442B

SAFETY INSTRUCTIONS

1. Lifting eye capacity - 800 lbs.
2. Any weight suspended from eye must be subtracted from platform capacity.

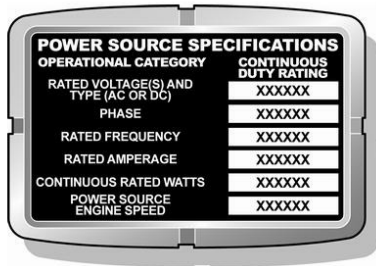
Sutphen Tag 446
 IC Label P/N 3001434-0001
 Lifting Eye Capacity Label

TAG 446

When differential lock is engaged, the maximum speed is 25 MPH.

Sutphen Tag 448
 IC Label P/N 300584-0018
 Differential Lock Engagement Label

TAG 448



Sutphen Tag 433
IC Assembly P/N 3000587-0044
IC Label P/N 3000588-0044
IC Bezel P/N 3000586
Assembly, Size D Message Bezel with Power Source Specs. Label

TAG 433



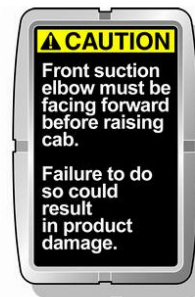
Sutphen Tag 434-B
IC Label P/N 3001658
Keep Legs Inside Kick Guard Warning Label

TAG 434B



Sutphen Tag 435 A
IC Assembly P/N 3000582-0017
IC Label P/N 3000584-0017
IC Bezel P/N 3000583
Assembly, Size C Message Bezel with Auto-Pump Compressor Drain Label

TAG 435



Sutphen Tag 436-B
IC Assembly P/N 3000587-0102
IC Label P/N 3000588-0102
IC Bezel P/N 3000586
Assembly, Size D Message Bezel with Front Suction Elbow Caution Label

TAG 436B



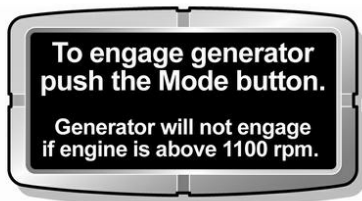
Sutphen Tag 437
IC Assembly P/N 3000582-0018
IC Label P/N 3000584-0018
IC Bezel P/N 3000583
Assembly, Size C Message Bezel with Ladder Rack Up/Down Label

TAG 437



Sutphen Tag 438
IC Assembly P/N 3000587-0103
IC Label P/N 3000588-0103
IC Bezel P/N 3000586
Assembly, Size D Message Bezel with Waterway Valve Override Label

TAG 438



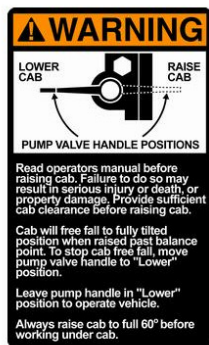
Sutphen Tag 417-A
IC Assembly P/N 3000582-0006
IC Label P/N 3000584-0006
IC Bezel P/N 3000583
Assembly, Size C Message Bezel with Engage Generator Instruction Label

TAG 417



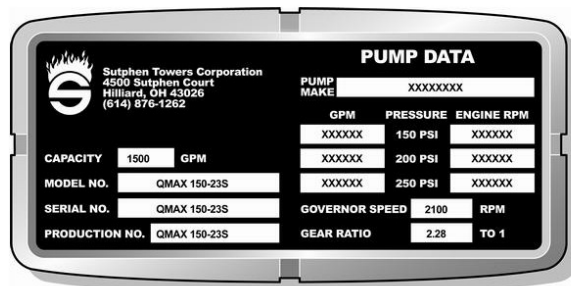
Sutphen Tag 427-B
IC Assembly P/N 3000587-0034
IC Label P/N 3000588-0034
IC Bezel P/N 3000586
Assembly, Size D Message Bezel with Bumper Warning Label

TAG 427B



Sutphen Tag 428
IC Label P/N 3001034-0001
Pump Valve Handle Warning Label

TAG 428



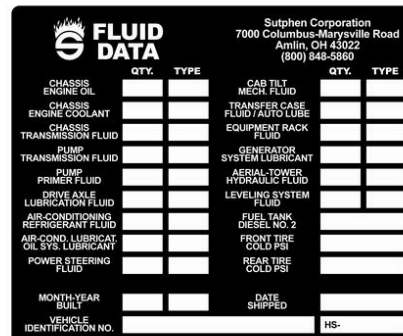
IC Assembly P/N 3000576-0001-SUTT
IC Label P/N 3000578-0001-SUTT
IC Bezel P/N 3000577
Assembly, Size A Message Bezel with Sutphen Towers Pump Data Label

TAG 430



Sutphen Tag 431
IC Label P/N 3001026-0001
Chassis Data Label

TAG 431



Sutphen Tag 432
IC Label P/N 3001027-0001
Fluid Data Label

TAG 432



Sutphen Tag 407-B
 IC Assembly P/N 3000587-0011
 IC Label P/N 3000588-0011
 IC Bezel P/N 3000586
 Assembly, Size D Message Bezel with
 Turntable Area Instruction Label

TAG 407B



Sutphen Tag 408-B
 IC Label P/N 3001034-0001
 Down to Lock Label

TAG 408B



Sutphen Tag 410-A
 IC Assembly P/N 3000587-0013
 IC Label P/N 3000588-0013
 IC Bezel P/N 3000586
 Assembly, Size D Message Bezel with
 Do Not Walk Warning Label

TAG 410



Sutphen Tag No. 410-B
 IC P/N 3001030-0001
 Exiting Cab Caution Label

TAG 410B



Sutphen Tag 414
 IC Label P/N 3001228-0001
 Install Safety Pins Label
 50% Scale

TAG 414



Sutphen Tag 416-B
 IC Assembly P/N 3000587-0005
 IC Label P/N 3000588-0005
 IC Bezel P/N 3000586
 Assembly, Size D Message Bezel with
 Safety Chain Fastened Warning Label

TAG 416