



Operator's Manual

SR2770

**Engine Powered
Diesel - Gasoline
LPG Fuel**



LIMITED WARRANTY

Snorkel warrants each new machine manufactured and sold by it to be free from defects in material and workmanship for a period of one (1) year from date of delivery to a Customer or for one year after the machine has been placed in first service in a Dealer rental fleet, whichever comes first. Any part or parts which, upon examination by the Snorkel Service Department, are found to be defective, will be replaced or repaired, at the sole discretion of Snorkel, through its local Authorized Dealer at no charge.

Snorkel further warrants the structural components; specifically, the mainframe chassis, turntable, booms and scissor arms, of each new machine manufactured by it to be free from defects in material and workmanship for an additional period of four (4) years. Any such part or parts which, upon examination by the Snorkel Service Department, are found to be defective will be replaced or repaired by Snorkel through its local Authorized Dealer at no charge; however, any labor charges incurred as a result of such replacement or repair will be the responsibility of the Customer or Dealer.

The Snorkel Service Department must be notified within forty-eight (48) hours of any possible warranty situation during the applicable warranty period. Personnel performing warranty repair or replacement must obtain specific approval by Snorkel Service Department prior to performing any warranty repair or replacement.

Customer and Dealer shall not be entitled to the benefits of this warranty and Snorkel shall have no obligations hereunder unless the "Pre-Delivery and Inspection Report" has been properly completed and returned to the Snorkel Service Department within ten (10) days after delivery of the Snorkel product to Customer or Dealer's rental fleet. Snorkel must be notified, in writing, within ten (10) days, of any machine sold to a Customer from a Dealer's rental fleet during the warranty period.

At the direction of the Snorkel Service Department, any component part(s) of Snorkel products to be replaced or repaired under this warranty program must be returned freight prepaid to the Snorkel Service Department for inspection. All warranty replacement parts will be shipped freight prepaid (standard ground) from the Snorkel Service Department or from Snorkel's Vendor to Dealer or Customer.

REPLACEMENT PARTS WARRANTY

Any replacement or service part made or sold by Snorkel is not subject to the preceding **Limited Warranty** beyond the normal warranty period of the machine upon which the part was installed.

THIS WARRANTY EXCLUDES AND SNORKEL DOES NOT WARRANT:

1. Engines, motors, tires and batteries which are manufactured by suppliers to Snorkel, who furnish their own warranty. Snorkel will, however, to the extent permitted, pass through any such warranty protection to the Customer or Dealer.
2. Any Snorkel product which has been modified or altered outside Snorkel's factory without Snorkel's written approval, if such modification or alteration, in the sole judgment of Snorkel's Engineering and/or Service Departments, adversely affects the stability, reliability or service life of the Snorkel product or any component thereof.
3. Any Snorkel product which has been subject to misuse, improper maintenance or accident. "Misuse" includes but is not limited to operation beyond the factory-rated load capacity and speeds. "Improper maintenance" includes but is not limited to failure to follow the recommendations contained in the Snorkel Operation, Maintenance, Repair Parts Manuals. Snorkel is not responsible for normal maintenance, service adjustments and replacements, including but not limited to hydraulic fluid, filters and lubrication.
4. Normal wear of any Snorkel component part(s). Normal wear of component parts may vary with the type application or type of environment in which the machine may be used; such as, but not limited to sandblasting applications.
5. Any Snorkel product that has come in direct contact with any chemical or abrasive material.
6. Incidental or consequential expenses, losses, or damages related to any part or equipment failure, including but not limited to freight cost to transport the machine to a repair facility, downtime of the machine, lost time for workers, lost orders, lost rental revenue, lost profits or increased cost.

This warranty is expressly in lieu of all other warranties, representations or liabilities of Snorkel, either expressed or implied, unless otherwise amended in writing by Snorkel's President, Vice President-Engineering, Vice President-Sales or Vice President-Marketing.

SNORKEL MAKES NO WARRANTIES WHICH EXTEND BEYOND THE DESCRIPTION OF THIS LIMITED WARRANTY. SNORKEL MAKES NO IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE AND DISCLAIMS ALL LIABILITY FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES, INCLUDING BUT NOT LIMITED TO INJURY TO PERSONS OR PROPERTY.

The Customer shall make all warranty claims through its local Authorized Dealer and should contact the Dealer from whom the Snorkel product was purchased for warranty service. Or, if unable to contact the Dealer, contact the Snorkel Service Department for further assistance.

■ Electrical Hazard Warning

**SR ELEVATING WORK PLATFORMS
ARE NOT ELECTRICALLY INSULATED.**

If the platform, scissors arm assembly, or any other conductive part of an SR contacts a high-voltage electrical conductor, the result can be **SERIOUS INJURY** or **DEATH** for persons on or near the machine.

**GO NO CLOSER THAN THE MINIMUM SAFE APPROACH DISTANCES
(M.S.A.D) - AS OUTLINED IN TABLE 1. AND FIGURE 3.,
ON THE NEXT PAGE.**

Be sure to allow for sag and sway in the wires and the work platform.

If an SR comes in contact with a live electrical conductor, the entire machine can be charged.

If that happens, you should remain on the machine and not contact any other structure or object within reach. That includes the ground, adjacent buildings, poles, and any object not a part of the SR.

Such contact could make your body a conductor to the other object creating an electrical shock hazard resulting in **SERIOUS INJURY** or **DEATH**.

DO NOT attempt to enter or leave the SR until you are sure the electricity has been turned off.

If an SR is in contact with a live conductor, the platform operator **MUST** warn others on the ground in the vicinity of the SR to **STAY AWAY** from the machine, since their bodies can also form a path for electricity to ground thus creating an electrical shock hazard with possible **ELECTROCUTION** and **DEATH**.

DO NOT attempt to operate SR ground controls when the platform, scissors arm assembly, or any other conducting part of the SR is in contact with electrical wires or if there is an immediate danger of such contact.

Regard all conductors as energized.

Personnel working on or near an SR must be continuously aware of electrical hazards, recognizing that **SERIOUS INJURY** or **DEATH** can result if contact with an electrical wire does occur.

Electrical Hazard

■ Minimum Safe Approach Distance

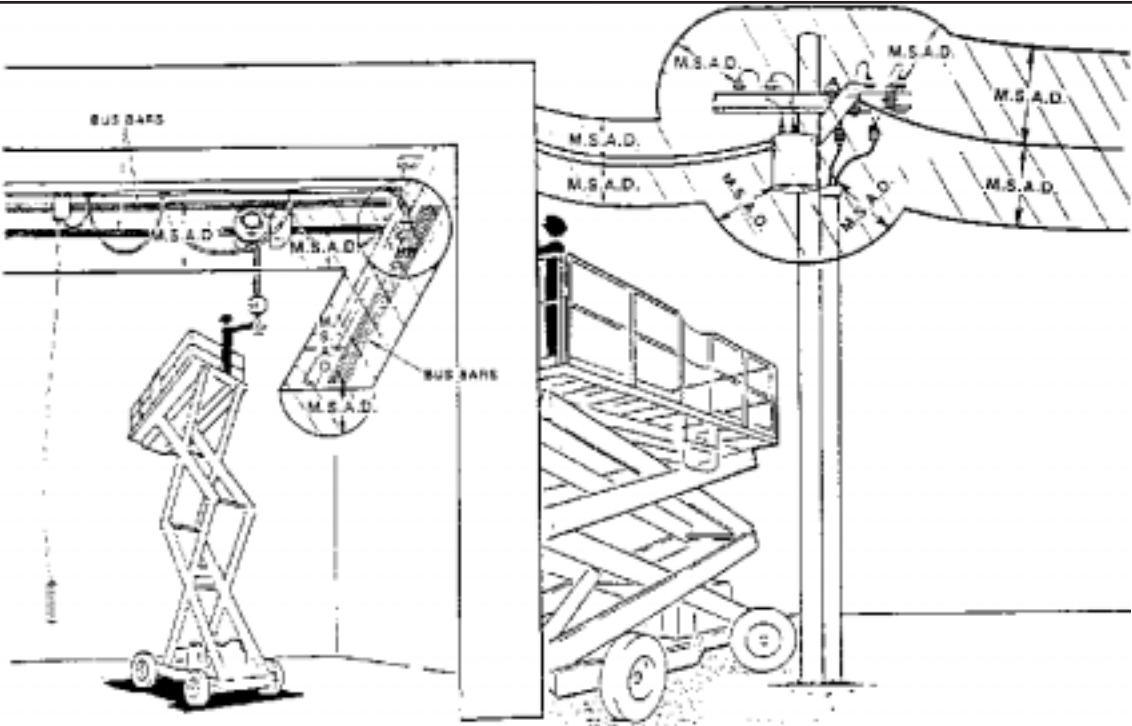
An SR is an all metal **NOT ELECTRICALLY INSULATED**, aerial work platform. **DO NOT** operate it near **ELECTRICAL** conductors. Regard all conductors as being energized. Use the table and illustration below to determine safe clearance from electrical conductors. (Table 1 and Figure 3, below, are from ANSI/SIA A92.6–1990 Standard, reprinted with permission of Scaffold Industry Association.)

□ Table 1 - (M.S.A.D.)

**Minimum Safe Approach Distance
to energized (exposed or insulated power lines)**

Voltage range (phase to phase)	Minimum safe approach distance	
	(Feet)	(Meters)
0 to 300V	Avoid contact	
over 300v to 50kv	10	3.05
over 50kv to 200kv	15	4.60
over 200kv to 350kv	20	6.10
over 350kv to 500kv	25	7.62
over 500kv to 750kv	35	10.67
over 750kv to 1000kv	45	13.72

□ Figure 3 - (M.S.A.D.)



Denotes prohibited zone

- Danger:
- Do not allow machine personnel or conductive materials inside prohibited zone.
 - Maintain M.S.A.D. From all energised lines and parts as well as those shown.
 - Assume all electrical parts and wires are energised unless known otherwise.
- Caution:
- Diagrams shown are only for purposes of illustrating M.S.A.D. Work positions, not all work positions.

The most important chapter in this manual is "Safety" chapter 1. Take time, now, to study it closely. The information in chapter 1, might save your life or prevent serious injury.

■ Signs

The following three conventions are used throughout this manual.

▲ DANGER

means: Attention! Become alert! Your safety is involved.

▲ CAUTION

means one of two things: (1) an action, about to be performed, is potentially hazardous and might result in minor personal injury if not done correctly, or (2) an action, about to be performed, can harm the SR if not done correctly.

NOTE

means: The information following is to assist you in either the proper steps to take for an action or as addition information concerning your present situation, but does not indicate a dangerous condition to either you or the SR unit.

■ Qualified operators

SR aerial platforms have built in safety features and have been factory tested for compliance with Snorkel specifications and industry standards. However, any personnel lifting device can be potentially dangerous in the hands of untrained or careless operators.

Training is vitally important and **MUST** be done under the direction of a QUALIFIED person. You must display proficiency in knowledge and actual operation of the SR.

Before operation of the SR you must read and understand the operating instructions in this manual as well as the decals, warnings, and instructions on the machine itself.

Before operating an SR you must be AUTHORIZED by the person in charge to do so.

■ Operation rules

The following rules will help ensure the safety of personnel and help prevent needless downtime because of damaged equipment.

1. Only TRAINED and AUTHORIZED operators shall be permitted to operate the equipment.

2. All manufacturer's operating instructions and safety rules and all employers' safety rules and all OSHA and other government safety rules must be strictly adhered to.
3. Repairs and adjustments shall be made only by QUALIFIED TRAINED maintenance personnel.
4. No modification shall be made to the equipment without prior written consent of the Snorkel Engineering Department.
5. You must make a pre-start inspection of the SR at the beginning of each shift. A malfunctioning machine must not be used.
6. You must make an inspection of the work place to locate possible hazards before operating the SR.

▲ DANGER

DO NOT operate this equipment unless you are TRAINED and AUTHORIZED and have read and thoroughly understand all of the information given in this Operator's Manual and on all DANGER and CAUTION signs on the machine. Misuse of this machine can result in DEATH or SERIOUS INJURY.

■ Maintenance

Every person who maintains, inspects, tests, or repairs these machines, and every person supervising any of these functions, **MUST** be properly trained.

This Operator's Manual provides a daily inspection procedure that will help you keep your SR in good operating condition. **DO NOT** perform other maintenance unless you are a TRAINED mechanic, QUALIFIED to work on the SR. Call QUALIFIED maintenance personnel if you find problems or malfunctions.

DO NOT modify this machine without written approval from the Engineering Department of Snorkel.

Information contained in this manual concerns only current SR's, and the right is reserved to make changes at any time without obligation.

■ Responsibilities of parties

It is imperative that all owners and users of the SR read, understand, and conform to all applicable regulations. Ultimate compliance to OSHA regulations is the responsibility of the employer using the equipment.

▲ DANGER

ANSI Standard A92.6-1990 clearly identifies requirements of all parties who might be involved with Self Propelled Elevating Work Platforms.

AUSTRALIAN / NZ STANDARD AS2550-10 1994 Also identifies the requirements of all parties who might be involved with Self Propelled Elevating Work Platforms.

A reprint of the “Manual of Responsibilities for Dealers, Owners, Users, Operators, Lessors and Lessees of ANSI/SIA A92.6-1990 Self Propelled Elevating Work Platforms” is available from Snorkel dealers or from the factory upon request.

Copies are also available from the Scaffold Industry Association, Inc., 14039 Sherman Way, Van Nuys, CA 91405-2599.

■ Options

The use of optional equipment is discussed in the “Options” chapter 11.

The options you will find discussed there are:

1. RCD / ELCB Outlet.
2. Flashing Light.
3. Electrical Outlet.
4. Lanyard Anchor Points.

■ Additional information

For additional information, contact your local dealer.

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■ Safe Operation

The following safety information is vitally important for safe operation of the SR. Failure to follow these instructions can result in personal injury or **DEATH**.

□ Pre-start Inspection

At the start of each work shift, the SR shall be given a visual inspection and function test. See the “Daily Inspection and Maintenance” chapter 7, in this manual for a list of items to inspect and test.

▲ CAUTION

DO NOT operate the SR unless you are trained and authorized, understand the operation characteristics of the SR, and have inspected and tested all functions to be sure they are in proper working order.

□ Work Place Inspection and Practices

Do not use the SR as a ground for welding. Ground to the work piece.

Before the SR is used, and during use, check the area in which the SR is to be used for possible hazards such as, but not limited to:

1. Drop-offs or holes.
2. Side slopes.
3. Bumps and floor obstructions.
4. Debris.
5. Overhead obstructions and electrical conductors.
6. Hazardous locations.
7. Inadequate surface and support to withstand all load forces imposed by the aerial platform in all operating configurations.
8. Wind and weather conditions.
9. Presence of unauthorized persons.
10. Other possible unsafe conditions.

Before the SR is used, determine the hazard classification of any particular atmosphere or location according to ANSI/NFPA 505-1987.

Any SR operated in a hazardous location must be approved and of the type required by ANSI/NFPA 505-1987.

A recommended safety practice is to have personnel that are trained in the operation of the emergency controls working in the immediate area of the SR to assist the platform operator in the event of an emergency.

When moving the platform, check the clearance around the SR to avoid contact with structures or other hazards. Always look in the direction of motion.

Keep ground personnel from under the platform when the platform is raised.

Secure all accessories, containers, tools, and other materials in the platform to prevent them from accidentally falling or being kicked off the platform.

DO NOT engage in any form of “horseplay” or “stunt driving” while operating the SR.

DO NOT permit riders on the machine anywhere other than on the platform.

Remove all loose objects stored in or on the machine, particularly in the platform. Remove all objects which do not belong in or on the machine.

When other moving equipment is in the area, take special precautions to comply with local regulations regarding warnings.

Never steady the platform by positioning it against another platform.

DO NOT operate an SR that is not functioning properly, or has been damaged, until the machine has been repaired by a qualified maintenance person.

DO NOT operate a SR that does not have all its decals and placards attached and legible.

Drive the machine with care and at speeds compatible with conditions. Use extra caution when driving over rough ground, on slopes, and when turning.

Know and understand the job site traffic-flow patterns and obey the flag-men, road signs, and signals.

Watch for bystanders and never allow anyone to be under, or to reach through, the machine and its equipment while operating.

Use the recommended transport device when loading the machine.

□ Electrocution

The SR is an all metal, NON-INSULATED, aerial work platform.

DO NOT operate it near ELECTRICAL conductors. Regard all conductors as being energized.

DO NOT operate outside during a thunderstorm.

1. Safety

☐ Tipover and Falling Hazards

On scissor lifts, like the SR, personal fall protection is not required by ANSI, Federal OSHA, AS1418-10-1996, N.Z. Code of Practice for Elevating Work Platforms, nor Snorkel. However, fall restraint might be required by work regulations. If so, the user is responsible for fitness and method of use.

DO NOT operate the SR from a position on trucks, trailers, railway cars, floating vessels, scaffolds, or similar equipment unless the application is approved in writing by Snorkel.

If the platform or elevating assembly becomes caught, snagged, or otherwise prevented from normal motion by an adjacent structure or other obstacles such that control reversal does not free the platform, remove all personnel from the platform before attempts are made to free the platform using ground controls.

Under normal working conditions it is best not to transfer from the platform to another structure or vice versa, unless that is the safest way to do the job. Each situation must be judged separately taking the work environment into account. The following guidelines apply:

1. Where possible, place the work platform next to a roof or walking structure to do the transfer.
2. Transfer your anchorage from one structure to another before you step across.
3. Remember, you might be departing the work platform to a structure where fall arrest is required.
4. **DO NOT** climb the rails. Use the entrance.

DO NOT exceed the platform capacity nor the platform-extension capacity as indicated on the capacity placards located at the entrance to the platform and on the toeboard of the platform extension.

DO NOT raise the platform if the SR is on soft ground. Operate the platform only on a firm surface capable of withstanding all load forces imposed by the aerial platform in all operating conditions.

Do Not carry loads from any point outside of the platform.

Care shall be taken to prevent rope, electric cords, and hoses, etc., from becoming entangled in the aerial platform.

Maintain a firm footing on the platform floor. Climbing on the guardrails is prohibited.

DO NOT use ladders, planks, or other devices to extend or increase your work position from the platform.

DO NOT jerk the controls. Move the controls slowly and deliberately to avoid jerky and erratic operation. Always stop the controls in the neutral, off, position before going in the opposite direction.

DO NOT use the platform for any purpose other than to position personnel, their tools, and materials.

DO NOT use the SR as a crane, hoist, or jack.

DO NOT operate the SR in winds, or wind gusts, of 28 mph 12.5 m/s) or more.

DO NOT add anything to the SR that will increase the wind loading (banners, flags, etc.).

☐ Crushing

Always look in the direction of travel. Avoid overhead obstructions.

Make sure the area below the platform is free of personnel before lowering.

■ General Safety Precautions

☐ Personnel Precautions

If you encounter any suspected malfunction of the aerial platform, or any hazard or potentially unsafe condition relating to capacity, intended use, or safe operation, cease operation and seek assistance from management.

☐ Operator General Precautions

Make sure that all protective guards, cowlings, and doors are in place and secure.

Be sure the guardrail system, including the gate, is in place and secure.

☐ Mounting and Dismounting Precautions

Use three points of support when getting on or off the platform (two hands and one foot or a similar set of points). Keep the platform clean.

DO NOT jump off the machine.

DO NOT dismount while the machine is in motion.

☐ Starting and Stopping Precautions

DO NOT start until all personnel are clearly away from the machine.

Before leaving the operator's station, place the machine in the stowed position.

When leaving the machine parked or unattended, remove the starter key from the **Key** switch and set the **Battery** switch to off.

☐ Operating Precautions

DO NOT modify the SR in any way.

When parts or components are replaced, they shall be identical or equivalent to original Snorkel parts or components.

DO NOT override any of the safety features of the SR.

☐ Operator Maintenance Precautions

▲CAUTION

DO NOT use your hand to search for hydraulic oil leaks. High pressure hydraulic oil can easily cut and penetrate your skin — a very serious injury that requires immediate attention by a medical specialist trained in that type of injury. Use a piece of cardboard or wood to search for hydraulic oil leaks.

DO NOT attempt repairs unless you are trained. Refer to manuals and experienced repair personnel for help.

☐ Fuel Handling Precautions

DO NOT smoke or permit open flames while fueling or near fueling operations.

Never remove the fuel cap or refuel a gasoline engine while the engine is running or hot. Never allow fuel to spill on hot machine components.

Maintain control of the fuel filler nozzle when filling the tank.

DO NOT fill the fuel tank to capacity. Allow room for expansion.

Clean up spilled fuel immediately.

Tighten the fuel tank cap securely. If the fuel cap is lost, replace it with an approved cap from Snorkel. Use of a non-approved cap without proper venting may result in pressurization of the tank.

Never use fuel for cleaning purposes.

For diesel engines, use the correct fuel grade for the operating season.

■ Safety Decals and Placards

There are several safety decals and placards on the SR. Their locations and descriptions are shown in this section. Take time to study them.

▲CAUTION

Be sure that all the safety decals and placards on the SR are legible. Clean or replace them if you cannot read the words or

see the pictures. Clean with soap & water and a soft cloth. Do not use solvents.

You MUST replace a decal or placard if it is damaged, missing, or cannot be read. If it is on a part that is replaced, make sure a new decal or placard is installed on the replaced part. See your Snorkel dealer for new decals and placards.

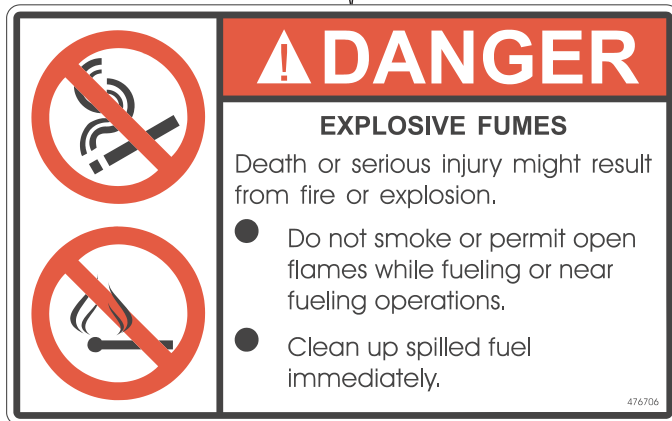
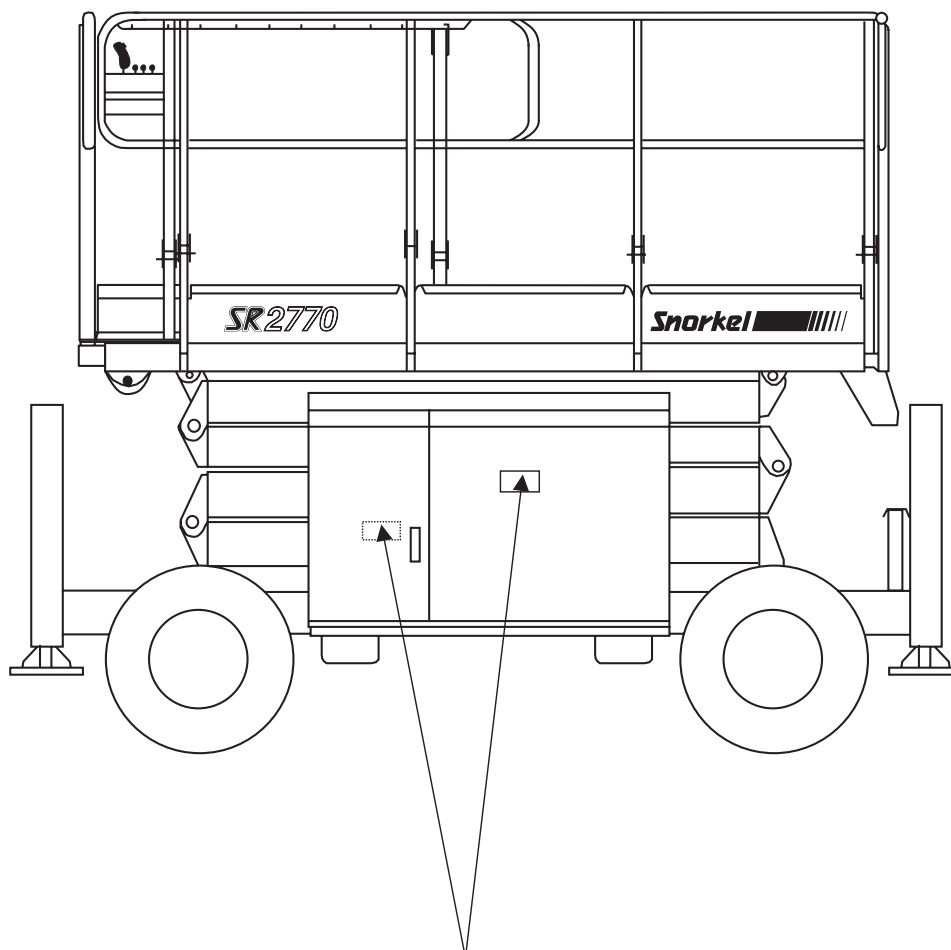
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Refer to Placards and Decals Inspection Chart and Drawing in the "Daily Inspection and Maintenance" chapter 7, for part numbers, location, and required quantities of all placards and decals.

