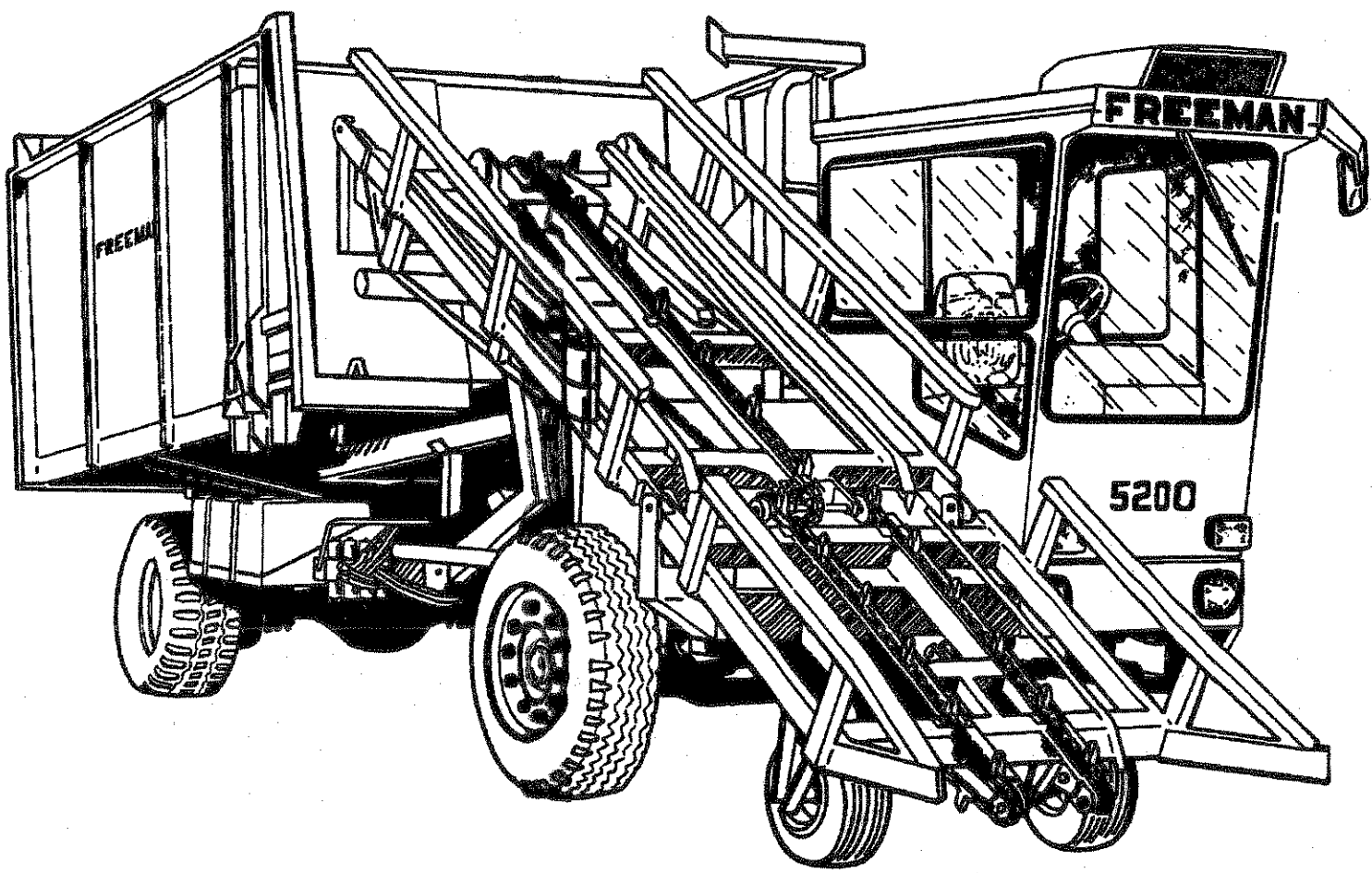
FREEMAN

MODEL 5200



OPERATORS MANUAL

manufactured and distributed by

J. A. FREEMAN & SON, INC.

PORTLAND, OREGON

PB 0005200
REV 11/19/93

INTENTIONALLY BLANK

TO OUR CUSTOMER

Your purchase of a Freeman 5200 Big Bale Roadsider was a wise decision. When it comes to hay handling, Freeman equipment is a solid investment. Dollar per dollar, ton per ton, Freeman equipment brings down costs and brings up profits. Freeman equipment has satisfied and will continue to satisfy their owners all over the world for years to come.

Your Freeman Model 5200 Roadsider has been developed from the drawing boards of experienced engineers who take their ideas to the field for testing and revision before you receive them. Superior engineering coupled with professional craftsmanship makes your Freeman 5200 Big Bale Roadsider a leader in the industry.

At J.A. Freeman & Son, Inc. safety is not just a word, it is a rule. Safety to the operator is of great concern to Freeman engineers. Special care has been taken while designing your Freeman 5200 Big Bale Roadsider to make it as safe and efficient as possible.