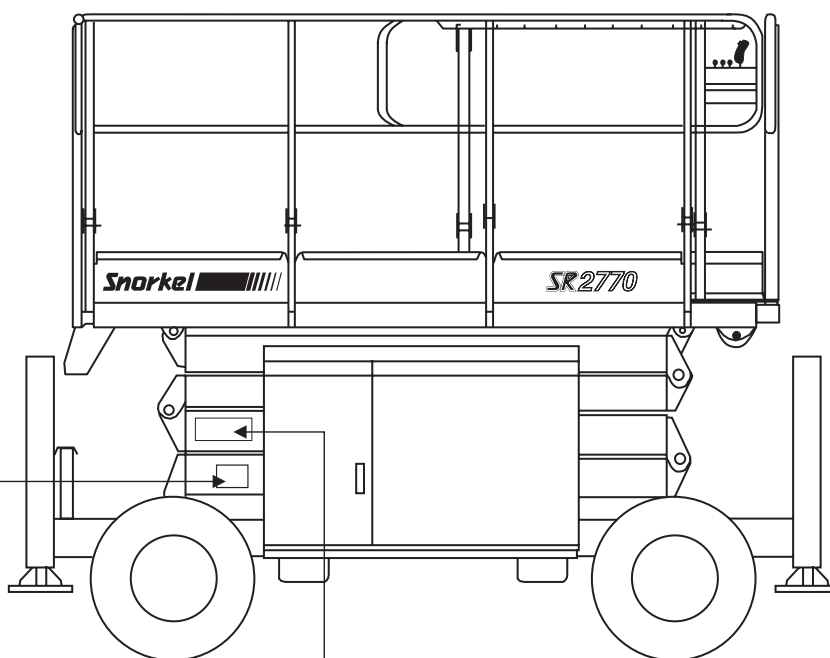
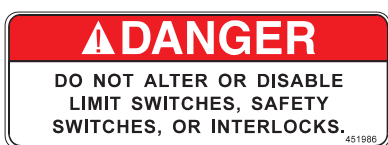
1. Safety

■ Safety Placards and Decals Location

LEFT-HAND SIDE OF SRT

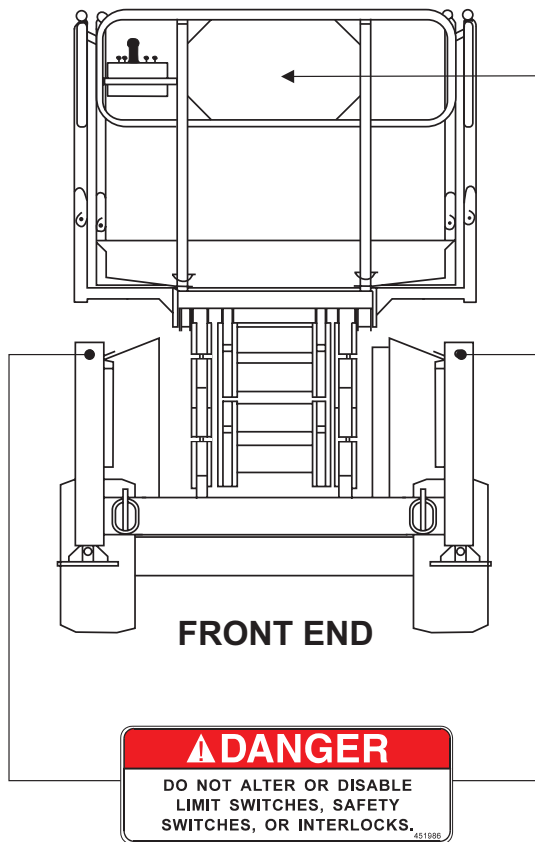


RIGHT-HAND SIDE OF SRT



<p>⚠ DANGER</p> <p>DEATH OR SERIOUS INJURY MAY RESULT IF SAFETY BAR IS NOT USED AND OR PROPERLY POSITIONED. USE SAFETY BAR AT ALL TIMES WHEN SERVICING MACHINE WITH PLATFORM RAISED.</p> <p>SAFETY BAR</p> <p>24"</p> <p>STORAGE POSITION PROPER POSITION FOR USE</p>	<p>PROPER USE OF SAFETY BAR</p> <ul style="list-style-type: none"> * REMOVE ALL MATERIAL FROM PLATFORM * RAISE PLATFORM UNTIL THE OPEN HEIGHT BETWEEN CENTER PINS IS APPROXIMATELY 24 INCHES. * SWING SAFETY BAR UP FROM STORAGE POSITION. * REMOVE HANDS AND ARMS FROM SCISSORS AREA. * LOWER PLATFORM UNTIL SCISSORS ARE SUPPORTED BY SAFETY BAR. <p>TO STORE SAFETY BAR</p> <ul style="list-style-type: none"> * RAISE PLATFORM UNTIL THE OPEN HEIGHT BETWEEN CENTER PINS IS APPROXIMATELY 24 INCHES. * SWING BAR DOWN TO STORAGE POSITION.
--	---

1. Safety



⚠ DANGER

DEATH OR SERIOUS INJURY MIGHT RESULT FROM TIPPING OVER. TO KEEP FROM TIPPING THIS MACHINE OVER FOLLOW THESE RULES.

DO NOT RAISE OR DRIVE AN ELEVATED PLATFORM ON A SLOPE

DO NOT RAISE OR DRIVE AN ELEVATED PLATFORM ON SOFT OR UNEVEN SURFACES

DO NOT RAISE A PLATFORM WHEN IT IS WINDY OR GUSTY

GO NO CLOSER THAN 4 feet (1.2m) to ANY DROP OFF OR HOLE

OTHER ACTIONS CAN ALSO CAUSE THIS MACHINE TO TIP OVER

- DO NOT override safety devices.
- DO NOT overload the machine.
- DO NOT stand or sit on guardrails.
- DO NOT attach ropes or chains to guardrails.
- DO NOT carry loads outside the railing or use as a crane.

- DO NOT ride platform while machine is on a truck, fork lift or other device.
- DO NOT use ladder, scaffold, or other means to increase size or platform height.
- DO NOT use with improperly inflated or damaged tires or wheels.

TWO-TONE ALARM MEANS TIPOVER DANGER! LOWER PLATFORM IMMEDIATELY

- 1.
- 2.
- 3.

TO AVOID TIPOVER HAZARDS USE ON FLAT, LEVEL, AND SOLID SURFACES ONLY

ELECTRICAL SHOCK CAN KILL YOU

This machine is not electrically insulated. **Keep a safe distance** from power lines and electrical equipment. **Do not** touch any electrical source.

This machine will not protect you from shock.

Allow for platform sway, rock, or sag. If voltage is 300 V to 50 kV stay at least 10 feet (3.1m) away. If voltage is more than 50 kV talk with your supervisor or read the operator's manual on this machine for safe distances.

⚠ DANGER

- DO NOT use this machine without the railings and the entry gate, chain or bar in place. You could fall out and hurt or kill yourself.
- DO NOT use this machine if it is not working right, or if any part of it is damaged, worn, or missing. An accident could cause injury or death.

- DO NOT let an untrained or unauthorized person use this machine. When you leave the machine unattended, remove the key, or turn off the battery switch on the base of the machine and lock the battery switch in the off position.
- DO NOT replace components critical to machine stability, such as batteries and wheel equipment, with lighter weight or non-factory approved substitutes.

NOTE: STUDY THE OPERATOR'S MANUAL BEFORE OPERATING THIS MACHINE.

(both sides of plate)

⚠ DANGER

- THIS UNIT IS EQUIPPED WITH FOAM FILLED TIRES, WHEEL WEIGHT IS CRITICAL FOR UNIT STABILITY.
- REPLACE WITH FACTORY APPROVED FOAM FILLED TIRES ONLY.
- DO NOT ATTEMPT TO INFLATE.

SRT2770 PLATFORM RATINGS
UNIFORMLY DISTRIBUTED

RATED LOAD
580kg 1280lbs

EXTENSION RETRACTED

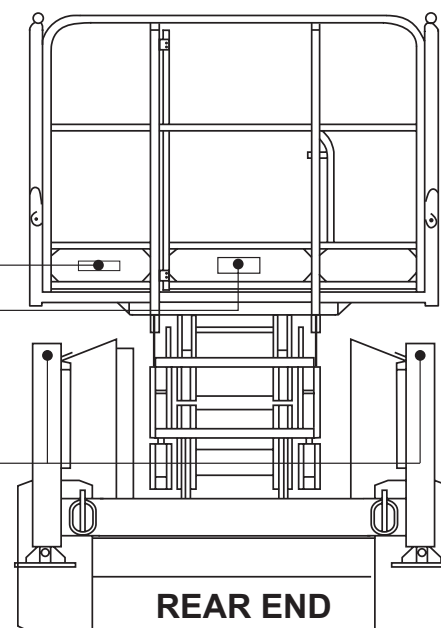
RATED WORK LOAD

MAIN 460kg 1015lbs	EXT 120kg 265lbs
-----------------------	---------------------

EXTENSION EXTENDED

RATED NUMBER OF OCCUPANTS: 5 PERSONS

⚠ DANGER
DO NOT ALTER OR DISABLE LIMIT SWITCHES, SAFETY SWITCHES, OR INTERLOCKS.



■ Safety Device Information

For emergency operation controls and procedures see the “Emergency Operation” chapter 9, in this manual.

The devices listed in this chapter are safety devices.

They are on an SR to increase safety in the work place for both the operator and other people near the machine.

▲ CAUTION

Do not by-pass, disable, modify, or ignore any of these devices. Check them carefully at the start of each work shift to see that they are in working order (see “Daily Inspection & Maintenance” chapter 7). If any is found to be defective, remove the SR from service immediately until a qualified service technician can make repairs.

■ Emergency Stop Switches

□ At platform control box

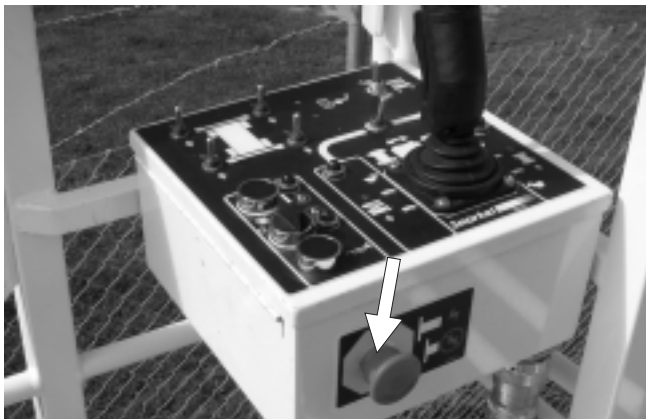


Figure 2.1 - Platform Control Box Emergency Stop Switch

Press the large red **EMERGENCY STOP** button in and the entire machine stops, the engine turns off, and nothing moves. This switch must be out (on) to control the SR from the platform (pull the switch and it will pop out).

□ At ground control box



Figure 2.2 - Ground Control Box Emergency Stop Switch

Press the red **EMERGENCY STOP** switch cover down, at any time, under any conditions, and the entire machine stops, the engine turns off, and nothing moves. the **EMERGENCY STOP** switch must be up for anything on the SR to work.

■ Alarms

□ Platform control box

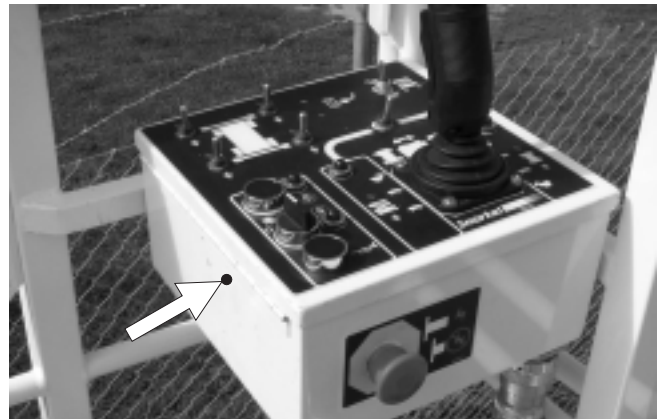


Figure 2.3 - Platform Control Box Alarm

There are two alarms on an SR. One is located in the platform control box, the other is located in the ground control box.

2. Safety Devices

❑ Ground control box



Figure 2.4 - Ground Control Box Alarm

The alarms are connected in parallel, they both emit the same pattern of sound at the same time. The different alarm sound patterns are shown in the table immediately below and discussed below the table.

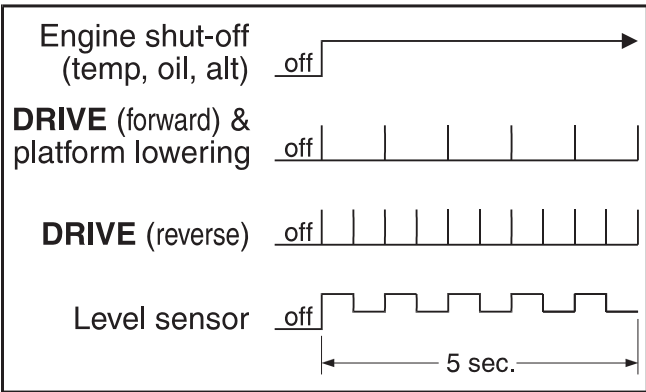


Figure 2.5 - Alarm Sound Patterns

The high-temperature, low oil-pressure, and alternator not-charging alarms are each a continuous tone.

The DRIVE (forward) and the platform-lowering alarms beep at one beep per second. DRIVE (reverse) beeps at two beeps per second. The level sensor alarm is a high-low warbling sound.

❑ Level sensor

The level sensor alarm warns the SR operator that the SR is not level. If the tilt continues to increase, the SR will eventually tip over. When you hear this alarm, immediately lower the platform completely down. When the platform is completely down, determine and correct the cause of the tilt before raising the platform again.

NOTE

While the alarm is sounding it is not possible to drive the SR nor raise the platform

❑ Lowering

The lowering alarm warns people near an SR that the platform is coming down and the scissor arm assembly is closing.

❑ High temperature

The high-temperature alarm warns you that the engine is overheating. When the alarm sounds you should immediately lower the platform completely down then turn the engine off until the condition that caused the overheating has been corrected. (See “Automatic Shut-Offs & Circuit Breakers” chapter 5 for more information.)

❑ Low oil pressure

The low pressure alarm warns you that the engine oil pressure is near the lower limit for safe operation of the engine. When the alarm sounds you should immediately lower the platform completely down then turn the engine off until the condition that caused the low oil pressure has been corrected. (See “Automatic Shut-Offs & Circuit Breakers” chapter 5 for more information.)

❑ Drive (reverse)

The DRIVE (reverse) alarm alerts people that the SR is traveling backward along the ground. This alarm beeps twice as fast as the DRIVE (forward) alarm.

❑ Drive (forward)

The DRIVE (forward) alarm alerts people that the SR is traveling forward along the ground. This alarm beeps half as fast as the DRIVE (reverse) alarm.

■ Guardrails



Figure 2.6 - Guardrails

The guardrails help protect you from falling off the platform. Be sure the guardrails are properly installed and that the safety chain (or gate) and fasteners are in place.

■ Safety Prop

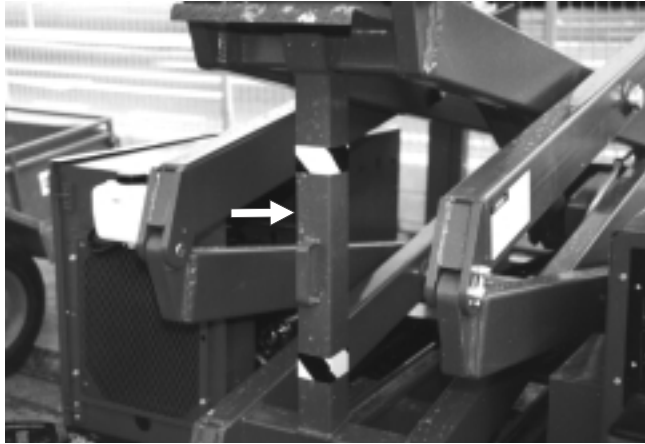


Figure 2.7 - Safety Prop

Always raise the safety prop then lower the scissor-arm assembly onto the safety prop before reaching into the scissor-arm assembly for any reason. The safety chain should be closed at all times except when someone is entering or leaving the platform.

■ Swinging Gate



Figure 2.8 - Swinging Gate

The swinging gate should be closed at all times except when someone is entering or leaving the platform.

■ Safety Control

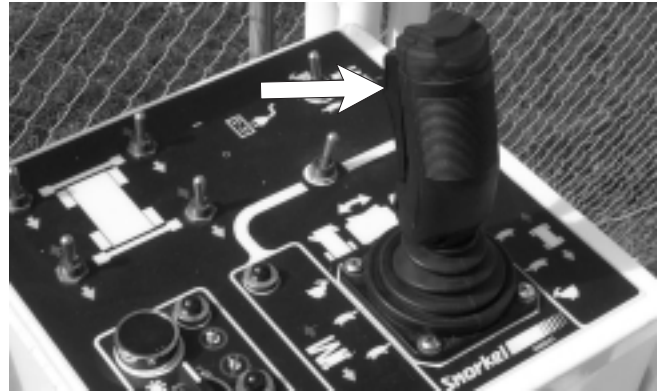


Figure 2.9 - Joystick Safety Control

The safety control must be squeezed and held to activate the joystick. The safety control prevents the joystick from moving the platform if something accidentally pushes the joystick. Do not disable the safety control in any way.

■ Bubble Level

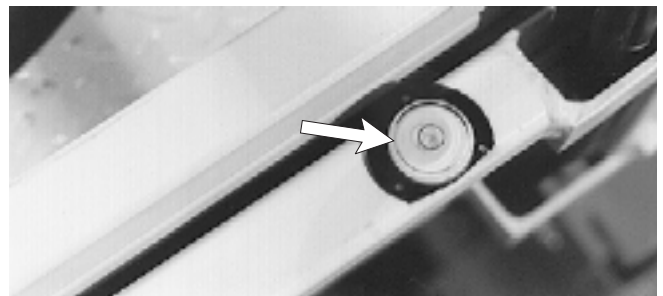


Figure 2.10 - Bubble Level

See the “Gauges” chapter 4 for a discussion of the bubble level.

■ Operator Horn



Figure 2.11 - Operator Horn

2. Safety Devices

The operator horn is used primarily to get the attention of people on the ground when you are working aloft. For the horn to work the following switches, on the ground control box, must be set as indicated:

MAIN POWER.....ON
EMERGENCY STOP.....on (up)
SELECTOR.....PLATFORM

■ Outriggers

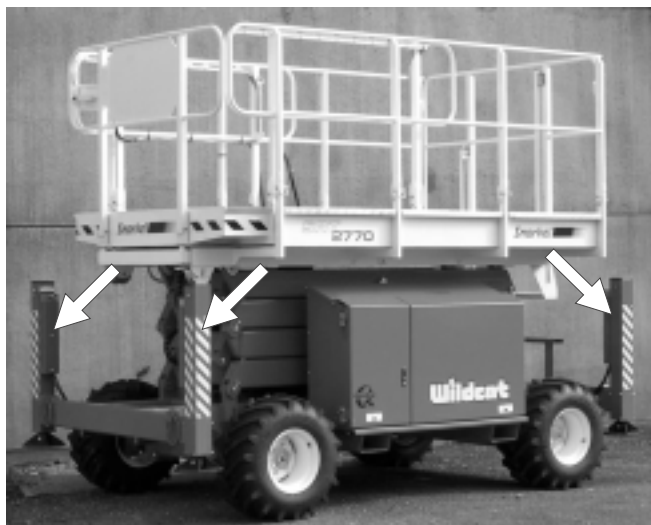


Figure 2.12 - Outriggers

The outrigger controls are on the upper left side of the platform control box. The outriggers are used to level the SR (for complete outrigger operating procedures see the “Operation” chapter 8).

NOTE

The SR must be on a firm surface capable of withstanding all load forces imposed by the aerial platform in all operation conditions before the outriggers are used.

■ RCD/ELCB AC Outlet (option)

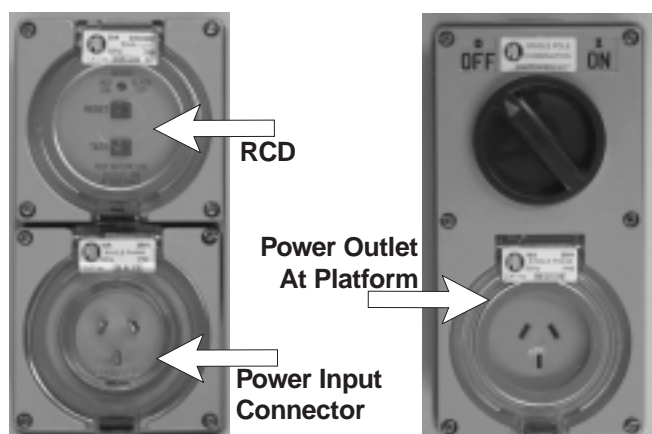


Figure 2.13 - RCD/ELCB AC Outlet

The RCD (Residual Current Device) is located at the ground and will protect against short circuits to earth. When there is a short circuit the RCD will shut down the 230v AC power to the platform outlet. To reset the outlet disconnect the power tool lead from the platform box and reset the RCD at the ground. If the problem persists call a trained service technician.

■ Flashing Light (option)

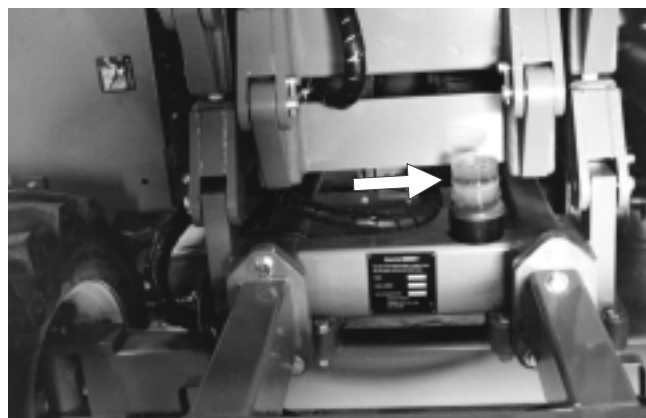


Figure 2.14 - Flashing Light

The flashing light alerts people that the SR is present and that the SR is moving. The light flashes at about one flash per second any time the SR engine is running. There is no ON/OFF switch for the flashing light, it cannot be turned off while the SR is running.

■ Lanyard Anchor Points (option)

There are four anchors on the floor of the platform, one at the front of the roll-out deck, one at the back of the platform, and one on each side of the platform.

NOTE

These anchors are not for lifting or tying down the machine.

You should attach your fall protection to the anchors if work rules require it.

The SR2770 series machines are scissor-supported elevating work platforms built to conform to the following standards.

OSHA Paragraph 1910.67 Title 29, C.F.R., Vehicle-Mounted Elevating and Rotating Work Platforms - Labour.

OSHA Paragraph 1926.556 Title 29, C.F.R., Aerial Lifts - Construction.

Australian Standard AS1418-10 1996 Elevating Work Platforms.

prEN280 and MACHINERY DIRECTIVE 98/37/CEE

■ General Specifications, Standard Machines

SPECIFICATIONS	SR2770	
Nominal working height	10.28m	33' 9"
Maximum height to basket floor	8.28m	27' 2"
Maximum outreach	1200mm with roll out deck	
Speed (when raised)	0 to 1kph	0 to 0.64mph
Speed (maximum drive)	0 to 4.5kph	0 to 2.8mph
Maximum width of base	1.77m	5' 9"
Safe working load - Main deck (Roll out deck not extended)	580kg	1280lbs
Safe working load - Main deck Roll out deck extended - R/O deck	460kg 120kg	1015lbs 265lbs
Standard colour	White platform. Orange scissors and base	
Platform size*	2.73 x 1.65m	8' 11" x 5' 5"
Collapsed height	1.7m	5' 8"
Overall length (with stabilizers)	3.36m	11' 0"
Gradeability	35%	
Lift time	26 seconds	
Lower time	35 seconds	
Turning radius (inner)	2.83m	9' 3"
Turning radius (outer)	4.6m	15' 1"
Insulation rating	Nil	
Overall weight	2800kg	6272lbs
Ground clearance	370mm	14.6"

* Four foot (1.2m) platform-extension retracted

3. Specifications

■ Engine Data

Engine Make	Kubota		
Model	WG750-G		D905-B
Fuel	gasoline	LPG	Diesel number 2-D
Fuel grade	Unleaded 85 octane (motor method Do not use gasoline blended with methyl alcohol.	HD5 Gas Processors Association Standard 2140 Category: special duty propane	ASTM number 2-D ASTM D975 Centane number >44 (For operating temp. Below 32°F (0°C) use “winterized” number 2-D.)
Coolant	50% water + 50% ethylene glycol		
Operating temperature	180°F - 205°F (82°C - 96°C)		
Oil Capacity	3.5 qt USA (3.25 liters)		5.2 qt USA (5.1 liters) 4.2 qt USA (4.0 liters)
Oil grade	API: SF, SF/CD		API: CC/CD/CE
Oil weight	See chart below		
Running time (one tank of fuel)	A full tank of gasoline, or diesel, will last an entire eight hour shift, under normal working conditions. It normally takes two tanks of LPG per eight hour shift.		

■ Engine Oil Charts

□ WG750-G

Ambient temperature	Engine oil weight
Above 77°F (25°C)	SAE30 or 10W30
32°F to 77°F (0°C) to (25°C)	SAE20 or 10W30
0°F to 32°F (-17°C) to (0°C)	SAE10W or 10W30

□ D905-B

Ambient temperature	Engine oil weight
Above 77°F (25°C)	SAE30 or 10W30 10W40
32°F to 77°F (0°C) to (25°C)	SAE20 or 10W30 10W40
Below 32°F (0°C)	SAE10W or 10W30 10W40

■ Hydraulic Hose Age

EN982 Clause 7.3.1 requires the manufacturing date of each hydraulic hose to be clearly visible on the hose.

Hoses used in production of this unit are manufactured by Parker and the manufacturing date is present in a coded format. The key to decode the date format is as follows:

Sample Hose Code **11- 4Q 99**

Manufacturing Plant Number

11

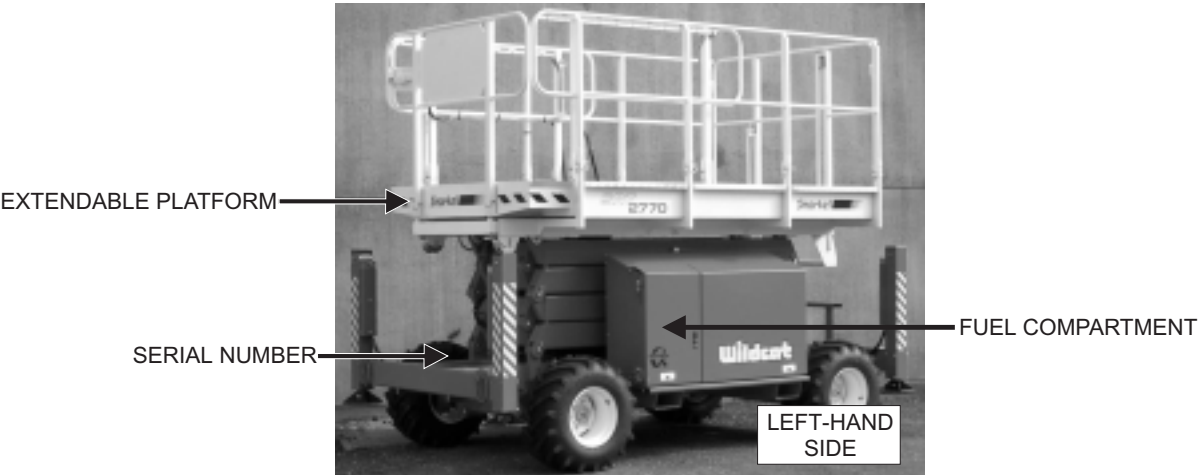
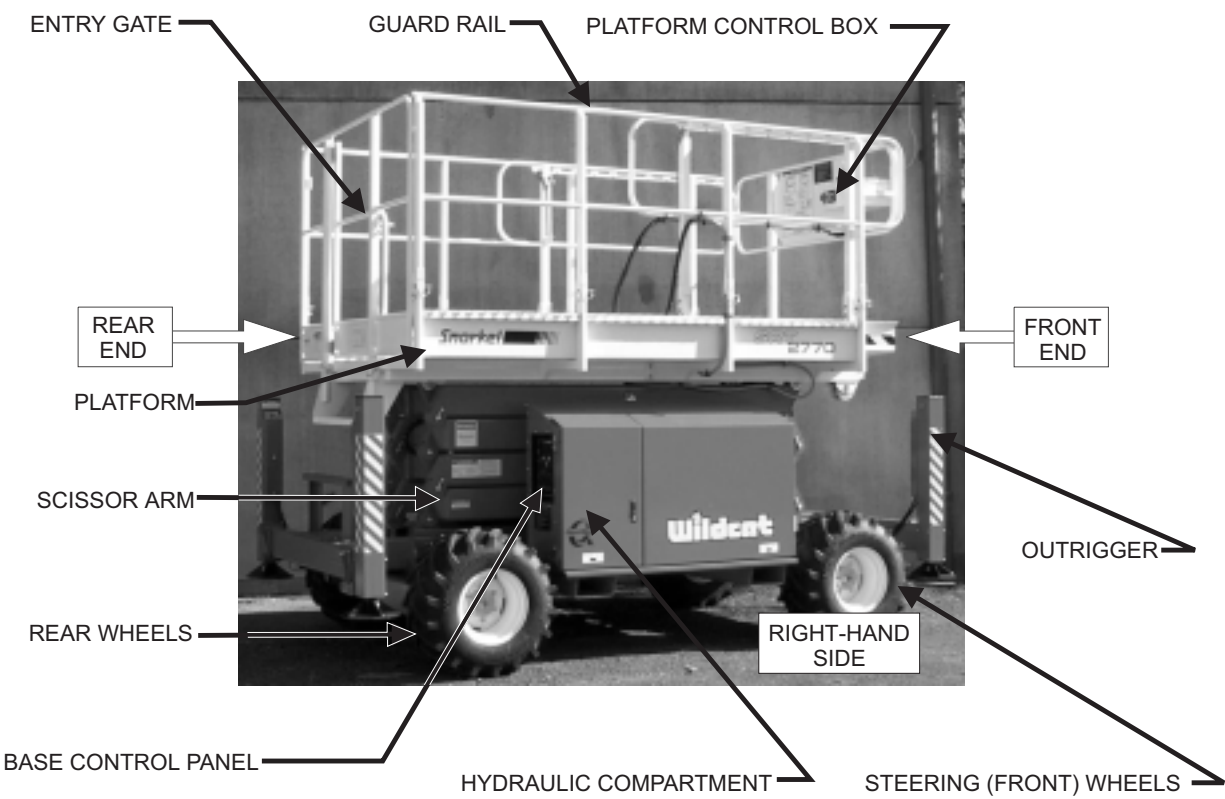
4Q

99

Year of Manufacture

Manufacturing Period (i.e. 4th Quarter)

■ Nomenclature and Serial Numbers



3. Specifications

■ Water



Figure 4.1 - Water Temperature Gauge

The water gauge is located on the ground control box. It shows the temperature of the water-antifreeze mixture in the engine block. The typical operating-temperature range for Kubota engines is 180°F to 205°F (82°C to 96°C), both diesel and gasoline. (See the “Automatic Shut-Offs & Circuit Breakers” chapter 5 for more information.)

■ Amps



Figure 4.2 - Ammeter Gauge

The AMPS gauge shows the electric current from the alternator to the battery. When the engine is running, the needle in the AMPS gauge should not be to the left of “0.” Under normal operating conditions, after the engine has been running for a few minutes, the AMPS gauge should read “0.”

■ Engine Oil

Engine oil level is measured with a dipstick. Oil capacities given in the “Specifications” chapter 3 are approximate. True values will vary from machine to machine due to slight variations or modifications during production.

- The oil dipstick is the only way to accurately gauge if the engine oil level is correct.
- Engine oil level should always be between the lines on the dipstick - never above the top line or below the bottom line.

Gasoline

Diesel

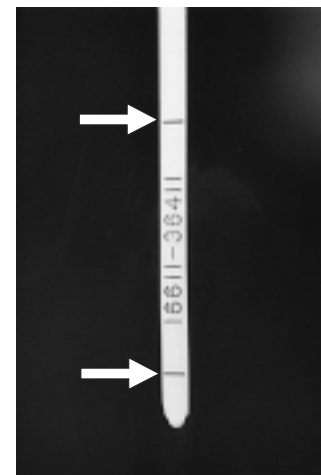
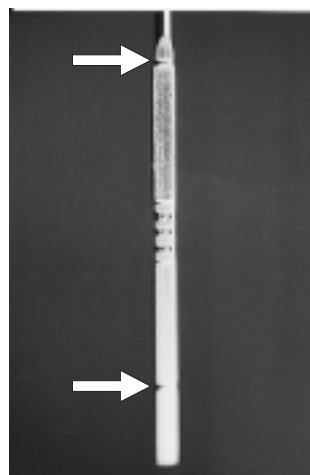


Figure 4.3 - Oil Dipstick Levels for Gasoline and Diesel Engines

■ Hydraulic Oil Level



Figure 4.4 - Hydraulic Oil Level

The hydraulic-oil level gauge is on the side of the hydraulic oil tank. It shows the actual level of oil inside the tank. Read it only when the platform is completely down. Otherwise, the lift cylinders become large reservoirs for hydraulic oil and the oil level in the tank will be low. The oil level should be within (0.25 inches, 6.4 mm) of the line.

4. Gauges

■ Hours



Figure 4.5 - Hour Gauge

The HOURS gauge is basically an electric clock. It accumulates time only when the engine is running. The HOURS gauge cannot be reset. An SR-qualified service technician uses it to tell when it is time for the periodic maintenance listed in the Maintenance Manual.

■ Fuel Level (option)

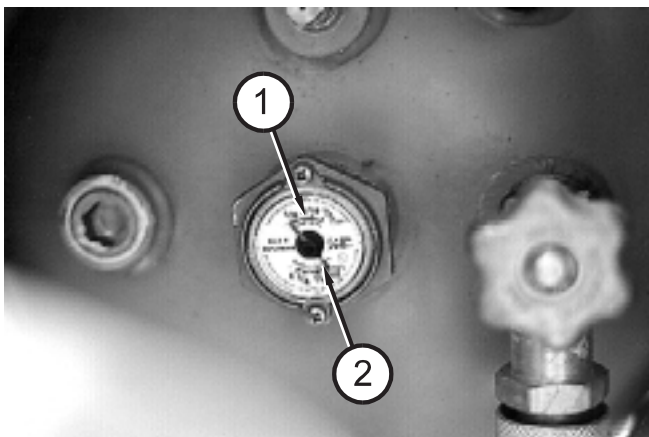


Figure 4.6 - Fuel Level Gauge

LPG tanks have two fuel gauges **1** **2** on top. One measures correctly when the tank is standing on end (VERTICAL) the other measures correctly when the tank is laying down (HORIZONTAL). Both read in fractions-of-a-full-tank. SR tanks are mounted vertically. Therefore, you should read the VERTICAL **1** scale (see Figure 4.6).

■ Bubble Level (outrigger machines only)

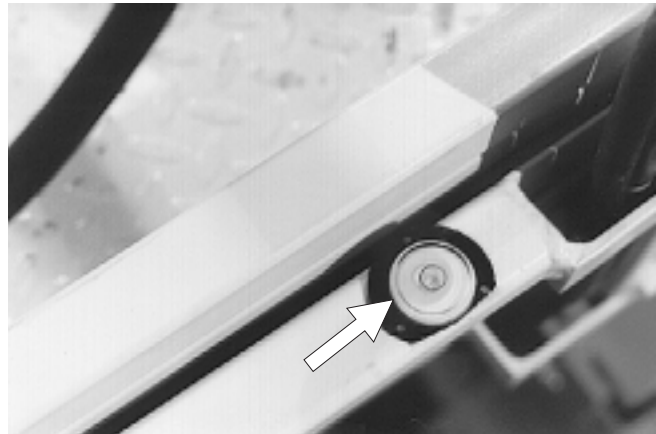


Figure 4.7 - Bubble Level

A bubble level is located on the platform side rail, below the platform control box. Watch the bubble level while you set the outriggers. Lower the outriggers, one at a time, just enough to center the bubble in the circle on top of the gauge. When the bubble is centered the platform is level and can safely be raised.

■ Automatic Shut-offs

❑ Level sensor

When the level sensor alarm sounds, automatic interlocks make it impossible to drive the SR or raise the platform. For more complete information see the "Level Sensor" subsection of the "Safety Devices" chapter.2

❑ Engine temperature

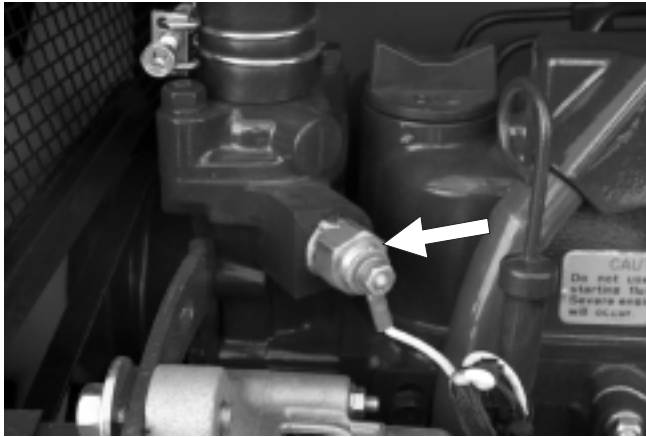


Figure 5.1 - Engine Temperature Sensor

There is a temperature sensor in the engine. It measures the temperature of the antifreeze-water mixture as the mixture leaves the top of the radiator and enters the top of the engine. If the temperature reaches 210(F (99(C) an alarm sounds. If the temperature continues to rise, the engine shuts off when the temperature reaches 230(F (110(C). The engine will not restart until the temperature drops below 210(F (99(C).

❑ Engine oil pressure

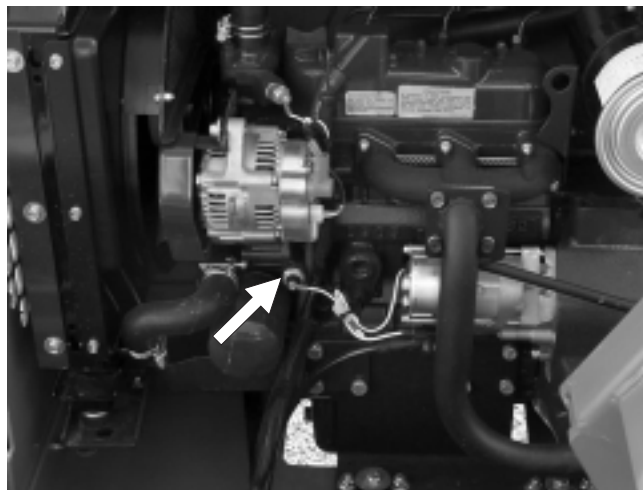


Figure 5.2 - Engine Oil Pressure Sensor

There is an oil pressure sensor in the engine. It measures the engine oil pressure at the oil filter. If the pressure falls below a safe operating value the engine shuts off. The engine will restart with low pressure but it will only run a few seconds before it automatically shuts off again.

❑ Platform height vs. drive speed

When the platform is over 1.7m (5' 6") above the ground the drive speed is limited to its slowest speed and the engine revs are also automatically lowered.

❑ Dynamic brakes

When you drive an SR down a slope, if the SR begins to coast (outrun the drive motors) the hydraulic system "senses" the coasting condition. The hydraulic drive motors then become hydraulic brakes and the SR is slowed. This action prevents SR's from speeding down grades.

❑ Alternator not charging

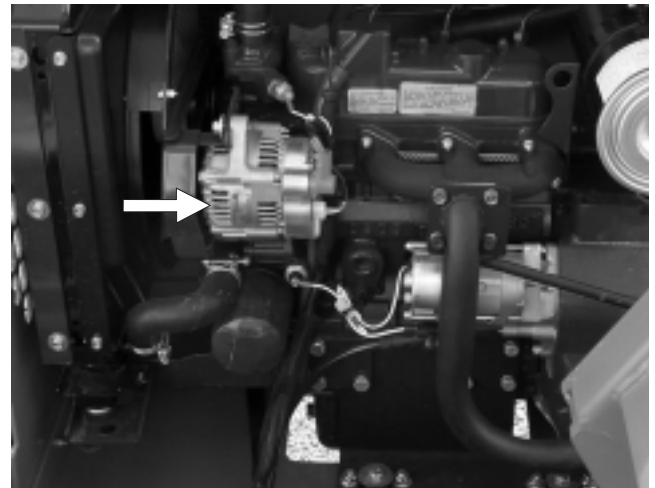


Figure 5.3 - Alternator Output Shutdown

When the fan belt breaks, or the alternator output falls below a safe level for other reasons, the engine automatically shuts off and an alarm sounds. As long as the SR battery is charged you can lower the platform, in the usual way, from the platform control box or the ground control box without the engine running.

❑ Outriggers

The SR cannot be driven unless the outriggers are completely up. If you have just raised the outriggers but the SR will not drive, double check to be sure all four outriggers are completely up.

5. Automatic Shut-offs and Circuit Breakers

■ Circuit Breakers

□ Main breaker



Figure 5.4 - Main Circuit Breaker

There is only one circuit breaker, on a standard SR, that is accessible to the operator. Its purpose is to protect the electrical circuits from electrical overloads. When the circuit breaker trips (pops out) push it back in then attempt to use the SR.

If the circuit breaker trips a second time, take the SR out of service and refer the problem to a qualified trained service technician for repair.

□ RCD / ELCB outlet (option)

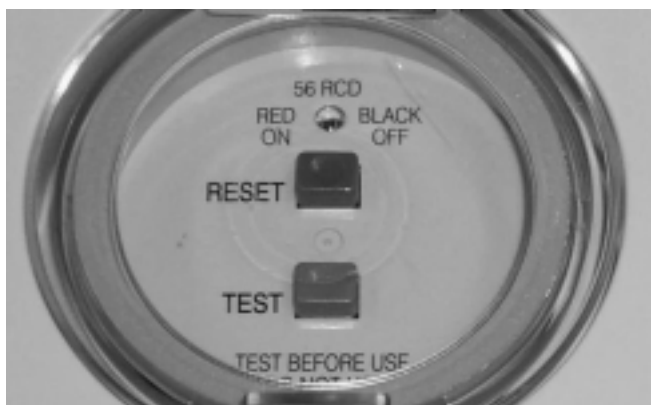


Figure 5.5 - RCD/ELCB Outlet

The RCD (Residual Current Device) is located at the ground and will protect against short circuits to earth. When there is a short circuit the RCD will shut down the 230v AC power to the platform outlet.

To reset the outlet disconnect the power tool lead from the platform box and reset the RCD at the ground.

If the problem persists call a trained service technician.

■ Controls

This chapter explains what each control does.

This chapter does not explain how to use the controls to produce useful work, refer to the “Operation” chapter 8 for that, after you have read this chapter.

For optional-equipment controls, see the “Options” chapter 11 .

The only optional-equipment controls discussed in this chapter are the controls for: diesel engines, dual-fuel engines, LP-only engines, and outriggers.

See the “Emergency Operation” chapter 9 for the location of the emergency bleed down control and for correct emergency bleed down procedures.

The main operating functions of an SR can be controlled from the ground control box (1) or the platform control box (2).



Figure 6.1 - Location Of Upper and Lower Control Boxes

6. Controls

■ Hydraulic Compartment

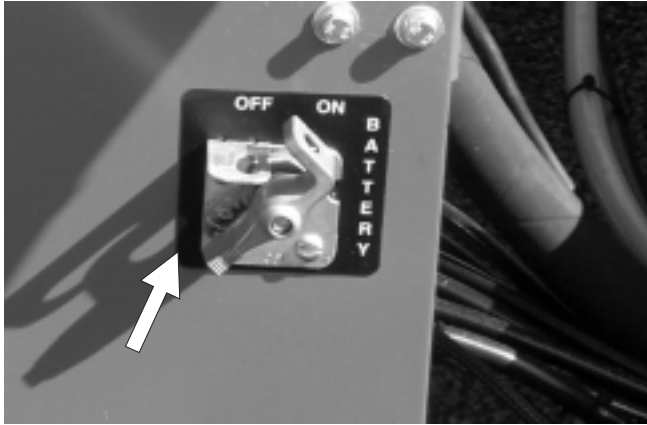


Figure 6.2 - Battery Switch

1. **Battery Switch:** This must be ON for the engine to start. When the battery switch is OFF the positive side of the SR battery is disconnected from the electrical system. Lock this switch OFF when the SR is left unattended.

■ Ground Control Box

Controls for operating an SR from the ground are located on the right side of the machine on the rear of the hydraulic compartment.

NOTE

The number of each control below corresponds to the control's number on the next page.

1. **Emergency Stop:** Press the red switch-cover down, at any time, under any conditions, and the entire machine stops - the engine turns off and nothing moves. This switch must be up for anything on the machine to work.
2. **Key Switch:** This switch works like an automobile ignition switch. Hold the key at the start symbol (extreme clockwise position) until the engine starts then release it to the on position (bar symbol). Turn the key to off (O) if the platform is to stay in one position for a long time. That will turn the engine off and save fuel.
3. **Choke Indicator Light** (gasoline engines only): This light will be lit while you choke the engine (see CHOKE below).
3. **Glow-Plug Indicator Light** (diesel engines only): This light will be on while the glow plugs are on. Wait, about 30 seconds for the light to go out before you try to start a diesel.

4. **Choke** (gasoline engines only): Hold the choke switch up anytime you start a gasoline engine that is at ambient air temperature (a "cold" engine).
4. **Glow Plug** (diesel engines only): This is a momentary contact switch. Press it up then release it just before you start a diesel engine that is at ambient air temperature (a "cold" engine). This action automatically causes glow plugs to come on for 30 seconds to warm the inside top of each cylinder, thus aiding combustion.
5. **Lift Indicator Light:** The platform can be raised only when this light is lit. When this light is not lit the platform will not rise because: the platform is not level, or the outriggers are not properly set.
6. **Platform Lift/Lower:** Holding this switch up causes the platform to rise. Pushing this switch down causes the platform to lower.
7. **Fuel** (option): Before starting a dual-fuel engine set the FUEL switch to gasoline (up) or LP gas (down) depending on which you want to use. If you select LP gas, be sure to open the valve on top the LP gas tank.
8. **Ground/Platform Selector:** Must be down for the ground control box to work. Must be up for the platform control box to work.

NOTE

CEE COMPLIANCE

There are three changes to the Lower control box to ensure compliance with Machinery Directive 98/37/CEE.

1. *Stop button flip down type is replaced with an approved push/pull type.*
2. *Key start switch is replaced with a 3 position switch the same as the Upper control station.*
3. *The Ground/Platform selector is changed to a key type selector with the key removable in each position.*

Ground control box controls



6. Controls

■ Platform Control Box

Controls for operating an SR from the platform are located on the platform control box.

NOTE

The number of each control below corresponds to the control's number on the next page.

1. **Emergency Stop:** Press the red button in at any time, under any conditions, and the entire machine stops - the engine turns off and nothing moves. This switch must be out (on) to start and run the SR from the platform control box, pull the switch and it will pop out (on). Press the switch in (off) if the platform is to stay in one position for a long time. That will turn the engine off and save fuel.

NOTE

The EMERGENCY STOP switch on the ground control box overrides the one on the platform control box. If the one on the ground control box is off the SR will not start or run, it does not make any difference whether the one on the platform control box is on or off.

2. **Start** Turn and hold the switch to the right to start the engine. As soon as the engine starts, release the switch.
3. **Choke** (gasoline engines only): Press and hold the switch in anytime you start a gasoline engine that is at ambient air temperature (a "cold" engine).
3. **Glow-Plug** (diesel engines only): This is a momentary contact switch. Press it up then release it just before you start a diesel engine that is at ambient air temperature (a "cold" engine). This action automatically causes glow plugs to come on for 30 seconds to warm the inside top of each cylinder, thus aiding combustion.
4. **Choke Indicator Light** (gasoline engines only): This light will be lit while you choke the engine.
4. **Glow-Plug Indicator Light** (diesel engines only): This light will be on while the glow plugs are on. Wait for the light to go out before you try to start a diesel.
5. **Safety Control** The SAFETY CONTROL must be squeezed against the JOYSTICK CONTROLLER to activate the joystick controller. If the safety control is not squeezed the joystick controller is inoperative.

6. **Joystick Controller** If the LIFT/DRIVE SELECTOR is set to the left (lift function), pushing the joystick controller forward causes the platform to rise, pulling the joystick controller backward causes the platform to lower. If the LIFT/DRIVE SELECTOR is set to the right (drive function), pushing the joystick controller forward causes the SR to move forward, pulling the joystick controller backward causes the SR to move backward. The further you push or pull the controller the faster the motion (except lowering-it occurs at one speed only).

NOTE

Squeeze the SAFETY CONTROL anytime you use the JOYSTICK CONTROLLER.

7. **Steering** The rocker switch on top of the JOYSTICK CONTROLLER turns the front wheels left or right depending upon which side of the switch you press.

NOTE

The wheels do not return to straight ahead, after a turn, the way automobile wheels do. You must use the STEERING switch to straighten the wheels after a turn.

8. **Lift/Drive Selector** When this switch is set to the left the JOYSTICK CONTROLLER becomes a lift/lower controller to raise or lower the platform. When this switch is set to the right the JOYSTICK CONTROLLER becomes a drive controller to drive the SR forward or backward. The SR will not drive and lift at the same time.
9. **Speed** Set the switch to turtle (slow) when you are working in close quarters or if you are new to the machine. Setting the switch to rabbit (fast) doubles the top speed of the SR.
10. **Lift Indicator Light** The platform can be raised only when this light is lit. When this light is not lit the platform will not rise because: the platform is not level, or the outriggers are not properly set.
11. **Drive Indicator Light** The platform can be driven when this light is lit. When it is not lit the platform will not drive because with the platform raised the base is not level or with the platform raised the axle switches are not set.
12. **Outriggers** Each switch corresponds to one of the outriggers. Pull a switch backward to lower an outrigger, push it forward to raise the outrigger (see Figure 6.3).

❑ Platform control box controls (standard outrigger operation)

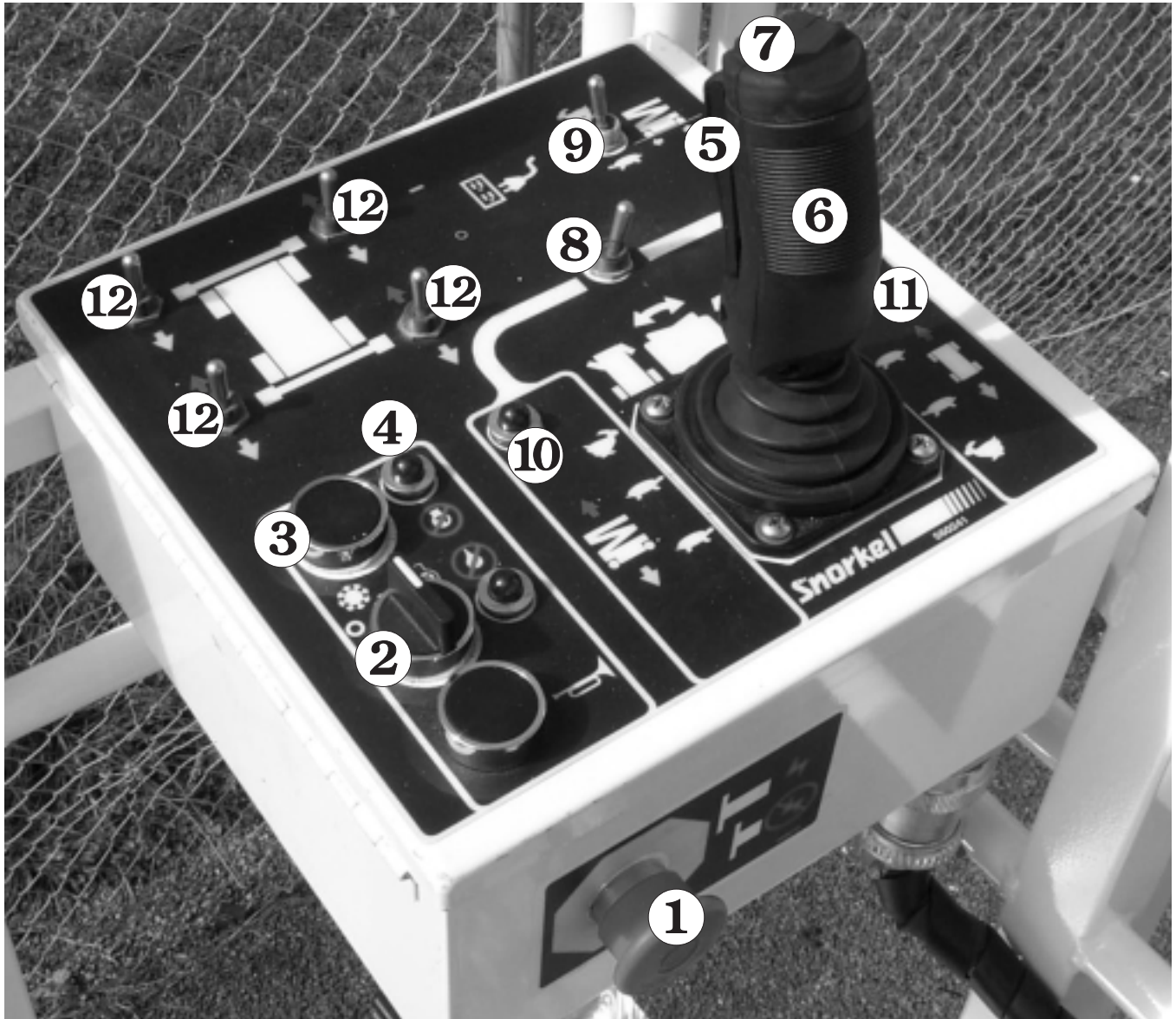


Figure 6.3

❑ Self Levelling Outriggers (optional)

13 For units fitted with self levelling outriggers the following applies:

To raise or lower the outriggers 'automatically' switch 13 is used.

Press switch 13 momentarily (3 - 4 seconds) to lower the outriggers. The outriggers will lower and level the platform automatically.

Switch 13 can also be used to raise the outriggers to the stowed position. To do so press (momentarily) in the raise direction and all the outriggers will raise automatically.

14 To operate the outriggers individually switch 14 must be held "ON" (down) while each individual switch 12 is used.

NOTE:

See Figure 6.4 on following page for Self Levelling Outrigger control switches.

6. Controls

- Platform control box controls
(Self levelling outriggers - optional)

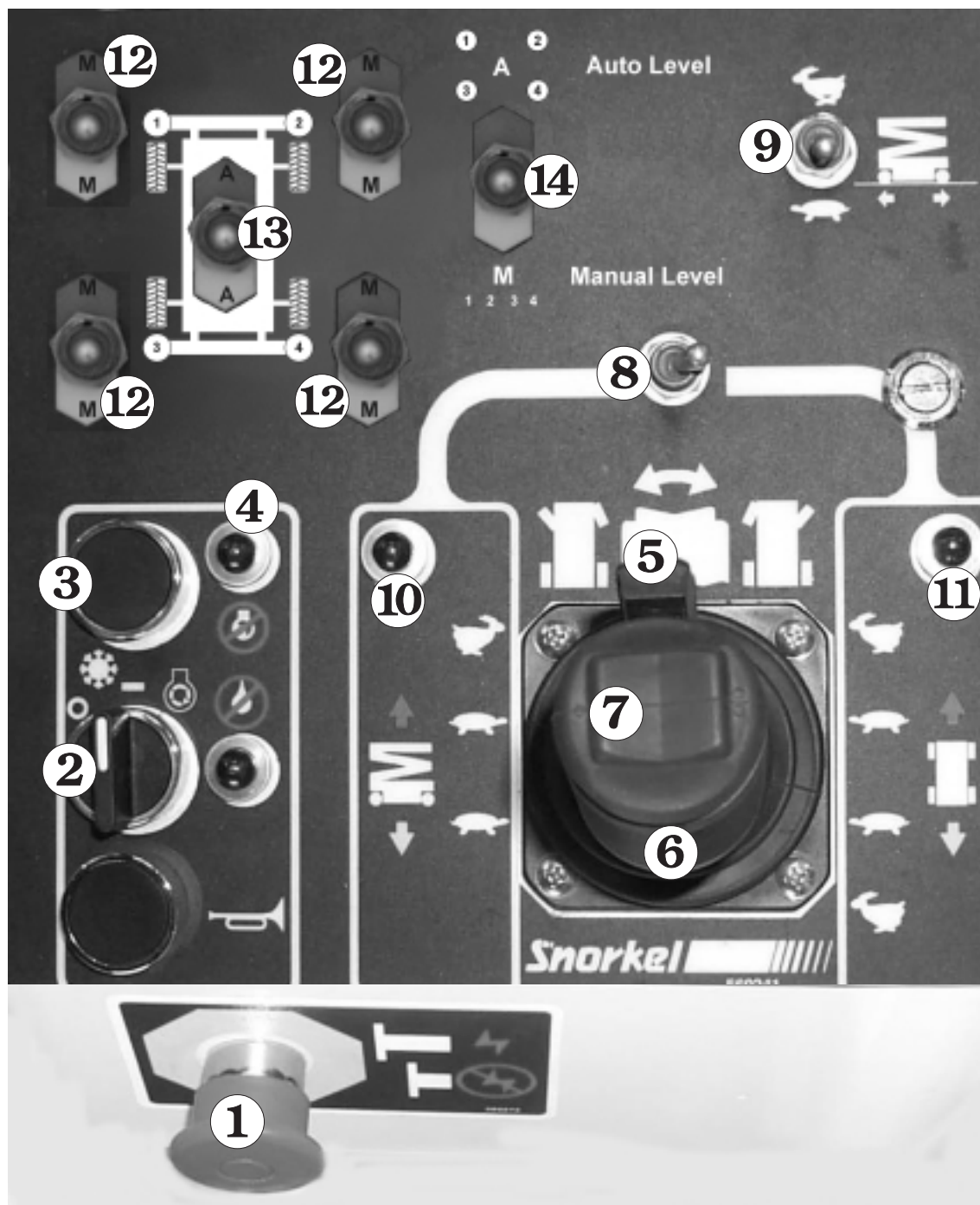


Figure 6.4

7. Daily Inspection and Maintenance

At the start of each work day (or 8 hour shift), an SR qualified operator must perform the Daily Inspection and Maintenance as listed in the table below.

The purpose of the Daily Inspection and Maintenance is to keep the SR in proper working condition and to detect signs of malfunction at the earliest possible time.

Set the **Key Switch** set to OFF before you begin this inspection.

Defective parts and/or equipment malfunctions jeopardize the safety of the operator and other personnel, and can cause damage to the machine.

DANGER

DO NOT operate an SR that is known to be damaged or malfunctioning.

Repair all equipment damage or malfunctions, before placing the SR into service.

■ Daily Inspection and Maintenance Table

Item	Service Required
Fuel level	Visually inspect
Fuel filter (diesel engines only)	Visually inspect (condition)
Fuel leaks	Visually inspect (hoses and connections etc)
Engine oil	Check oil level (between dipstick lines)
Engine coolant	Check fluid level and radiator hoses
Radiator cap	Visually inspect installation)
Swinging gate	Visually inspect (installation, operation)
Wiring harnesses and connectors	Visually inspect (installation, operation)
Battery terminals	Visually inspect (no corrosion)
Hydraulic tank cap	Visually inspect installation)
Hydraulic oil level	Check fluid level (at line on side of tank)
Hydraulic oil leaks	Visually inspect (hoses,tubes)
Tires and wheels	Visually inspect (condition)
Bolts and fasteners	Visually inspect (looseness)
Structural damage and welds	Visually inspect (welds, cracks, dents)
Guardrails	Visually inspect (condition)
Lanyard anchorages (option)	Visually inspect (condition)
Bubble level on platform	Visually inspect (condition)
Guides, rollers and slides	Visually inspect (condition)
START THE ENGINE FROM THE GROUND CONTROL BOX	
Charging system	Check condition (gauge)
Level sensor	Check operation
Ground controls	Actuate and visually inspect for operation
Emergency lowering	Check operation (causes correct motion)
Platform controls	Actuate and visually inspect for operation
Flashing light (option)	Visually check (operation)
RCD / ELCB (option)	Check operation
Air filter	Check condition (gauge)
Safety prop	Check operation
Parking brakes	Check operation
Placards, decals, and Operators Manual	Visually inspect (installation and condition)

7. Daily Inspection and Maintenance

The rest of this chapter shows how to perform the inspection and maintenance required for each item in the daily inspection and maintenance table.

■ Fuel Level

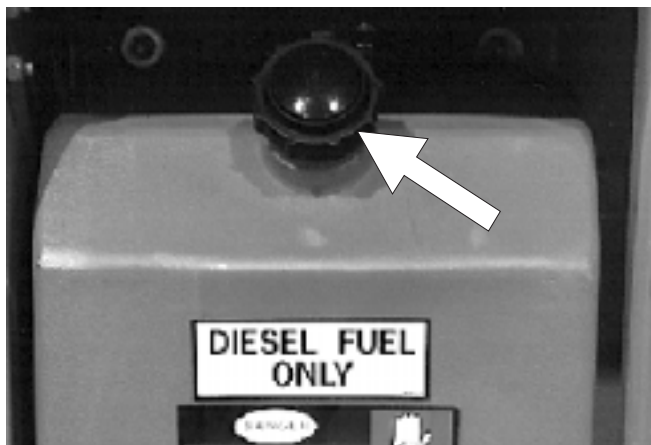


Figure 7.1 - Fuel Level

Remove the fuel tank cap. Visually Check to see that the gasoline or diesel tank is full. Replace the tank cap and tighten.

□ (Option - LPG)

To check the fuel read the fuel meter ④ on top (see Figure 7.2).

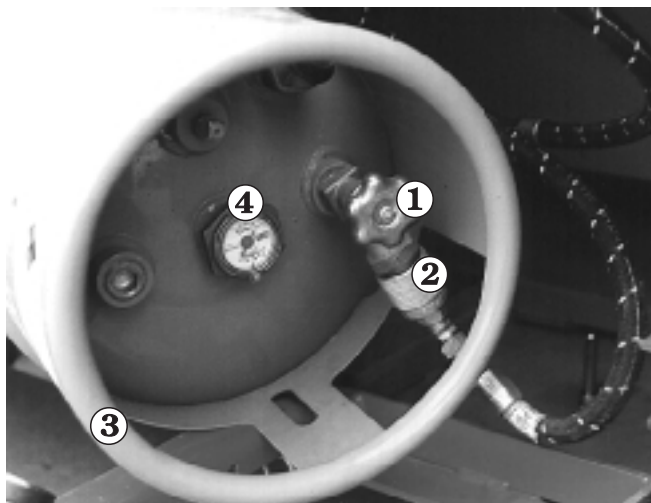


Figure 7.2 - LPG Fuel Tank Replacement

To replace an LPG tank:

Close the valve ① (see Figure 7.2). Manually disconnect the fuel hose at the knurled ring ②. Manually lift the tank ③ out.

■ Fuel Filter (diesel engines only)

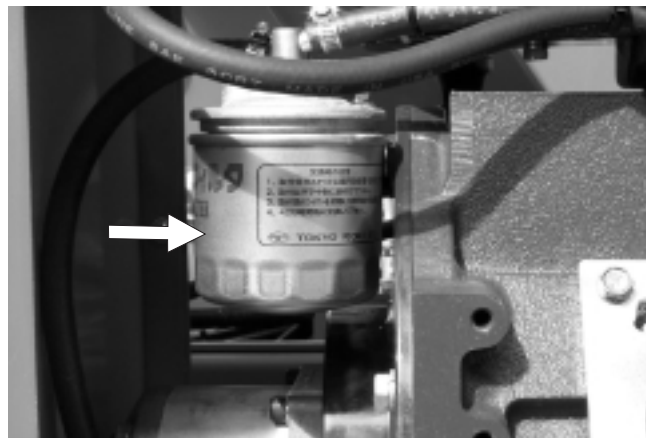


Figure 7.3 - Fuel Filter

Visually check to see that there is no water in the bottom of the filter.

■ Fuel Leaks

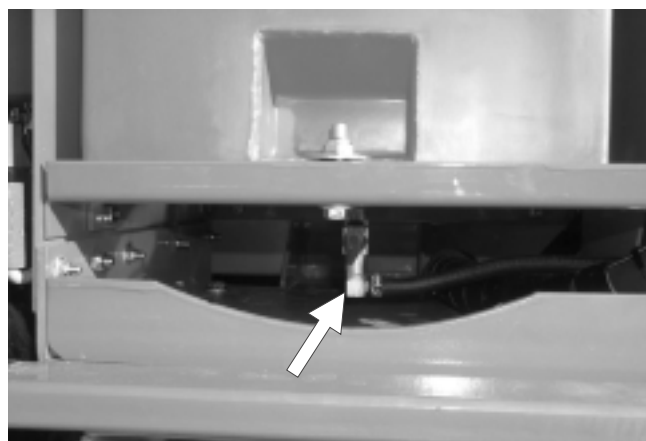


Figure 7.4 - Fuel Leaks at Tank

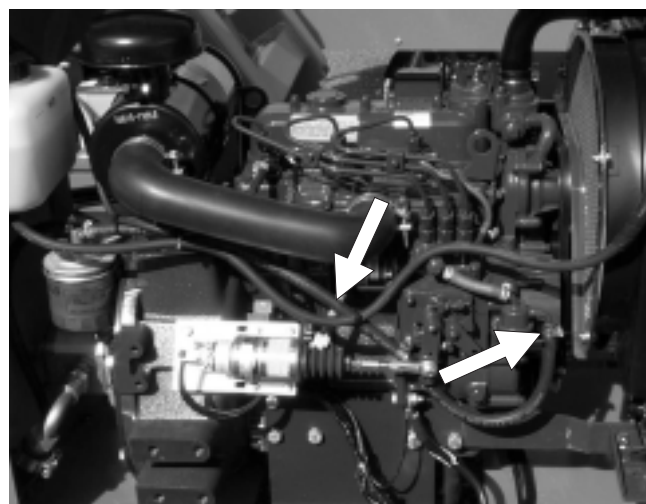


Figure 7.5 - Fuel Leaks in Hoses & Joints

7. Daily Inspection and Maintenance

Visually inspect the entire length of the fuel line, from the engine to the fuel tank, for leaks.

■ Engine Oil

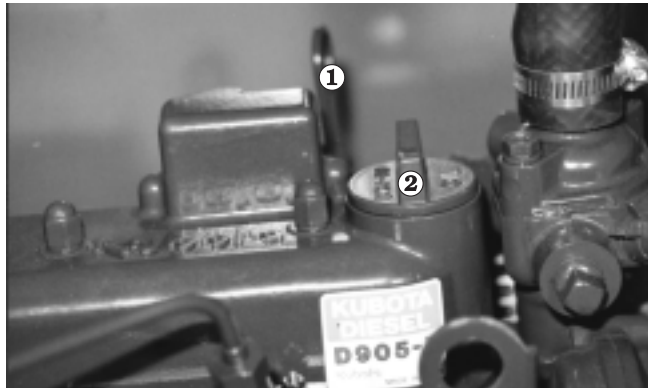


Figure 7.6 - Engine Oil Level

Keep the oil level between the marks on the dipstick ① (see Figure 7.6).

The distance between the top and bottom dipstick marks corresponds to about 1 qt. (one liter). Add oil, if needed at the cap ② (see Figure 7.6) on top of the engine.

See the “Specifications” chapter 3 for the correct engine oil grade and weight.

■ Engine Coolant

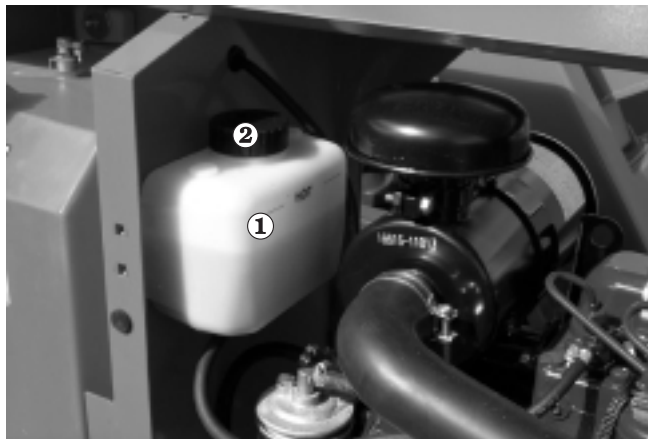


Figure 7.7 - Engine Coolant Level

The Kubota engine is liquid cooled. At operating temperatures the coolant should be at the HOT level ① (see Figure 7.7). When cold there should be approximately 1 inch (2.5 cm) of coolant in the bottom of the reservoir.

The coolant is half water and half ethylene glycol.

To add coolant:

Turn the engine OFF at the ground control box KEY SWITCH. Remove the cap ② (see Figure 7.7) from the coolant reservoir. Add coolant and replace cap.

■ Radiator Cap

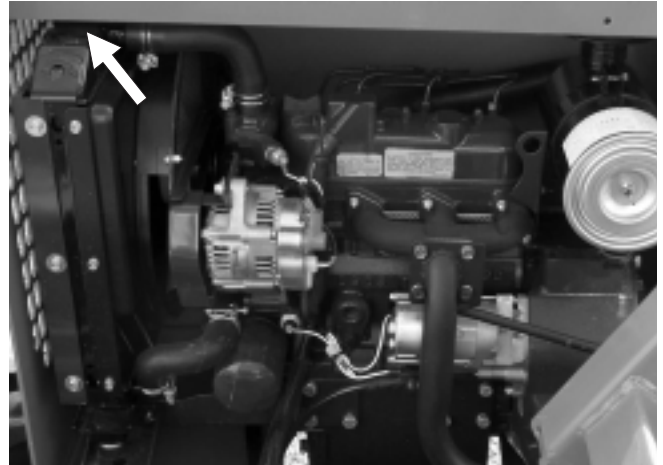


Figure 7.8 - Radiator Cap

Visually check to see that the cap is in place and tight.

■ Swinging Gate



Figure 7.9 - Swinging Gate

Inspect the gate to see that it swings freely, latches securely, and is not deformed in any way.

■ Wiring Harnesses and Connectors

Inspect all the wiring harnesses, on the machine, for loose connections, broken wires, and frayed insulation.

7. Daily Inspection and Maintenance

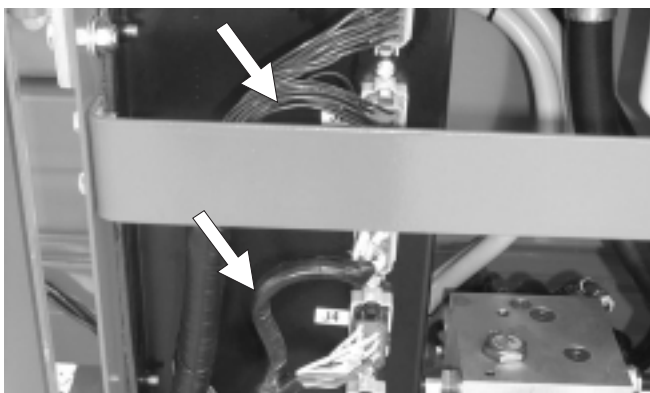


Figure 7.10 - Wiring Harnesses and Connectors

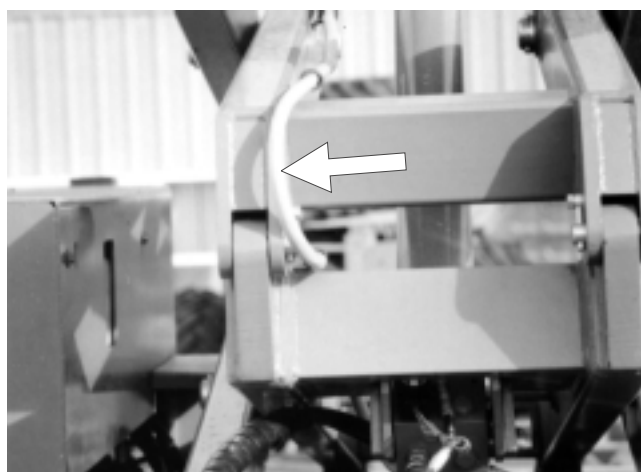


Figure 7.11 - Wiring Harness in the Scissor Stack

Pay particular attention to the wiring harnesses that are attached to the scissor stack.

■ Battery Terminals

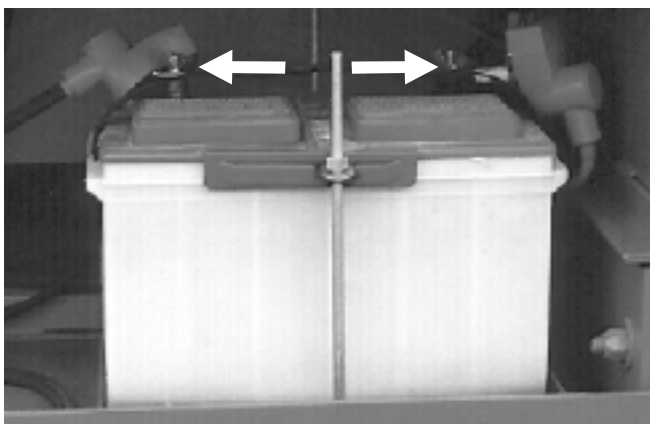


Figure 7.12 - Battery Terminals

Battery terminals should be clean and free of corrosion — none of that greenish-white fuzzy stuff.

■ Hydraulic Oil Tank

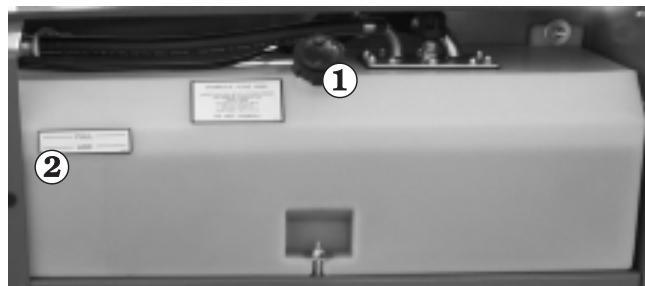


Figure 7.13 - Hydraulic Oil Tank

□ Hydraulic tank cap

Check to see that the cap ① is in place and is tight (see Figure 7.13).

□ Hydraulic oil level

To check the hydraulic oil level:

Completely lower the platform.

The hydraulic oil level should be at the full level according to the gauge ② (see Figure 7.13). If necessary, add hydraulic oil at the Hydraulic oil tank cap. See the “Specifications” chapter 3 for type and grade of hydraulic oil.

■ Hydraulic Oil Leaks

⚠ DANGER

Leaking hydraulic oil can cause burns, fires, falls (slipping), cuts, and puncture wounds (if under high pressure). Do not tolerate hydraulic oil leaks. They are dangerous.

Hydraulic oil leaks are easily visible and can show up anywhere. Visually inspect the entire machine for hydraulic oil. Check the ground under the machine for leaked oil.

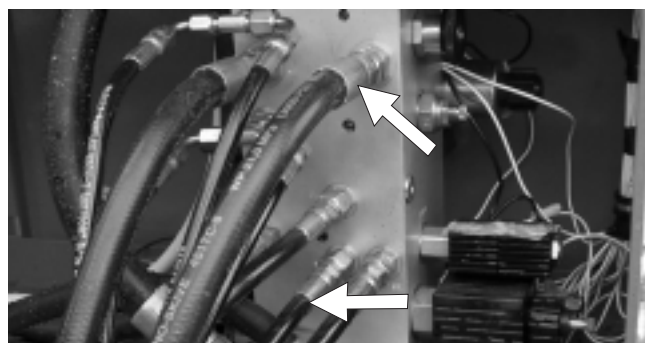


Figure 7.14 - Check Fittings at Valve

Check for loose fittings at the valve.

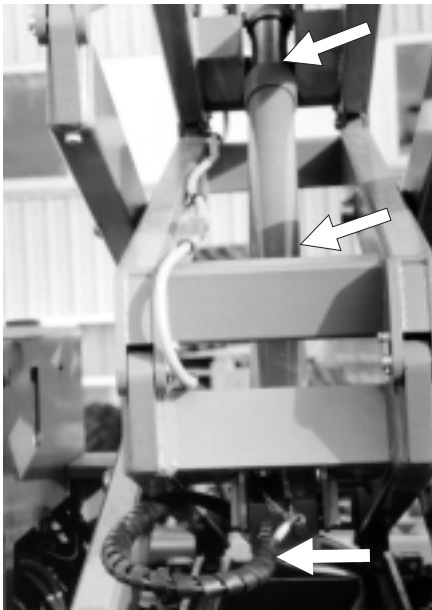


Figure 7.15 - Check Hydraulic Cylinders

Pay particular attention to the cylinders, check to see that there is no oil leaking from the seal, also check all hoses that run to the cylinders.

■ Tires and Wheels

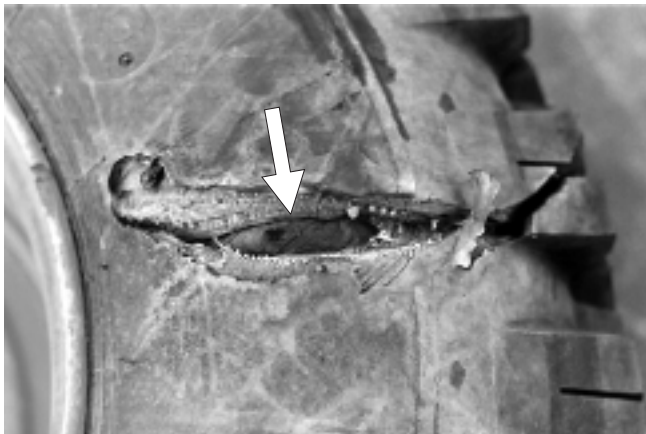


Figure 7.16 - Tire Condition

SR tires are foam filled. Punctures of the type caused by bolts, screws, or nails are not a problem.

Look for large holes or long cuts completely through the tire body: holes or cuts where foam is being forced or eroded out of the tire.

Also look for large imbedded objects, such as angle iron, that can rip a tire body open under some conditions.

■ Bolts and Fasteners

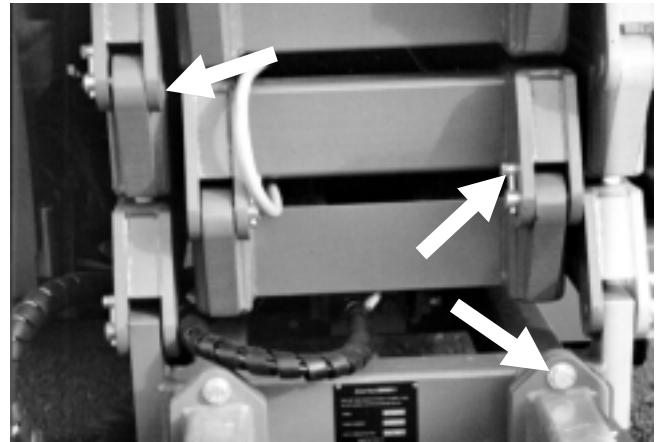


Figure 7.17 - Bolts and Fasteners

Visually inspect all fasteners to see that none are missing or obviously loose.

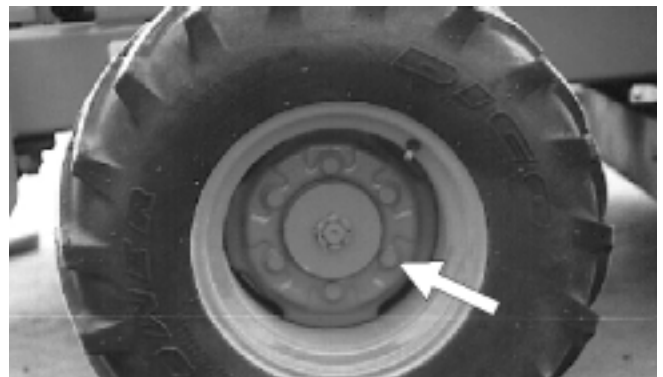


Figure 7.18 - Wheel Nuts

Pay particular attention to all of the wheel nuts. None should be visibly loose, missing, or deformed.

■ Structural Damage & Welds

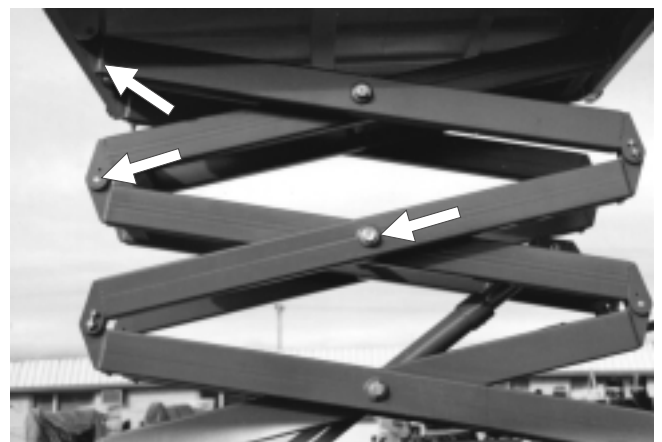


Figure 7.19 - Structural Damage and Welds

7. Daily Inspection and Maintenance

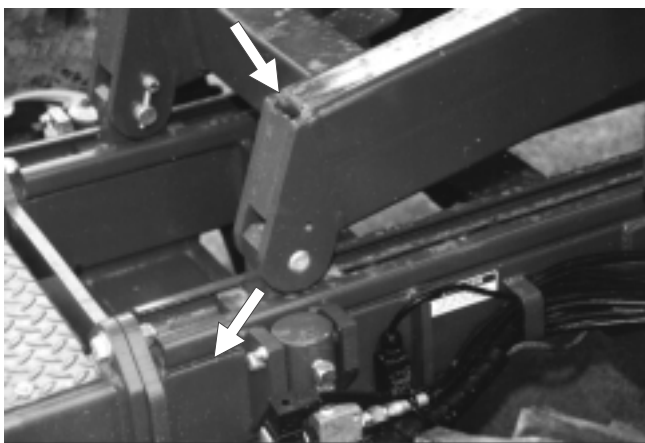


Figure 7.20 - Structural Damage and Welds

Visually inspect all welds for cracks, all structural members for deformity, and all sheet metal for dents that could interfere with machine operation.

■ Guardrails



Figure 7.21 - Guardrails

Pay particular attention to the guardrails. Make sure the guardrails are properly installed, that all the fasteners are in place, and that the swinging gate is in place and works properly.

■ Bubble Level (machines with outriggers)



Figure 7.22 - Bubble Level

Visually check to see that the bubble level is not damaged, that it is full of fluid, that the bubble does not exceed the diameter of the center black circle, and the surface on which the bubble level is mounted is not deformed or bent out of level.

■ Guides, rollers, and slides

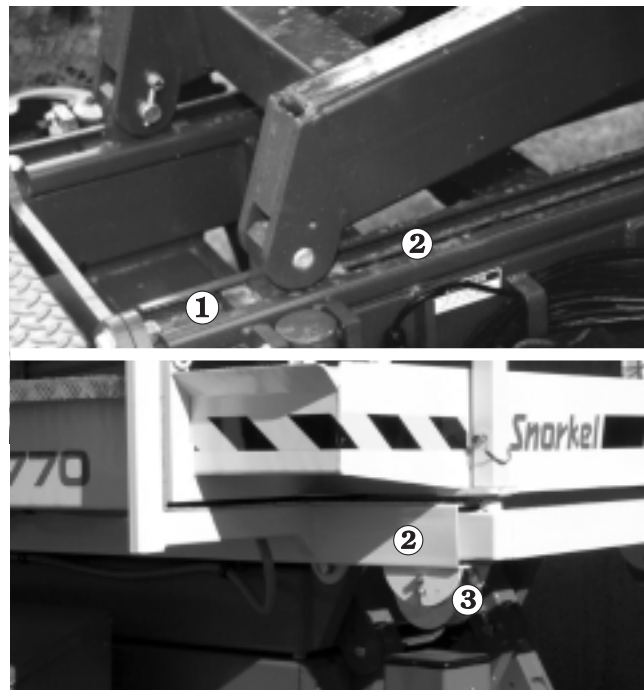


Figure 7.23 - Guides, Rollers, and Slides

Visually check slides (1), and rollers (3) for wear or damage. Be sure that the guides (2) are free of debris and allow the slides and rollers to move smoothly.

■ Charging System



Figure 7.24 - Ammeter Gauge

With the engine idling, the needle in the AMPS gauge should not be to the left of "0" (left of "0" is discharging).

NOTE

Leave the engine running for the next step

■ Level Sensor

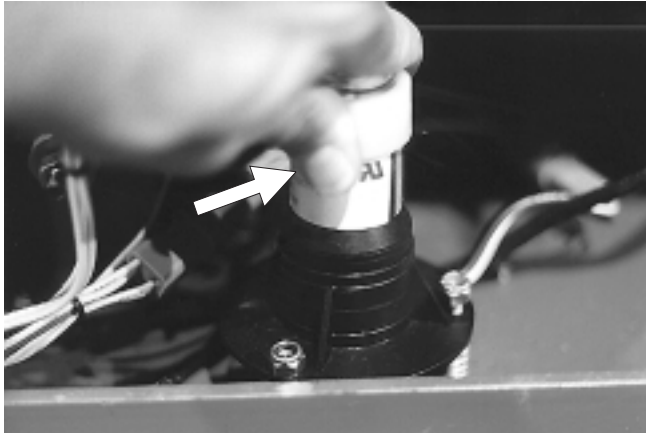


Figure 7.25 - Level Sensor

With the SR engine running and scissors raised, push the level sensor to the side as far as possible. The level sensor alarm should sound.

■ Ground Controls



Figure 7.26 - Ground Controls

Check the Platform Lift/Lower switch **1** (see Figure 7.26) to see that it is functioning properly by holding the switch up to rise platform and pushing the switch down to lower the platform.

In cold temperatures (below 50(F/10(C) check to see that the Hydraulic Oil Warm-Up switch **2** is functioning properly by turning the switch on (up) for 5 to 10 minutes or until the hydraulic oil tank is warm to the touch then turn the switch off (down).

Pay particular attention to the **Emergency Stop** switch **3** (see Figure 7.26) to see that it turns the SR engine off when struck.

■ Emergency Lowering



Figure 7.27 - Emergency Lowering

To check the emergency lowering: Raise the platform and turn the engine OFF at the ground control box KEY SWITCH.

Operate the emergency lower by pulling on the cable **1** (see Figure 7.27) located at the front of the chassis. When the platform is fully lowered release the cable.

■ Platform Controls

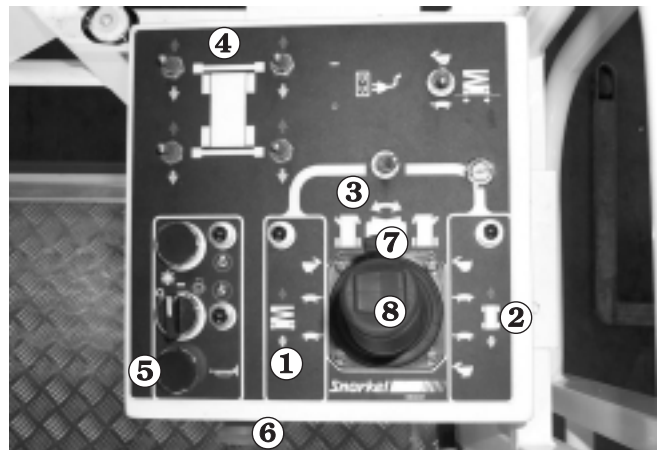


Figure 7.28 - Platform Controls

Check all of the lift **1**, drive **2**, steer **3**, and outrigger (**4**, if present) functions from the platform control box to see that they cause the SR to move the way it should (see Figure 7.28). (for correct operating procedures see the "Operation" chapter 8).

Listen for the lowering alarm while the platform is going down. Listen for the motion alarm while the SR is being driven forward. Listen for the back-up alarm while the SR is backing up.

Press the operator horn **5** (see Figure 7.28) to see that it works.

7. Daily Inspection and Maintenance

Pay particular attention to the **Emergency Stop switch ⑥** to see that it turns the engine off when struck (see Figure 7.28).

Pay particular attention to the **Safety Control ⑦** to see that it deactivates the **Joystick Controller ⑧** when the safety control ⑦ is released (see Figure 7.28).

■ Flashing Light (option)

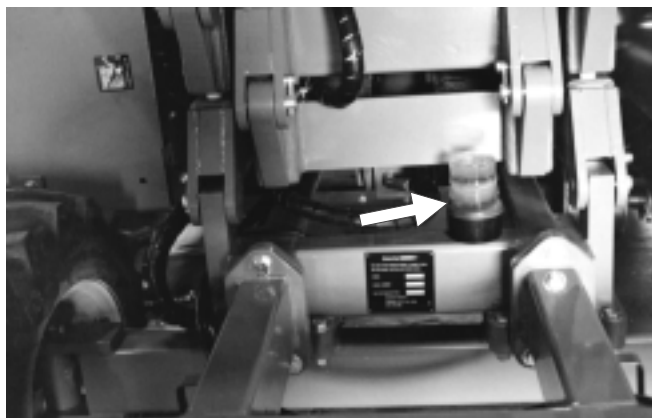


Figure 7.29 - Flashing Light

Check to see that the light flashes approximately once a second when the SR engine is running.

■ RCD / ELCB (option)

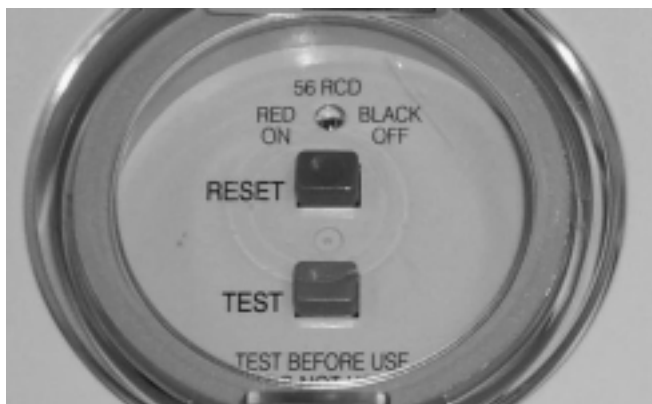


Figure 7.30 - RCD / ELCB

The RCD (Residual Current Device) is located at the ground and will protect against short circuits to earth. When there is a short circuit the RCD will shut down the 230v AC power to the platform outlet.

To reset the outlet disconnect the power tool lead from the platform box and reset the RCD at the ground.

If the problem persists call a trained service technician.

■ Safety prop

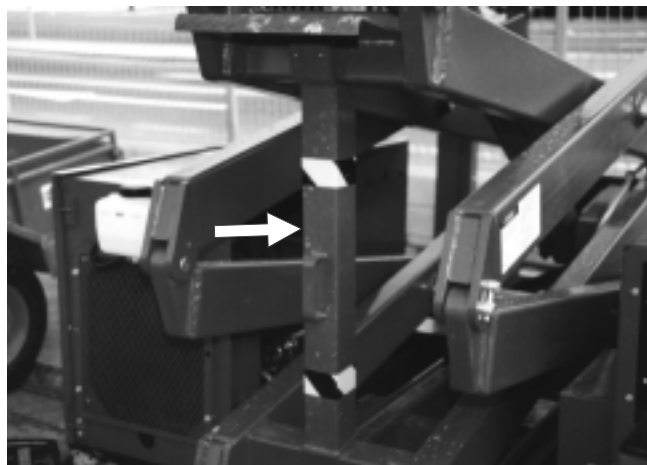


Figure 7.31 - Safety Prop

Inspect the safety prop(s) to see that it is present and moves freely.

■ Lanyard Anchorages (option)

Check all four lanyard anchorages on the floor of the platform to see that they are present, not deformed, that they move freely, and that they are securely attached to the platform.

7. Daily Inspection and Maintenance

■ Placards and Decals

Look to see that all placards and decals are in place and legible. Replace any missing or illegible placards or decals before placing the SR into service for the daily work shift.

Decal and placard kits for the SR are available from Snorkel dealers.

☐ Standard placards and decals

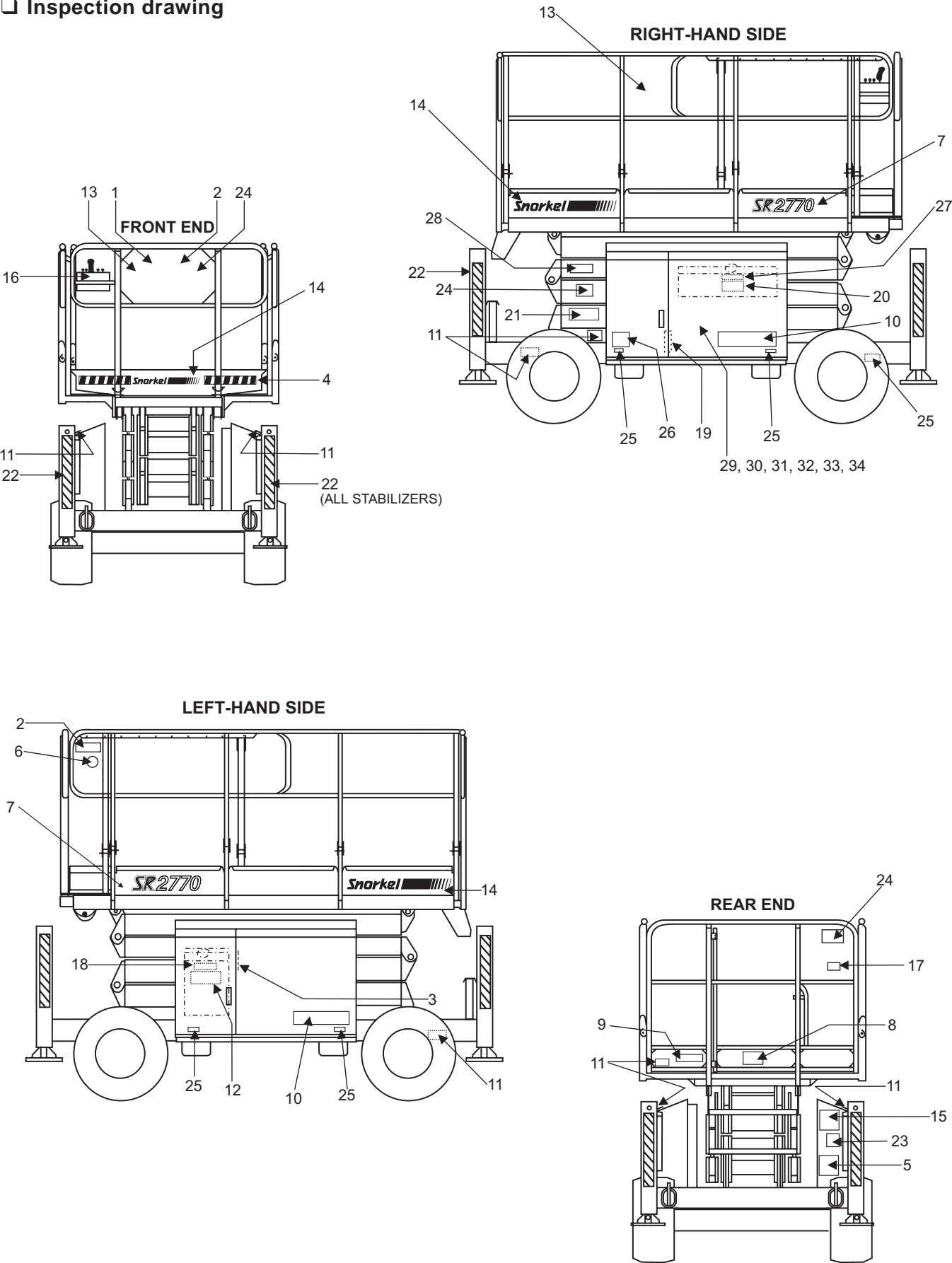
- See page 7 - 11 for the following items:

No	Part No	Description	Req
1	1843	Decal - Warning, N.Z. only	1
2	9428	Decal - Electrical hazard, Australia only	1
3	9208	Decal - Water	1
4	96924-9	Decal - Warning stripes yellow/black	4m
5	0070901E	Decal - Serial number	1
6	9751	Decal - N.Z. made	1
7	11345-1	Decal - SR2770	2
8	11346-1	Decal - Rated load	1
9	0073298	Decal - Foam tyres	1
10	459616	Decal - Wildcat	2
11	451986	Decal - Interlocks	7
12	476706	Decal - Explosive fumes	1
13	480658	Placard - Danger with alarm	2
14	560239	Decal - Snorkel logo	3
15	560240	Decal - Lower control box	1
16	560241	Decal - Upper control box	1
17	560272	Decal - Emergency stop upper box	1
18	605726	Decal - Diesel fuel	1
19	007-0420	Placard - Emergency bleed down	1
20	451776	Decal - Hydraulic fluid	1
21	58365-6	Decal - Safety bar	1
22	9223-3	Decal - Chevron	4
23	300699	Decal - Operators checklist	1
24	0323897	Decal - Must not operate	2
25	621486	Decal - Forklift	4
26			
27	302950	Decal - Hydraulic oil level	1

No	Part No	Description	Req
28	300700	Decal, shearing hazard	1
29	11615	Decal, main manifold block	1
30	11616	Decal, stabiliser block	1
31	11618	Decal, 4WD block SR2770	1
32	11672	Decal, hydraulic schematic 4WD	1
33	11673	Decal, electrical schematic 4WD and 2WD	1
34	11684	Decal, emergency operation, emergency lowering	1

7. Daily Inspection and Maintenance

□ Inspection drawing



■ Operating Procedures

This chapter explains how to start and run an SR that has either a gasoline or diesel engine. Starting a gasoline engine that is set up to burn LP-only or dual-fuel is also discussed in this chapter. Read and understand all the previous chapters before you begin to operate an SR

■ Control Stations

An SR can be started and operated from the ground control box or from the platform control box.

NOTE

The ground control box can override the platform control box at any time. If a person operating the machine from the platform becomes incapacitated, a person on the ground can always take over machine control.

▲ DANGER

The SR is not Electrically insulated.

Death or Serious Injury to operating personnel, can occur if the machine should come into contact with energized electrical wires during operation.

DO NOT attempt to operate the SR ground controls if the platform, scissor assembly or any other conducting part of an SR is in contact with energized electrical wires or if there is an immediate danger of such contact.

NOTE

See the “Electrical Hazard” section, in this manual for a complete explanation of the hazards concerning electricity.

■ Emergency Stopping

To stop an SR, push either **Emergency Stop** switch, at any time on either the ground control box or the platform control box and the entire machine stops and nothing moves.



Figure 8.1 - Emergency Stop Switch at Ground Control Box

Ground control box **Emergency Stop** switch location.

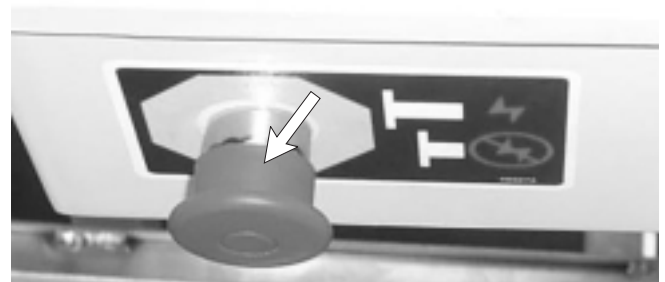


Figure 8.2 - Emergency Stop Switch at Platform Control Box

Platform control box **Emergency Stop** switch location.

NOTE

For a complete discussion of the Emergency Stop switches, see , “Controls” chapter 6, and “Emergency Operation” chapter 9, in this manual.

■ Operation Considerations

To use this chapter, first decide whether you will be starting and operating the SR from the ground control box or the platform control box.

Begin at the section entitled “Operating From The Ground control Box” if you intend to start and run the SR from the ground control box.

8. Operation

Begin at the section entitled “Operating From The Platform Control Box” if you intend to start and run the SR from the platform.

□ Fuel type

After you have made the “ground control / platform control” decision you need to know whether the SR has a gasoline or diesel engine. If it has a “gasoline” engine you further need to know whether it is set up to burn LP-only, or dual-fuel (LP or gasoline). If it is set up to burn dual-fuel you have to decide whether to burn gasoline or LP. The simplest way to tell what kind of engine set up you have is to look in the fuel compartment on the left side of the SR — open both fuel compartment doors.

- If the only fuel source you see there is a tank labeled GASOLINE FUEL, the SR has a gasoline engine set up to burn gasoline.
- If the only fuel source you see is a tank labeled DIESEL FUEL, the SR has a diesel engine.
- If the only fuel source you see is one or more LP tanks, the SR has a special gasoline engine set up to burn LP-only.
- If you see a GASOLINE FUEL tank and one or more LP tanks, the SR has a special gasoline engine set up to burn either gasoline or LP.

Once you have determined the type of engine installed and the type of fuel you will burn you should go to the corresponding subsection that explains how to start that type engine. Read the “Table Of Contents” at the front of this manual to see how the different sections and subsections of this chapter are arranged.

■ Operating From The Ground Control Box

Before you begin to operate the SR from the ground control box, a qualified operator must perform the “Daily Inspection and Maintenance” as described in chapter 7, of this manual

- **Starting a gasoline, LP-only, or dual-fuel engine**

To start a gasoline, LP-only, or dual-fuel (LP & gasoline) engine from the ground control box do the following:

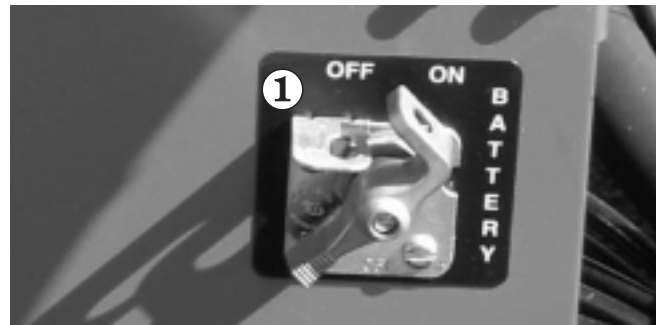


Figure 8.3

1. Set the **Battery** switch ① (see Figure 8.3) to on.



Figure 8.4

2. Set the **Emergency Stop** switch ② to on (up).
3. Set the **Ground/Platform Selector** switch ③ to ground (down) (see Figure 8.4).

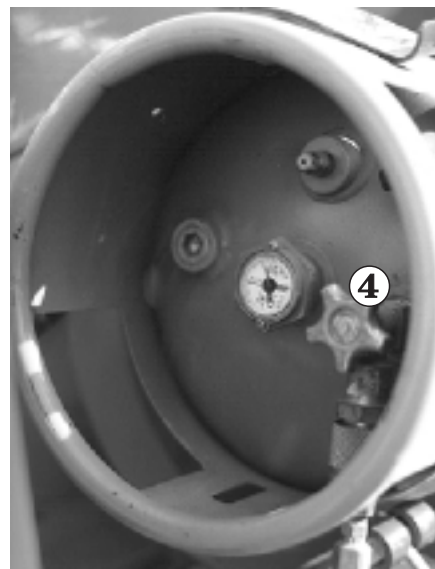


Figure 8.5

- For **LP operation**:
Completely open the valve **4** (see Figure 8.5) on top of the LP tank (unscrew counterclockwise until it stops).

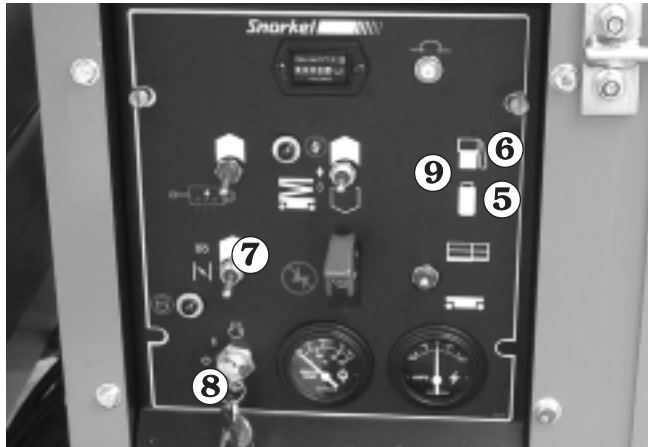


Figure 8.6

- For a **dual-fuel engine**:
Set the **Fuel** switch **9** to LP fuel **5** or gasoline fuel **6**, depending on which you want to use (see Figure 8.6).
- If the engine is cold, press and hold the **Choke** switch **7** (see Figure 8.6) during the next step.
- Turn the key **8** to start and hold it there until the engine starts or for 20 seconds, whichever comes first. When the engine starts, release both the key **8** and the choke switch **7** (see Figure 8.6)

⚠CAUTION

If the engine does not start in 20 seconds, turn the key **8** to off and release the Choke switch **7** then wait 60 seconds before trying to start the engine again.

• Starting a diesel engine

To start a diesel engine from the ground control box do the following:

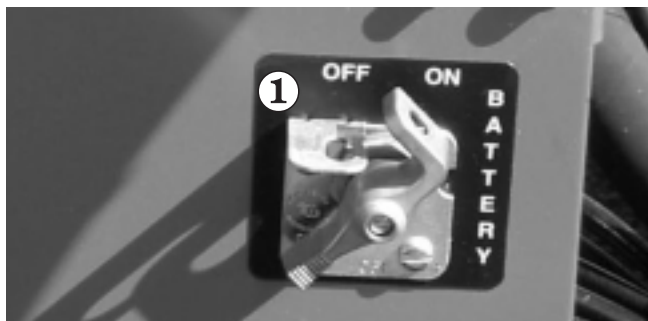


Figure 8.7

- Set the **Battery** switch **1** to on (see Figure 8.7).



Figure 8.8

- Set the **Emergency Stop** switch **2** to on (up) (see Figure 8.8).
- Set the **Ground/Platform Selector** switch **3** to ground (see Figure 8.8).
- Turn the key **4** to on — do not turn the key **4** to start (see Figure 8.8).
- If the engine is at ambient temperature, momentarily press the **Glow-Plug** switch **5**. This action will automatically turn the glow-plugs, in the engine, on for 10 seconds. A light **6** will automatically come on to indicate that the glow-plugs are on (see Figure 8.8).

⚠CAUTION

If the engine does not start in 20 seconds, turn the key **4** to off then wait 60 seconds before trying to start the engine again with the Glow-Plug switch **5** and key **6**.

- When the light **6** goes out, turn the key **4** to start and hold it there until the engine starts or for 20 seconds, whichever comes first. When the engine starts, release the key **4** (see Figure 8.8).

☐ Raising the platform

To raise the platform from the ground control box, do the following:

- The engine must be running. If not, start it from the ground control box as described above.

8. Operation

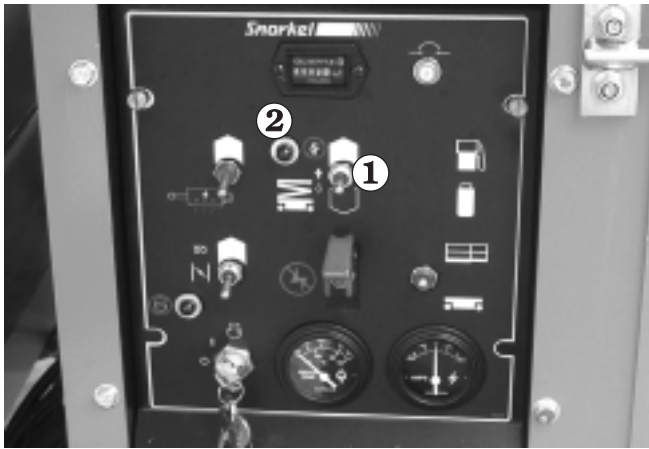


Figure 8.9

2. To raise the platform, press and hold the **Platform Lift/Lower** switch **1** up (see Figure 8.9).

NOTE

*If the indicator light **2** is not lit, the platform will not rise because: the chassis is not level, the outriggers (if present) are not properly set. Correct the problem then continue.*

3. To lower the platform, press and hold the **Platform Lift/Lower** switch **3** down (see Figure 8.9).

■ Operating From The Platform Control Box

Before you begin to operate the SR from the platform control box, a qualified operator must perform the "Daily Inspection and Maintenance" as described in chapter 7, of this manual

● Starting a gasoline, LP-only, or dual-fuel engine

To start a gasoline, LP-only, or dual-fuel (LP & gasoline) engine from the platform control box do the following:



Figure 8.10

1. Set the **Battery** switch **1** to on (see Figure 8.10).



Figure 8.11

2. Set the **Emergency Stop** switch **2** to on (up) (see Figure 8.11).
3. Set the **Ground/Platform Selector** switch **3** to platform (up) (see Figure 8.11).

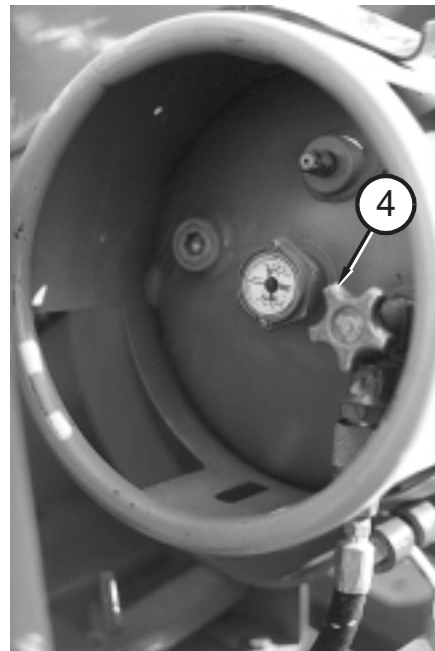


Figure 8.12

4. For **LP operation**: Completely open the valve **4** (see Figure 8.12) on top of the LP tank (unscrew counterclockwise until it stops).



Figure 8.13

5. For a **dual-fuel engine**:
Set the FUEL switch **5** to gasoline **6** or LP gas **7**, depending on which you want to use (see Figure 8.13).



Figure 8.14

6. Enter the platform and close the gate **8** (see Figure 8.14).

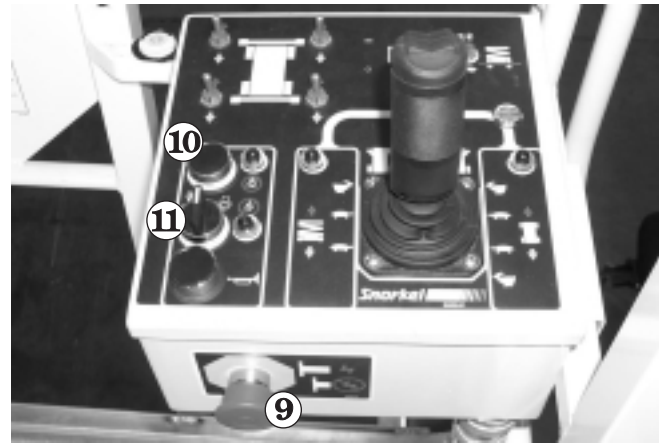


Figure 8.15

7. Turn the **Emergency Stop** switch **9** clockwise and it will pop out (on) (see Figure 8.15).
8. If the engine is cold, press and hold the **Choke** switch **10** (see Figure 8.15) during the next step.
9. Turn and hold the **Start** switch **11** clockwise (to the start position) until the engine starts or for 20 seconds, whichever comes first. When the engine starts, release both the start switch **11** and the choke switch **10** (see Figure 8.15).

⚠ CAUTION

If the engine does not start in 20 seconds, release the start switch **11** and release the Choke switch **10** then wait 60 seconds before trying to start the engine again.

• Starting a diesel engine

To start a diesel engine from the platform control box do the following:

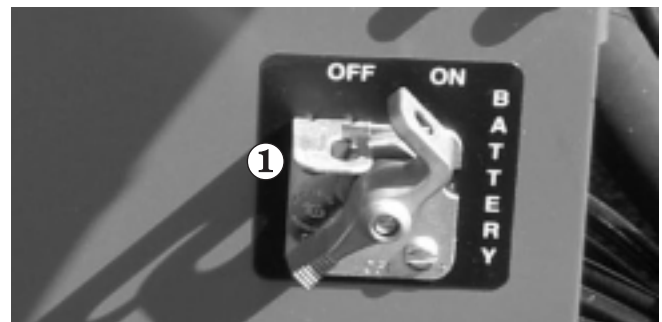


Figure 8.16

1. Set the **Battery** switch **1** to on (see Figure 8.16).

8. Operation



Figure 8.17

2. Set the **Emergency Stop** switch ② to on (up) (see Figure 8.17).
3. Set the **Ground/Platform Selector** switch ③ to platform (up) (see Figure 8.17).
4. Turn the key ④ (see Figure 8.17) to on — do not turn the key ④ to start.

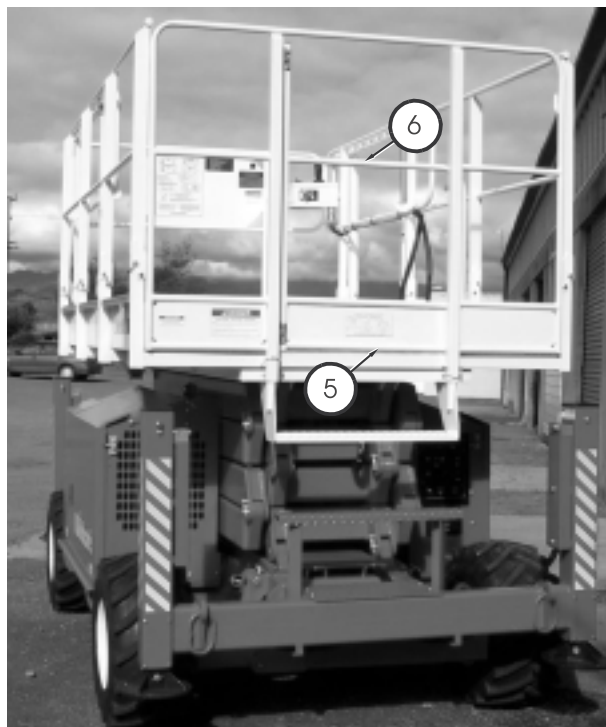


Figure 8.18

5. Enter the platform ⑤ and close the gate ⑥ (see Figure 8.18).

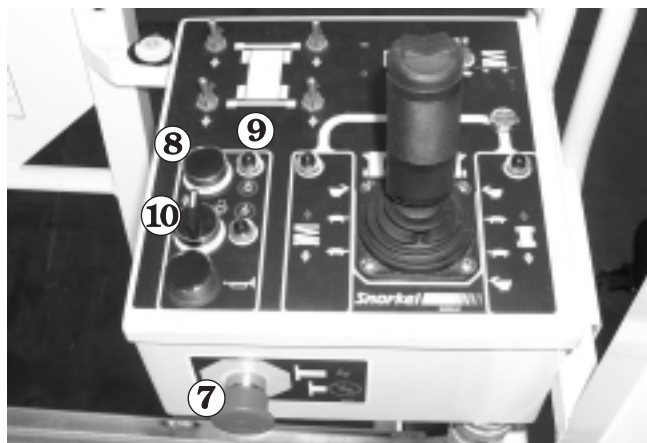


Figure 8.19

6. Turn the **Emergency Stop** switch ⑦ clockwise and it will pop out (on) (see Figure 8.19).
7. If the engine is at ambient temperature, momentarily press the GLOW-PLUG switch ⑧. This action will automatically turn the glow-plugs, in the engine, on for 10 seconds. A light ⑨ will automatically come on to indicate that the glow-plugs are on (see Figure 8.19).
8. When the light ⑨ goes out, press and hold the START switch ⑩ until the engine starts or for 20 seconds, whichever comes first. When the engine starts, release the START switch ⑩ (see Figure 8.19).

⚠CAUTION

If the engine does not start in 20 seconds, release the START switch (10) then wait 60 seconds before trying to start the engine again with the GLOW-PLUG (8) and START switches (10).

□ Driving

1. The engine should be running. If not, start it from the platform control box as described above.

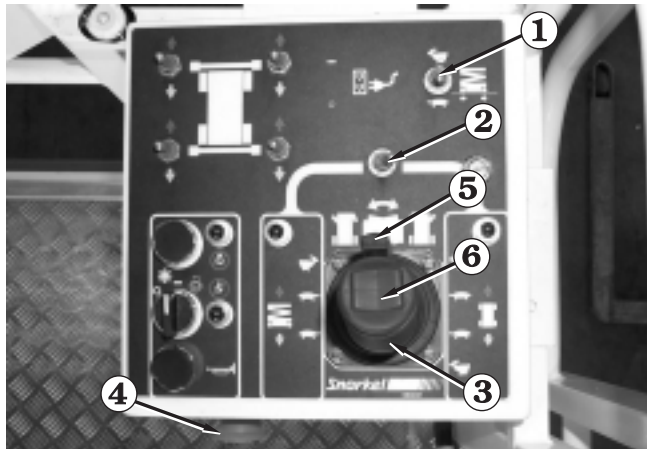


Figure 8.20

2. Set the **Speed** switch ① to turtle (slow) (see Figure 8.20) if you are going to be driving close to other objects or need to move the SR very slowly for other reasons.

NOTE

Setting the **SPEED** to rabbit doubles the travel speed. (See the “Specifications” chapter 1 for speeds of different models.)

3. Set the **Lift/Drive Selector** switch ② to drive (right) (see Figure 8.20).

⚠ CAUTION

The SR is about to move. If you have to make an emergency stop, release the Joystick Controller (3) and sharply strike the Emergency Stop switch (4) straight in.

To make a normal stop, slowly move the Joystick Controller ③ to its “centered” neutral position then release it.

4. Squeeze and hold the **Safety Control** ⑤ against the **Joystick Controller** ③ (see Figure 8.20).
5. Push the **Joystick Controller** ③ (see Figure 8.20) slowly forward or pull it slowly backward, depending on which way you want to go. The further you move the joystick the faster the SR moves.
6. To make a right or left turn, press and hold the **Steering** rocker-switch ⑥ on top of the **Joystick Controller** ③ (see Figure 8.20).

NOTE

When you release the **Steering** rocker-switch ⑥ the steering wheels remain pointed in the direction you left them. They do not return to “straight ahead” the way automobile wheels do. You will have to press the opposite side of the **Steering** rocker-switch ⑥ to return to straight line travel. In tight spots you should stop the SR, turn the wheels the direction you want to go, then, after you have “aimed” the steering wheels, squeeze the **Safety Control** ⑤ and move the **Joystick Controller** ③ slowly forward or backward.

□ Raising the Platform

To raise the platform from the platform control box do the following:

1. The engine must be running. If not, start it from the platform control box as described above.

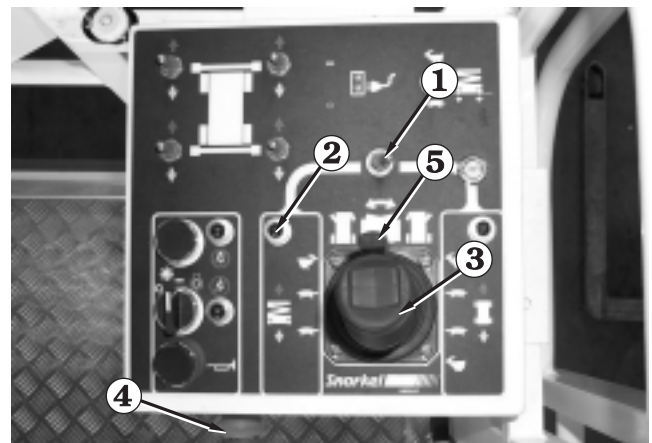


Figure 8.21

2. Set the **Lift/Drive Selector** ① (see Figure 8.21) to lift (left).

NOTE

If the **Lift Indicator Light** ② is not lit, the platform will not go up because: the chassis is not level, the outriggers (if present) are not properly set, or the articulating axles (if present) are not locked. Correct the problem then continue.

NOTE

The platform is about to move. If you have to make an emergency stop, release the **Joystick Controller** ③ and sharply strike the **Emergency Stop** switch ④ straight in.

To make a normal stop, slowly move the Joystick Controller ③ to its “centered” neutral position then release it.

8. Operation

3. Squeeze and hold the **Safety Control** ⑤ against the **Joystick Controller** ③ (see Figure 8.21).
4. Push the **Joystick Controller** ③ forward to raise the platform, or backward to lower it. The further you push the **Joystick Controller** ③ forward, the faster the platform rises. There is only one down speed.

■ Outriggers

□ Setting the outriggers



Figure 8.22

1. Check to see that the ground under the four outrigger pads ① (see Figure 8.22) is firm, stable, and unobstructed.
2. Completely lower the platform ③ (see Figure 8.22).

NOTE

If the platform ③ is above 1.7m (5' 6") the outriggers cannot be set or adjusted. This safety feature prevents the SR from being tipped over by the outriggers if the **Outrigger** switches are accidentally pushed while the platform is raised.

3. The engine must be running and the SR set for platform control box ② operation (see Figure 8.22).

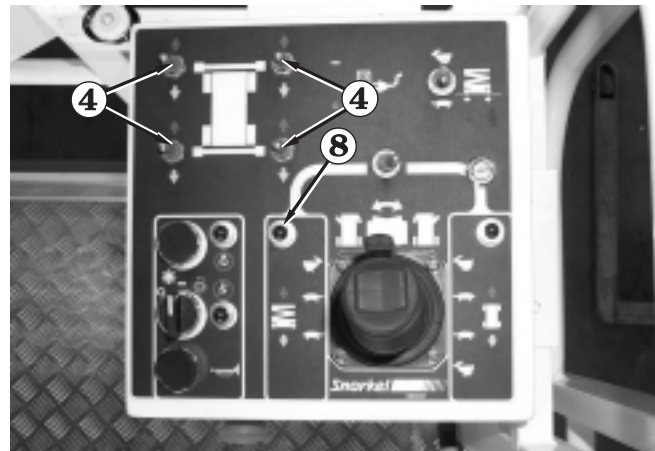


Figure 8.24

4. Pull and hold the **Outrigger** switches ④ (see Figure 8.24) backward, one at a time, until all four outrigger pads ① (see Figure 8.23) contact the ground.

⚠ DANGER

Death or serious injury can result if an SR tips over. Do not use the outriggers to gain extra working height, they are not designed for that purpose. At least one of the outriggers should raise the SR less than six inches (15 cm) above the ground — use the other three outriggers to level the SR as necessary.

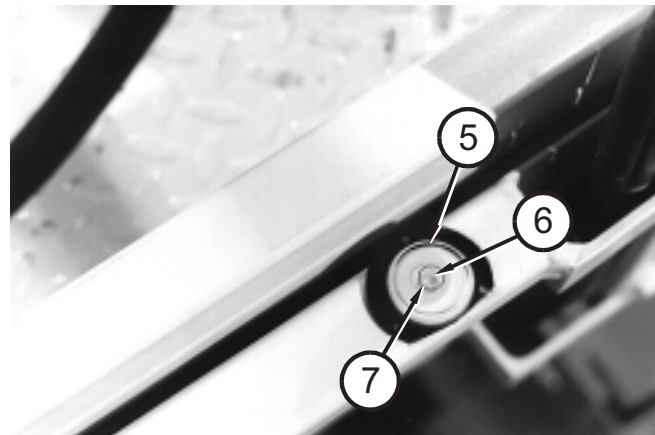


Figure 8.25

5. Visually check the bubble level ⑤ to determine which outriggers must be further extended to level the platform ③ (see Figure 8.25).

NOTE

When the bubble ⑥ in the bubble level is in the center of the ring ⑦, the platform is level.

▲ DANGER

If the platform is up and the ground compresses unevenly under different outrigger pads the SR might fall over causing serious injury or death. Check the bubble level ⑤ frequently during operation. If any movement of the bubble ⑥ occurs, completely lower the platform immediately and readjust the outriggers to re-center the bubble ⑥ in the ring ⑦.

- Lower the appropriate outriggers just enough to center the bubble ⑤ (see Figure 8.25). When the **Lift Indicator Light** ⑧ (see Figure 8.24) comes on, the platform can be safely raised.

❑ To raise the outriggers:

- Completely lower the platform.

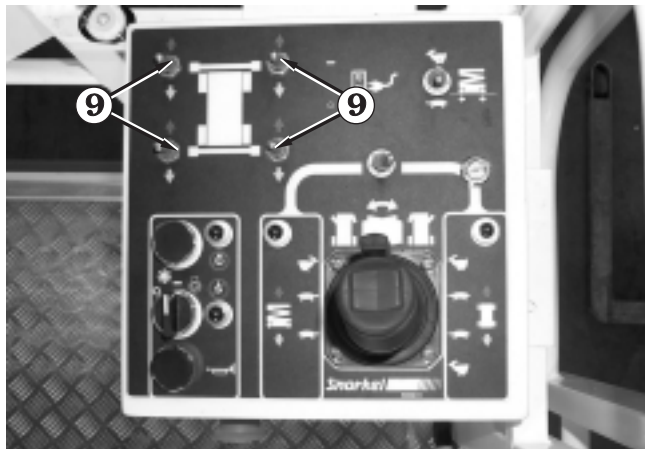


Figure 8.26

- Push and hold the **Outrigger** switches ⑨ forward until all the outriggers are completely up (see Figure 8.26).

NOTE

The **DRIVE** function will not work unless the outriggers are completely up.

■ Self Levelling Outriggers (Optional)

For units fitted with self levelling outriggers the following applies.

To raise or lower the outriggers 'automatically' switch ① (see Figure 8.27) is used.

- Press switch ① momentarily (3 - 4 seconds to lower the outriggers).

The outriggers will lower and level the platform automatically.

- Switch ① can also be used to raise the outriggers to the stowed position. To do so press, momentarily, switch ① in the raise direction and all the outriggers will raise automatically.

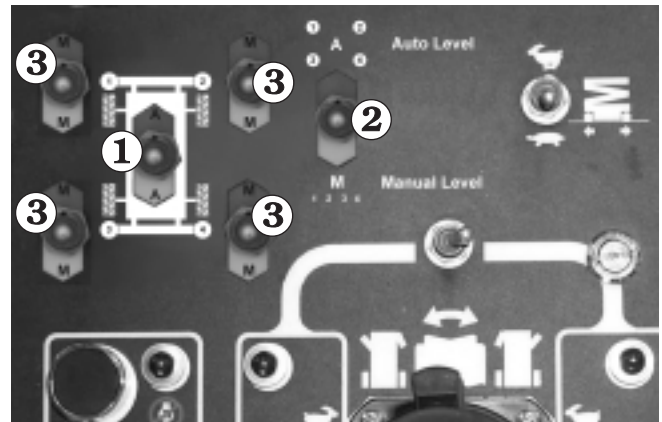


Figure 8.27

NOTE:

Although this option is designed to automatically set the outriggers and level the SRT it is possible to set the outriggers manually should this be desired

❑ Setting the outriggers manually

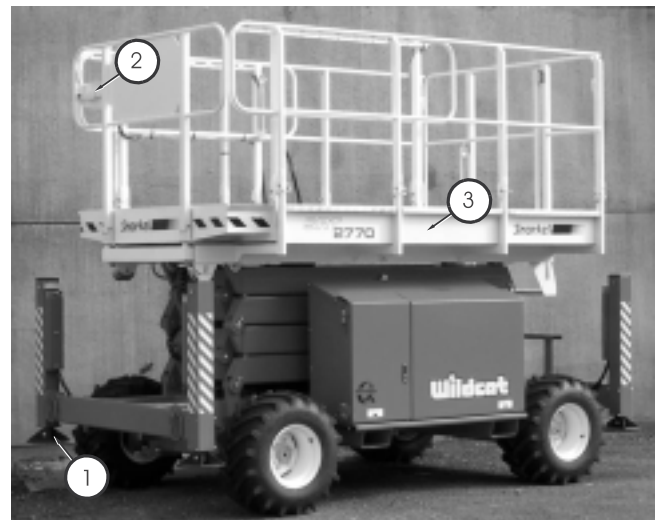


Figure 8.28

- Check to see that the ground under the four outrigger pads ① (see Figure 8.28) is firm, stable, and unobstructed.
- Completely lower the platform ③ (see Figure 8.28).

NOTE

If the platform ③ is above 1.7m (5' 6") the outriggers cannot be set or adjusted. This safety

8. Operation

feature prevents the SR from being tipped over by the outriggers if the **Outrigger** switches are accidentally pushed while the platform is raised.

3. The engine must be running and the SR set for platform control box **2** operation (see Figure 8.28).

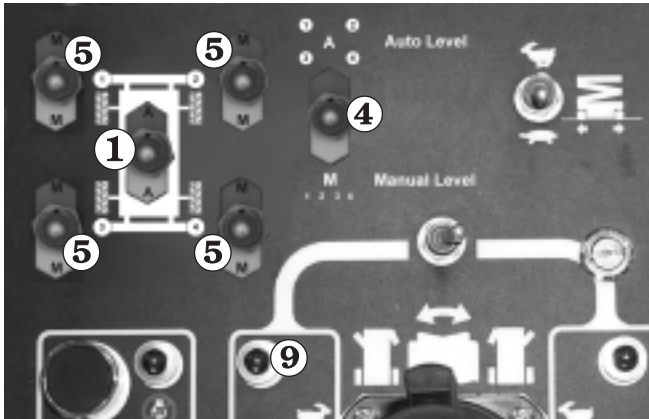


Figure 8.29

4. Hold switch **4** 'ON' (down) while each individual switch **5** (see Figure 8.29) is pulled backward, one at a time, until all four outrigger pads **1** contact the ground (see Figure 8.28).

⚠ DANGER

Death or serious injury can result if an SR tips over. Do not use the outriggers to gain extra working height, they are not designed for that purpose. At least one of the outriggers should raise the SR less than six inches (15 cm) above the ground — use the other three outriggers to level the SR as necessary.

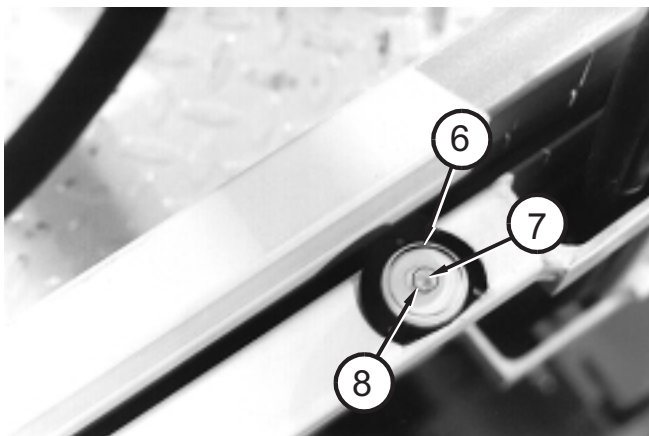


Figure 8.30

5. Visually check the bubble level **6** (see Figure 8.30) to determine which outriggers must be further extended to level the platform **3** (see Figure 8.28).

NOTE

When the bubble **7** in the bubble level is in the center of the ring **8** the platform is level.

⚠ DANGER

If the platform is up and the ground compresses unevenly under different outrigger pads the SR might fall over causing serious injury or death. Check the bubble level **6** frequently during operation. If any movement of the bubble **7** occurs, completely lower the platform immediately and readjust the outriggers to re-center the bubble **7** in the ring **8**.

6. Lower the appropriate outriggers just enough to center the bubble **7** (see Figure 8.30). When the **Lift Indicator Light 9** (see Figure 8.29) comes on, the platform can be safely raised.

☐ Raising the outriggers manually

1. Completely lower the platform.

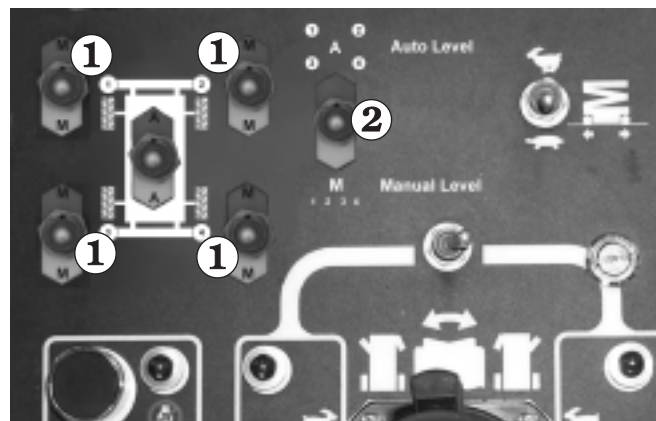


Figure 8.31

2. Hold switch **2** 'ON' (down) while each individual switch **1** (see Figure 8.30) is pushed forward, one at a time, until all four outrigger are completely up.

NOTE

The **DRIVE** function will not work unless the outriggers are completely up.

■ Extending The Multi-Position Platform

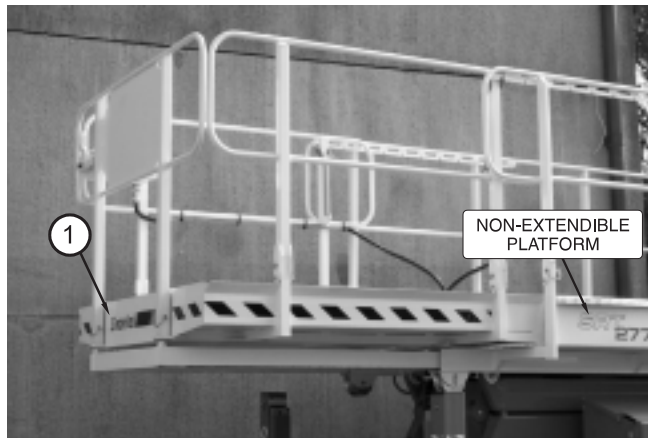


Figure 8.32

The MULTI-position extendible platform **1** (see Figure 8.32) can be securely locked into seven different positions. To move it from one position to the other do the following:

1. Stand on the non-extendible part of the platform and face the front of the machine.

⚠ DANGER

The distribution of the **RATED WORK LOAD** changes when the extendible platform is extended. Read the decal on the toe board at the front of the platform or at the entrance to the platform for safe weight distribution.

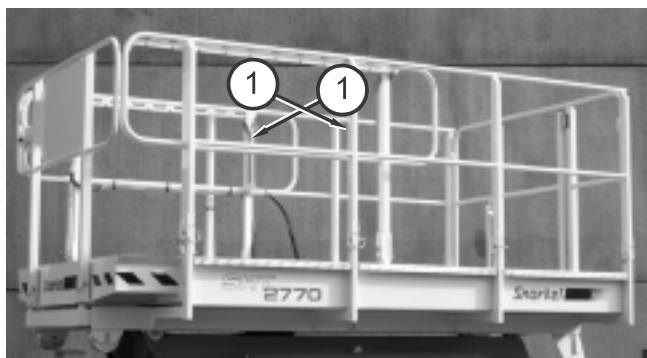


Figure 8.33

2. Lift up the deck extension handles **1** to unlock the deck (see Figure 8.33).



Figure 8.34

3. Push or pull the deck extension handles **3** to move the platform to the desired position (see Figure 8.34).

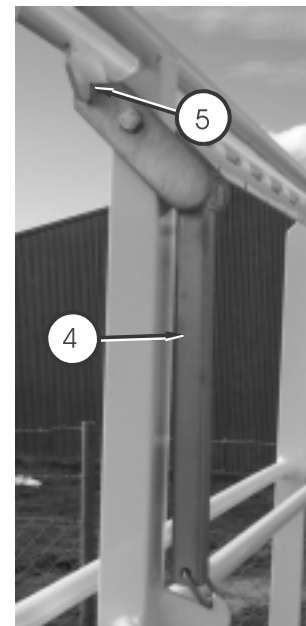


Figure 8.35

4. Lower the deck extension handles **4** and allow the lock **5** to locate (see Figure 8.35).

■ Emergency Operation Procedures

The following procedures are emergency procedures only. **DO NOT** use them for normal operation. Their purpose is to get the platform and operator safely to the ground when the SR will not start or some other problem keeps the platform from lowering in the normal way, or to move the SR a short distance to a safe place when the motor will not start.

There are three forms of emergency operation for the SR. Emergency stop, emergency bleed-down, and pushing.

Each is covered as a separate section below.

■ Emergency Stop

There are two Emergency Stop switches on an SR.

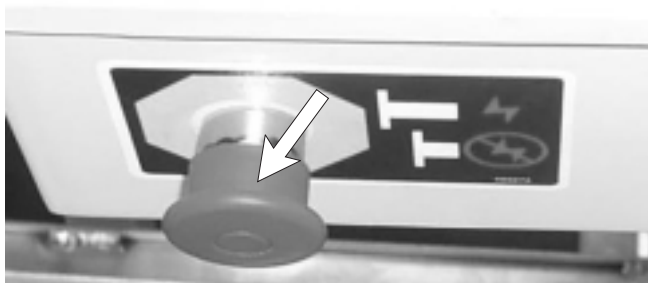


Figure 9.1 - Platform Control Box Emergency Stop Switch



Figure 9.2 - Ground Control Box Emergency Stop Switch

Push either **Emergency Stop** switch, (see Figures 9.1 and 9.2) at any time, and the entire machine stops, the engine turns off, and nothing moves.

Functionally, the **Emergency Stop** switches do the same thing as turning the **Main Power** switch to off. The **Emergency Stop** switches are designed to be easier to find and faster to use than key switches.

To reset the **Emergency Stop** switch at the platform control box, pull it and it will pop out

(on).

To reset the **Emergency Stop** switch at the ground control box, raise the red switch-cover and push the switch up. The SR engine can then be restarted in the normal way.

■ Emergency Bleed-Down

The SR platform can be lowered from the platform control box anytime there is electricity to the platform control box — the SR engine does not have to be running.

If you are working from the platform and the engine dies and cannot be restarted, do the following:

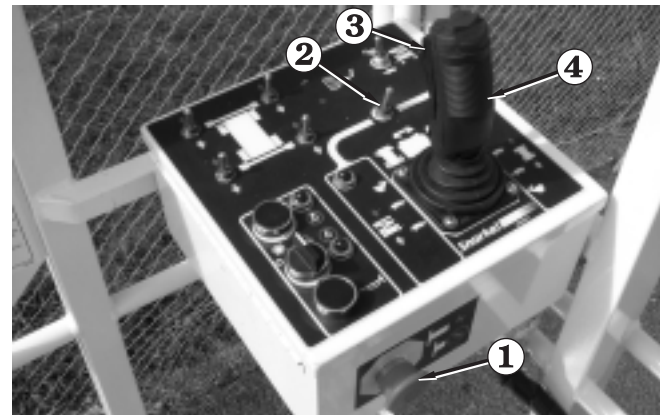


Figure 9.3

1. Check to be sure the **Emergency Stop** switch **1** is pulled out (on) (see Figures 9.1 and 9.3).
2. Set the **Selector** switch **2** (see Figure 9.3) to the platform function (left).
3. Squeeze the **Safety Control** **3** and pull the **Joystick Controller** **4** (see Figure 9.3) back. The platform should lower. If it does not lower, call for help from someone on the ground.

The person on the ground should do the following:

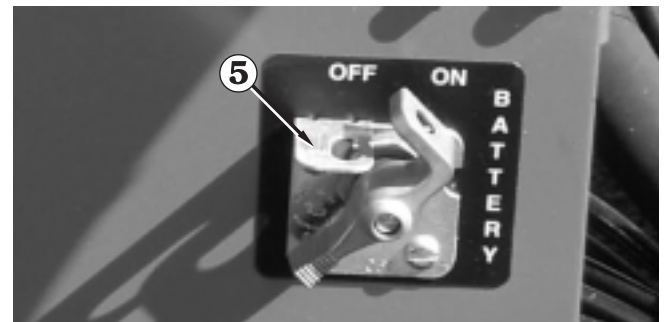


Figure 9.4

1. Check to be sure the **Battery** switch **5** is ON. (See Figure 9.4)

9. Emergency Operation

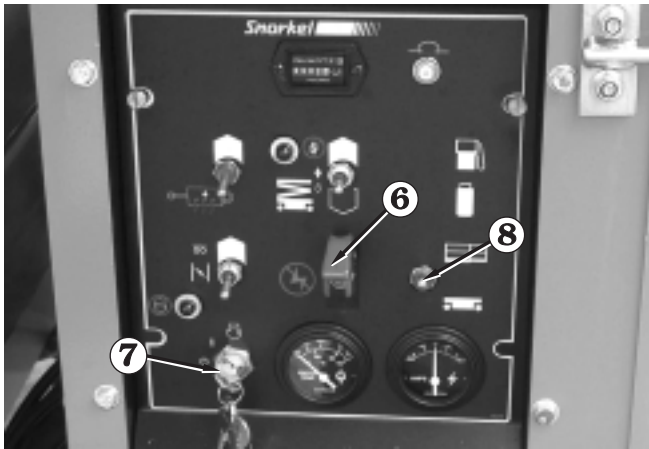


Figure 9.5

2. Check to be sure the **Emergency Stop** switch ⑥ (see Figure 9.5) is on (up).
3. Check to be sure the **Main Power** switch ⑦ is on (see Figure 9.5).
4. Check to be sure the **Selector** switch ⑧ is set to platform (up) (see Figure 9.5).
5. If the **Battery** Switch ⑤ (see Figure 9.4), **Emergency Stop** ⑥, **Main Power** (7), and **SELECTOR** switch ⑧ (see Figure 9.5) are all set correctly, and the engine will not start from the platform control box, set the **Selector** switch ⑧ to ground (down) and try to lower the platform from the ground control box.

⚠ DANGER

Pinching And Crushing Hazard. At the next step the platform will come down and the scissor arms will close. Keep all body parts out of the scissor arms and out from under the platform.



Figure 9.6 - Manual Bleed Down Control

6. If the platform will not lower, the person on the ground will need to use the manual bleed down ⑨ (see Figure 9.6) located at the front of the chassis.

To lower the platform pull on the cable ⑨ until the platform is fully lowered.

NOTE

If the platform does not come down, refer the problem to a qualified trained service technician.

■ Pushing / Towing

An SR can be safely pushed or towed by hand on level firm surfaces. To do so:

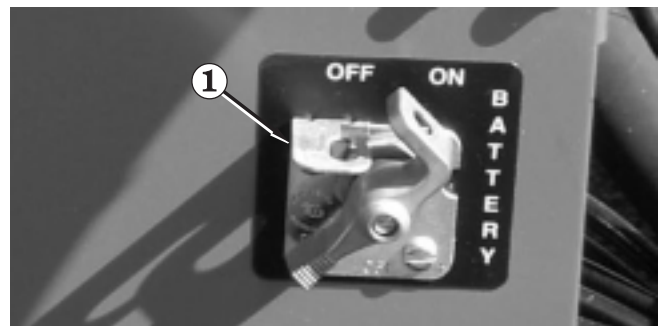


Figure 9.7

1. Turn the **Battery** switch ① to off (see Figure 9.7).

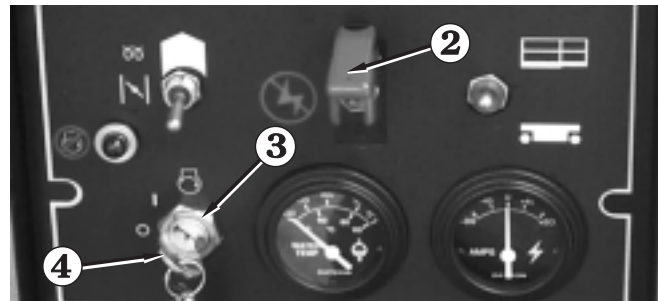


Figure 9.8

2. At the ground control box set the **EMERGENCY STOP** switch ② to off, turn the **MAIN POWER** switch ③ off and remove the key ④ (see Figure 9.8).

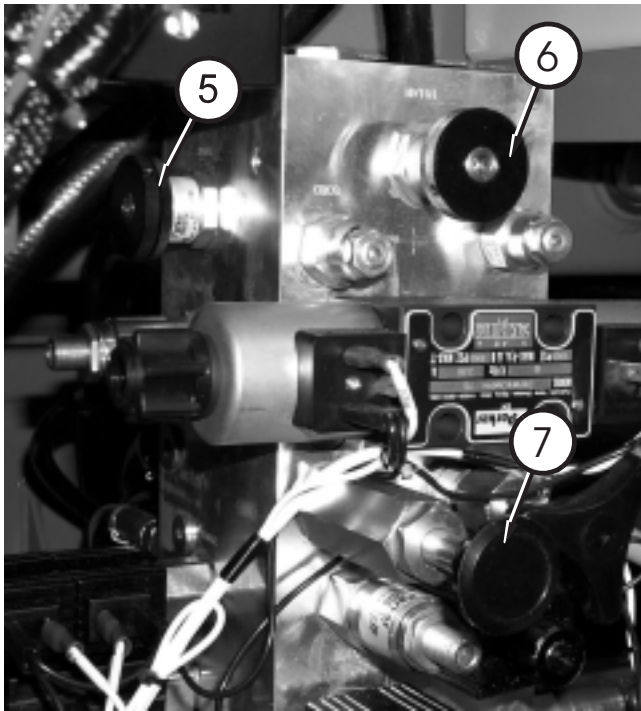


Figure 9.9

3. Inside the hydraulic compartment, open the free-wheeling valve **5** by turning counterclockwise until knob stops. Close the brake tow valve **6** by turning clockwise until the knob stops (see Figure 9.9).

▲ DANGER

A runaway SR can cause death or serious injury. At the next step the SR brakes will be released. Do not proceed to the next step unless the SR is on a level surface or the SR is securely attached to another vehicle that has the capacity to safely control the SR on a grade.

4. To release the brakes, pump the hand pump **7** 5 - 10 times. (see Figure 9.9). The brakes will now be released and the SR is ready to be pushed or towed.

▲ CAUTION

The SR drive motors will be ruined if the SR is pushed (or pulled) faster than 2 mph (3.2 km/hr). Unless personnel safety considerations dictate otherwise, do not push (or pull) faster than 2 mph (3.2 km/hr).



Figure 9.10

5. Once the unit has been safely pushed / towed you must close the free-wheeling valve **5**, and open the brake tow valve **6** (see Figure 9.10).

The unit is now ready for normal operation.

9. Emergency Operation

■ Stowing

At the end of each work day (or in preparation for transporting, pushing, lifting, or storage) a qualified operator should put the SR into its stowed position then lock it.

The correct stowed position is shown here.

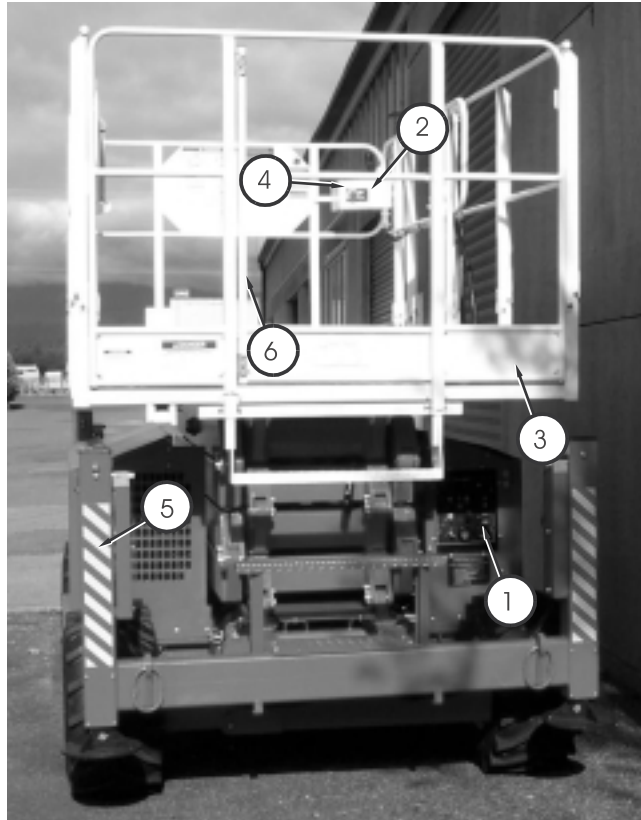


Figure 10.1 - Correct Stowed Position

To bring the SR into the **Stowed Position** use the controls on either the ground control box **1** or the platform control box **2** to:

1. Fully lower the platform **3** (see Figure 10.1).
2. **For models with outriggers:** Use the outrigger controls **4** to completely raise all four of the outriggers **5** (see Figure 10.1).
3. Close the platform entry gate **6** (see Figure 10.1) and close all the doors on the machine.

To lock an SR:

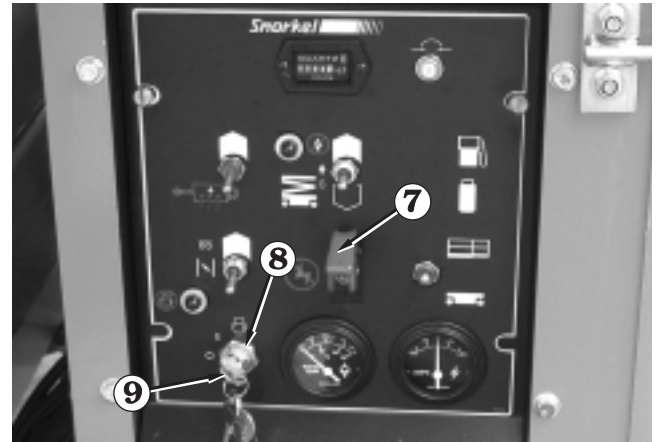


Figure 10.2

1. Push the **Emergency Stop** switch **7** down (OFF) and set the **Main Power** switch **8** to OFF then remove the key **9** (see Figure 10.2).

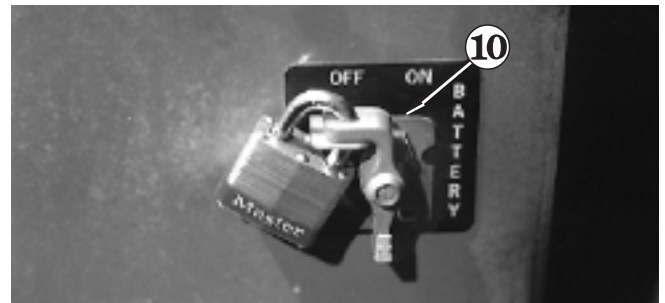


Figure 10.3

2. Turn the **Battery** switch **10** OFF and padlock it (see Figure 10.3).

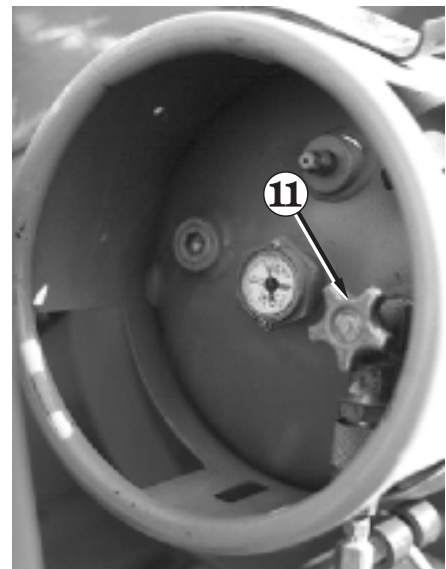


Figure 10.4

10. Stowing and Transporting

3. (Option - LPG) For machines equipped with LPG:

Close the valve **11** (see Figure 10.4) on the LPG-tank (completely screwed in).

■ Transporting

□ Trailering

⚠ DANGER

SR's weigh up to 2800kg (6272lbs) depending on the model. Loading ramps must be able to support that weight. Transport trailers must be able to safely transport that weight.

SR brake and drive systems are not designed for grades over 35%. Drive slowly and carefully on all slopes and loading ramps.

To safely drive an SR onto a transport trailer:

1. Visually inspect the alignment of the loading ramp and the truck or trailer. They should both be on the same straight line.
2. Set the SR ground control box for platform operation.

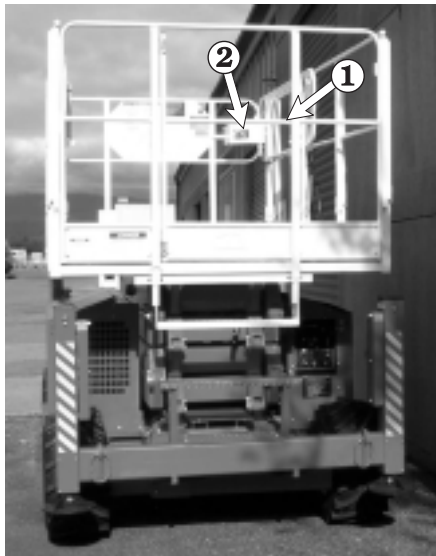


Figure 10.5

3. Enter the platform and close the safety gate **1** (see Figure 10.5).
4. Use the platform controls **2** (see Figure 10.5) to bring the SR into the STOWED POSITION at the foot of the loading ramp with the steering wheels nearest the ramp.

5. Visually check (from the platform) to be sure the SR is aligned with the ramp and the ramp is still aligned with the truck or trailer. All should be in a straight line.

⚠ DANGER

Death or serious injury can result from losing control of an SR during loading or unloading. Always drive up or down a grade with the Speed switch set to turtle (slow).

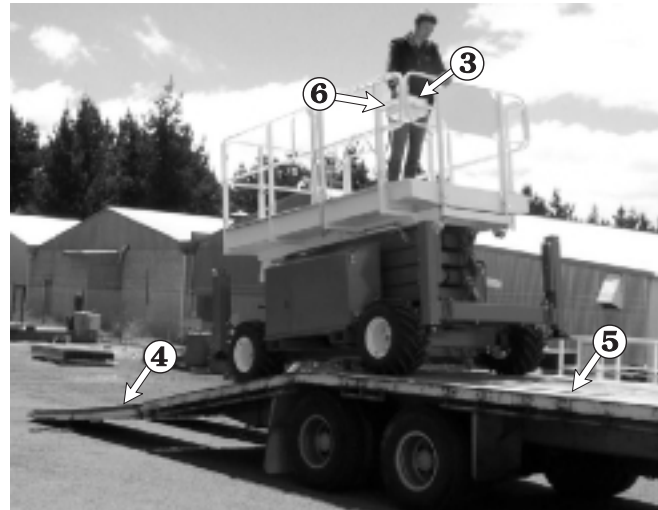


Figure 10.6

6. Use the joystick controller **3** to slowly drive the SR straight onto the ramp **4** and trailer **5** (see Figure 10.6).
7. When the SR is in place on the trailer, push the **Emergency Stop** switch **6** (see Figure 10.6) in (OFF) at the platform control box.
8. Chock the SR wheels.

□ Securing to a Transport Vehicle

This procedure assumes that you have just finished the previous section and that the wheels are chocked.

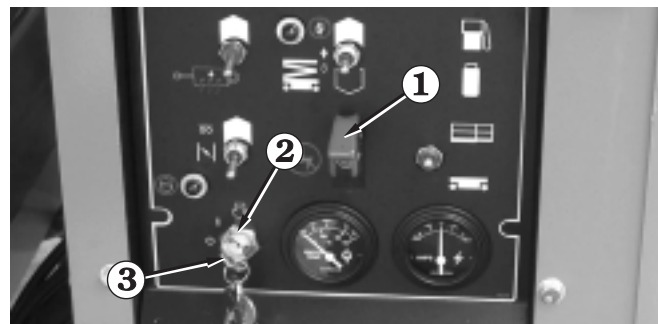


Figure 10.7

1. Push the **Emergency Stop** switch ❶ down (OFF) and set the **Main Power** switch ❷ to OFF then remove the key ❸ (see Figure 10.7).

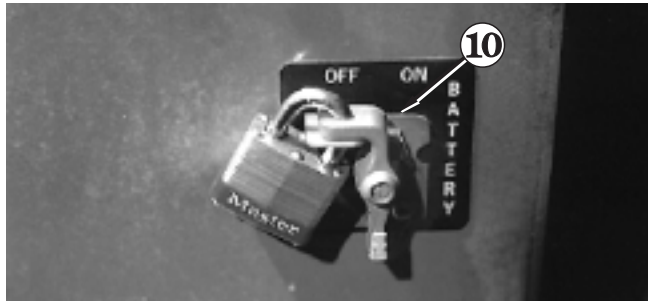


Figure 10.8

2. Set the **Battery** switch ❹ (see Figure 10.8) to OFF and padlock it.

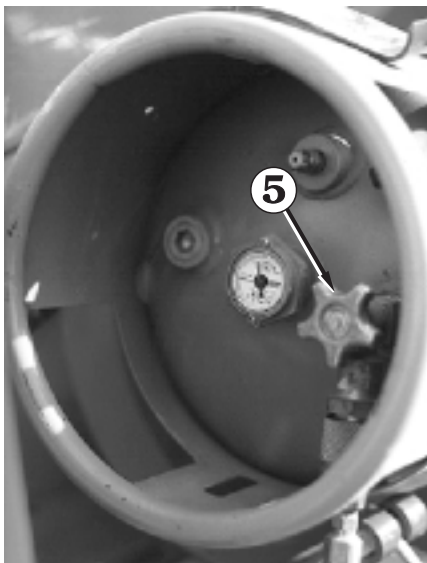


Figure 10.9

3. **(Option - LPG) For machines equipped with LPG:**
Close the valve ❺ (see Figure 10.9) on the LPG tank (completely screwed in).



Figure 10.10 - Tie-down Lugs

Always attach chains to the front and back tie-down lugs ❸ (see Figures 10.10 and 10.11).

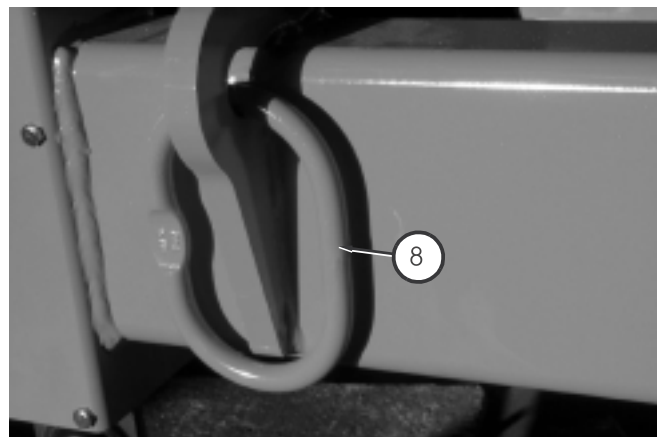


Figure 10.11 - Tie-down Lugs

Chocks may be removed at this time, though it is a good idea to leave them in place.

Reverse the above procedure after transporting.

☐ Towing

Do not tow an SR. The SR hydraulic-drive motors will be permanently damaged, and rendered useless, by towing speeds.

☐ Lifting / Lashing Down

An SR can be safely lifted. However, only a trained qualified service technician should perform lifting.

☐ Pushing

An SR can be safely pushed by hand on level, firm surfaces. The procedure for pushing is located in the "Emergency Operation" chapter.9

10. Stowing and Transporting

☐ Winching Procedure

1. Locate transport vehicle so that SR 2770 will not roll forward after being loaded.
2. Fully lower platform and retract extension deck.
3. Be sure the machine is centered with the loading ramps and carrier vehicle bed, and that the steering wheels are straight.
4. Attach the winch at the tie down lugs on the front (steer) end of the chassis.
5. Disengage parking brakes and open free-wheeling valve to prevent damage to hydraulic motors. (Refer to procedures outlined for pushing in the "Emergency Operation" chapter 9.
6. Winch machine onto transport vehicle.
7. Close free-wheeling valve and reset parking brakes.
8. Reset the hydraulic system by reversing these procedures.

This chapter lists and explains all the options available for an SR.

■ RCD / ELCB Outlet

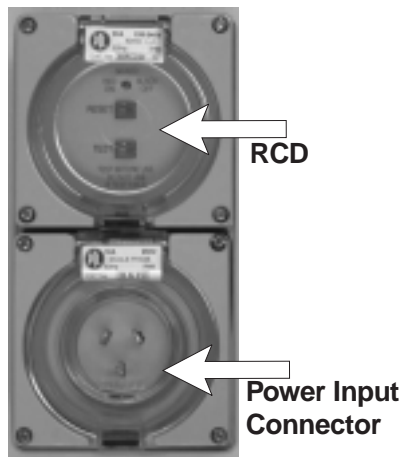


Figure 11.1 - RCD / ELCB Outlet

The RCD (Residual Current Device) is located at the ground and will protect against short circuits to earth. When there is a short circuit the RCD will shut down the 230v AC power to the platform outlet.

To reset the outlet disconnect the power tool lead from the platform box and reset the RCD at the ground.

If the problem persists call a trained service technician.

■ Flashing Light

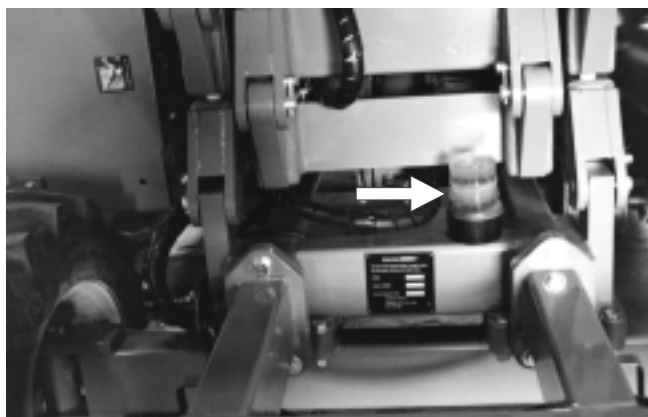


Figure 11.2 - Flashing Light

The flashing light alerts people that the SR is present and that the SR is moving. The light flashes at about one flash per second any time the SR is running. There is no ON/OFF switch for the flashing light, it cannot be turned off while the SR is running.

■ Electrical Outlet

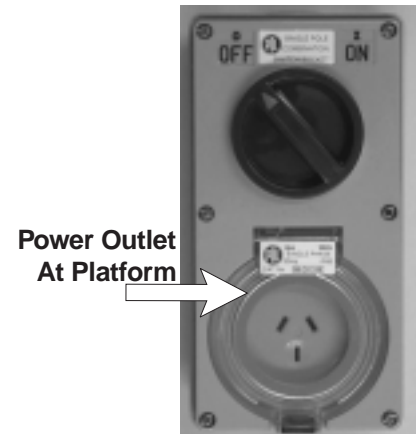


Figure 11.3 - Electrical Outlet

The electrical outlet on the platform, and its power cable, are designed to supply 2 kW of continuous duty power to run power tools of various sorts. The power can come from either the optional ac generator, discussed elsewhere in this chapter, or from an electrical source outside the SR. If you use an electrical source outside the SR be sure you disconnect it before you drive the SR away.

■ Lanyard Anchor Points

There are four anchors on the floor of the platform, one at the front of the roll-out deck, one at the back of the platform, and one on each side of the platform.

NOTE

These anchors are not for lifting or tying down the machine.

NOTE

You should attach your fall protection to the anchors if work rules require it.

■ Hazardous Components

The SR contains the following materials and objects that potentially could become significant fire or environmental hazards during the lifetime of the SR:

1. Antifreeze (ethylene glycol)
2. Battery, lead/acid
3. Diesel fuel
4. Foam in tires
5. Gasoline
6. Hydraulic oil
7. Liquefied petroleum gas
8. Motor oil

The rest of this chapter lists manufacturers' information you will need if you ever have to control any of the above items during an upset or emergency.

□ Antifreeze (UN 1993)

☞ Fire extinguishing media:

Dry Chemical, foam, or CO₂.

☞ Special fire fighting procedures:

Water spray may be ineffective on fire but can protect fire fighters and cool closed containers. Use fog nozzles if water is used.

▲ DANGER

DO NOT enter confined fire space without full bunker gear. (Helmet with face shield, bunker coats, gloves & rubber boots). Use a NIOSH approved positive pressure self contained breathing apparatus. Keep container tightly closed. Isolate from oxidizers, heat and open flame.

☞ Spill or leak:

Small - mop up with absorbent material and transfer to hood.

☞ Waste disposal method:

Small - evaporate until all vapors are gone. Dispose of remainder by legally applicable methods.

□ Battery, Lead/Acid (UN 2794)

☞ Extinguishing media:

Dry chemical, foam, or CO₂.

☞ Special fire fighting procedures:

Use positive pressure, self contained breathing apparatus.

☞ Unusual fire and explosion hazards:

Hydrogen and oxygen gases are produced in the cells during normal battery operation.

▲ DANGER

Hydrogen gas is flammable and oxygen supports combustion. These gases enter the air through the vent caps. To avoid the chance of a fire or explosion, keep sparks and other sources of ignition away from the battery.

☞ Spill or leak:

Remove combustible materials and all sources of ignition. Contain spill by diking with soda ash (sodium carbonate) or quicklime (calcium oxide). Cover spill with either chemical. Mix well. Make certain mixture is neutral then collect residue and place in a drum or other suitable container. Dispose of as hazardous waste.

▲ DANGER

ALWAYS wear acid resistant boots, face shield, chemical splash goggles, and acid resistant gloves when handling acid spills or leaks.

NOTE

DO NOT release UN-neutralized acid!

☞ Waste disposal method:

Sulfuric Acid: Neutralize as above for a spill, collect residue, and place in a drum or suitable container. Dispose of as hazardous waste.

NOTE

DO NOT flush lead contaminated acid to sewer.

☞ Waste disposal method

Batteries: Send to lead smelter for reclamation following applicable federal, state, and local regulations.

□ Diesel Fuel (NA 1993)

☞ Extinguishing media:

Use water spray, dry chemical, foam, or CO₂.

12. Fire Fighting and Chemical Containment

☞ **Special fire fighting procedures:**

Use water to keep fire exposed containers cool. If leak or spill has not ignited, use water spray to disperse the vapors and to provide protection for personnel attempting to stop a leak. Water spray may be used to flush spills away from exposures.

☞ **Unusual fire and explosion hazards:**

Products of combustion may contain carbon monoxide, carbon dioxide, and other toxic materials.

▲ **DANGER**

DO NOT enter enclosed or confined space without proper protective equipment including respiratory protection.

☞ **Spill or leak:**

Contain spill immediately in smallest area possible. Recover as much of the product itself as possible by such methods as vacuuming, followed by soaking up of residual fluids by use of absorbent materials.

Remove contaminated items including contaminated soil and place in proper containers for disposal. Avoid washing, draining, or directing material to storm or sanitary sewers .

☞ **Waste disposal method:**

Recycle as much of the recoverable product as possible.

Dispose of non-recyclable material as a RCRA hazardous waste by such methods as incineration, complying with federal, state, and local regulations.

☐ **Foam In Tires**

☞ **Extinguishing media:**

Water, dry chemical, foam, or CO₂.

☞ **Special fire fighting procedures:**

Evacuate non emergency personnel to a safe area.

☞ **Unusual fire and explosion hazards:**

Fire fighters should use self contained breathing apparatus. Avoid breathing smoke, fumes, and decomposition products.

Use water spray to drench smoldering elastomer. Product may melt, after ignition, to form flammable liquid.

▲ **DANGER**

Burning produces intense heat, dense smoke, and toxic gases, such as carbon monoxide, oxides of nitrogen, and traces of hydrogen cyanide.

☞ **Spill or leak:**

Pick up and handle as any other inert solid material.

☞ **Waste disposal method:**

Not considered a hazardous material. Dispose of material according to any local, state, and federal regulations.

☐ **Gasoline (UN 1203)**

☞ **Extinguishing media:**

Dry chemical, foam, or CO₂.

☞ **Special fire fighting procedures:**

Water may be ineffective to extinguish, but water should be used to keep fire exposed containers cool. If a leak or spill has not ignited, use water spray to disperse the vapors and to protect personnel attempting to stop a leak. Water spray may be used to flush spills away from areas of potential ignition.

☞ **Unusual fire and explosion hazards:**

Highly Flammable. Products of combustion may contain carbon monoxide, carbon dioxide and other toxic materials.

▲ **DANGER**

DO NOT enter enclosed or confined space without proper protective equipment including respiratory protection.

☞ **Spill or leak:**

Review fire and explosion hazards before proceeding with clean up. Use appropriate personal protective equipment during clean up. Dike spill. Prevent liquid from entering sewers, waterways, or low areas. Soak up with sawdust, sand, oil dry or other absorbent material. Shovel or sweep up.

Remove source of heat, sparks, flame, impact, friction or electricity including internal combustion engines and power tools. If equipment is used for spill cleanup, it must be explosion proof and suitable for flammable liquid and vapor.

NOTE

Vapors released from the spill may create an explosive atmosphere.

☞ Waste disposal method:

Treatment, storage, transportation and disposal must be in accordance with applicable federal, state, provincial, and local regulations.

⚠CAUTION

DO NOT flush to surface water or sanitary sewer system. By itself, the liquid is expected to be a RCRA ignitable hazardous waste.

☐ Hydraulic Oil (UN 1270)

☞ Extinguishing media:

Use water spray, dry chemical, foam, or CO₂.

☞ Special fire fighting procedures:

Water or foam may cause frothing. Use water to keep fire exposed containers cool. Water spray may be used to flush spills away from exposures.

☞ Unusual fire and explosion hazards:

Products of combustion may contain carbon monoxide, carbon dioxide, and other toxic materials.

⚠DANGER

DO NOT enter enclosed or confined space without proper protective equipment including respiratory protection.

☞ Spill or leak:

Contain spill immediately in smallest area possible. Recover as much of the product itself as possible by such methods as vacuuming, followed by soaking up of residual fluids by use of absorbent materials.

Remove contaminated items including contaminated soil and place in proper containers for disposal. Avoid washing, draining or directing material to storm or sanitary sewers.

☞ Waste disposal method:

Recycle as much of the recoverable product as possible.

Dispose of non-recyclable material as a RCRA hazardous waste by such methods as incineration, complying with federal, state, and local regulations.

☐ Liquefied Petroleum Gas (UN 1075)

☞ Extinguishing media:

Water spray. Class A-B-C or BC fire extinguishers.

☞ Special fire fighting procedures:

Stop flow of gas. Use water to keep fire exposed containers cool. Use water spray to disperse unignited gas or vapor.

If ignition has occurred and no water available, tank metal may weaken from over heating. Evacuate area. If gas has not ignited, LP gas liquid or vapor may be dispersed by water spray or flooding.

☞ Unusual fire and explosion hazards:

Highly Flammable. Products of combustion may contain carbon monoxide, carbon dioxide and other toxic materials.

⚠DANGER

DO NOT enter enclosed or confined space without proper protective equipment including respiratory protection.

☞ Spill or leak:

Keep public away. Shut off supply of gas. Eliminate sources of ignition. Ventilate the area. Disperse with water spray.

Contact between skin and these gases in liquid form can cause freezing of tissue causing injury similar to thermal burn.

NOTE

Vapors released from the spill may create an explosive atmosphere.

☞ Waste disposal method:

Treatment, storage, transportation and disposal must be in accordance with applicable federal, state, provincial, and local regulations.

12. Fire Fighting and Chemical Containment

Motor Oil (UN 1270)

Extinguishing media:

Use water spray, dry chemical, foam, or CO₂.

Special fire fighting procedures:

Water or foam may cause frothing. Use water to keep fire exposed containers cool. Water spray may be used to flush spills away from exposures.

Unusual fire and explosion hazards:

Products of combustion may contain carbon monoxide, carbon dioxide, and other toxic materials.

DANGER

DO NOT enter enclosed or confined space without proper protective equipment including respiratory protection.

Spill or leak:

Contain spill immediately in smallest area possible. Recover as much of the product itself as possible by such methods as vacuuming, followed by soaking up of residual fluids by use of absorbent materials.

Remove contaminated items including contaminated soil and place in proper containers for disposal. Avoid washing, draining or directing material to storm or sanitary sewers .

Waste disposal method:

Recycle as much of the recoverable product as possible.

Dispose of non-recyclable material as a RCRA hazardous waste by such methods as incineration, complying with federal, state, and local regulations.

■ Troubleshooting

All of the actions described in this chapter may be performed by an SR operator, a trained and qualified service technician is not required.

The first column, of the following chart, lists some common problems encountered by SR operators.

The second column lists some of the causes for each problem. The third column lists remedies.

□ Operator Troubleshooting Chart

⚠ CAUTION

Any problem that cannot be fixed by actions listed below should be referred to a trained and qualified SR service technician.

Problem	Cause	Remedy
Engine will not start.	Battery switch set to off.	Turn battery switch to on.
	Emergency Stop switch(es) not on.	Set the ground control Emergency Stop switch to on (up). Also, if you are trying to start at the platform control box you should pull the Emergency Stop switch, at the platform control box, until it pops out (on).
	Key switch set to off.	Set the Key switch to on (the bar symbol).
	Ground/Platform Selector switch set to wrong location.	If you are trying to start from the ground control box, set the Ground/Platform selector to ground (down). If you are trying to start from the platform, set the selector to platform (up).
	Circuit Breaker tripped.	Push the circuit breaker in.
	Fuel switch not set correctly.	If you are trying to start a dual-fuel engine be sure the fuel switch is set to the correct fuel.
	Out of fuel.	DANGER: Keep flames and lit tobacco away from open fuel tanks. Remove the cap from the gasoline or diesel tank to see if there is fuel. Check the gauge(s) on top of the LP tank(s). If you are using LP gas, be sure the valve on top of the tank is open.
	Clogged air filter.	Visually check the air filter gauge.
	Engine oil too thick for ambient temperature.	Check engine oil chart in "Specifications" chapter 3 for correct oil weight.
Outriggers inoperative	Platform not completely down.	Completely lower the platform.
All systems sluggish.	Hydraulic oil is too thick.	Check for correct grade of Hydraulic Oil. Allow time for machine to warm up.
SR will not drive forward or reverse.	Free-wheeling valve is open.	Close the free-wheeling valve.

13. Operator's Troubleshooting

Problem	Cause	Remedy
Platform will not go up or down.	Engine is not running.	Start the engine from the control station where you will operate the SR.
	Switches set wrong (Lift Indicator light is lit).	<p><u>For ground control operation:</u></p> <p>Ground/Platform Selector = Ground Machine/Generator = Machine (if equipped with AC generator)</p> <p><u>For platform control box operation:</u></p> <p>Ground/Platform Selector = Platform Machine/Generator = Machine (if equipped with AC generator) Lift/Drive Selector = Lift</p> <p>Squeeze and hold the Safety Control then push Joystick Controller forward to go up or pull it backward to go down.</p>
	SR is not level. (Lift Indicator light is not lit and the Level Sensor Alarm is sounding).	If the SR has outriggers use them to level the SR. Otherwise, use adequate shoring to level the SR then chock the wheels to prevent the SR from being driven once the platform is raised.
	The Outriggers (if present) are not properly set. (Lift Indicator light is not lit).	<p>If you are using the outriggers, one or more of them is not down quite far enough. Lower each outrigger a few inches more to be sure each is firmly in contact with the ground.</p> <p>If you are not using the outriggers, one or more of them is not fully up. Raise each outrigger completely up.</p>
Platform will not drive forward or reverse when raised.	Unit not level. Articulating axle operated.	Situation normal, lower platform to drive.

!

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