We strongly recommend that you carefully read this entire manual before operating your Roadsider. Time spent in becoming fully acquainted with its performance features, adjustments, and maintenance schedules will be repaid in a long and satisfactory life of the product.

LIMITED WARRANTY

J.A Freeman & Son, Inc. guarantees all new equipment manufactured by them to be free from defects in material and workmanship for one season or part thereof from date of delivery to the retail purchaser. One copy of the "EQUIPMENT DELIVERY AND WARRANTY REGISTRATION" must be correctly completed and returned to J.A. Freeman & Son, Inc. in order to validate the warranty. The obligation under this warranty is limited to replacement or repair at our Portland, Oregon factory or at a point designated by us of such parts that appear to us upon inspection to have been defective in material or workmanship.

J.A. Freeman & Son, Inc. obligation under this warranty is limited to repairing or replacing at its option, any part that in the J.A. Freeman & Son, Inc. judgement is defective when returned to the factory.

The provisions of this warranty shall not apply to any equipment which has been subject to misuse, negligence, alteration or accident, or which shall have been repaired with parts other than those obtainable through J.A. Freeman & Son, Inc.

Except as set forth, J.A. Freeman & Son Inc. Shall not be liable for injuries or damages of any kind or nature, direct, consequential, or contingent, to person or property. This warranty does not extend to loss of crops, loss because of delay or loss incurred for labor, supplies, substitute machinery, rental or for any other reason.

J.A. Freeman & Son, Inc. reserves the right to make improvements in design or changes in specifications without notice at any time and without incurring any obligation to owners of units previously sold.

THE FREEMAN REGISTRATION REPORT MUST BE CORRECTLY COMPLETED AND RETURNED TO J.A. FREEMAN & SON, INC. IN ORDER TO VALIDATE THE LIMITED WARRANTY.

APPEARANCE CARE OF FREEMAN EQUIPMENT

To preserve the finish on Freeman equipment do not use abrasive heavy duty powders or solutions commonly used to clean solvent based paint finishes. Do not rub the finish with pads made of plastic or metal. These can scratch and dull the paint finish.

To clean the exterior and interior painted surfaces on Freeman Equipment use Tri Sodium Phosphate (T.S.P.). Any other cleaning agents should be spot tested.

SAFETY

1. SHUT OFF ENGINE BEFORE ADJUSTING, LUBRICATING, CLEANING OR SERVICING THE ROADSIDER.
2. KEEP HANDS, FEET AND CLOTHING AWAY FROM POWER DRIVEN PARTS.
3. USE APPROPRIATE SIGNS OR WARNING LIGHTS WHEN OPERATING ON PUBLIC ROAD WAYS.
4. MAKE CERTAIN EVERYONE IS CLEAR OF AND OFF THE ROADSIDER BEFORE OPERATING ANY PART OF THE MACHINE.
5. ALWAYS USE LIGHTS FOR NIGHT WORK.
6. DO NOT LEAVE THE OPERATORS SEAT WHILE THE EQUIPMENT IS IN OPERATION OR WHILE ANY OF THE MOVING PARTS REMAIN IN MOTION.
7. KEEP ALL SHIELDS IN PLACE AND IN SERVICEABLE CONDITION.
8. DO NOT GO NEAR ANY EQUIPMENT UNTIL ALL MOVING PARTS ARE STOPPED.
9. DO NOT GO UNDER ANY RAISED COMPONENTS UNTIL THEY ARE SAFELY BLOCKED.
10. DO NOT ALLOW ANYONE UNDER OR NEAR LOAD WHILE IT IS BEING RAISED.
11. AT ALL TIMES CARRY A 2A -10B FIRE EXTINGUISHER ON THE MACHINE
12. REMEMBER SAFETY IS ONLY A WORD UNTIL IT IS PUT INTO PRACTICE.

Contents

SPECIFICATIONS

Weight:	16,500 pounds (7,500 kg
Length:	Elevator up -282 inches (716.28 cm) elevator down-342 inches (868.68 cm)
Width:	106 inches (269.24 cm)
Height:	Loading -10 feet (305 cm) Unloading-Approx. 16.7 feet (508 cm)
Wheel Base:	141 inches (358.14 cm)
Standard Front Tires:	10.00 -20 (12 ply) at 75 psi
Optional Front Tires:	15 x 19.5 (12 ply) at 75 psi
Rear Tires:	40 x 19-19.5 (14 ply) at 65 psi
Brakes:	Four wheel Air
Steering:	Power assisted
Engine:	Cummins turbo diesel 359 cu in (5.9 L)
Fuel Capacity:	45 gal. (1 70.33 L)
Transmission:	4-speed automatic
Rear Axle:	2-speed
Hauling Capacity:	8 bales Freeman size (38" x 46" x 96") (96.5 cm x 1 1 6.8 cm x 243.8 cm) 6 bales "4 foot" size (50" x 46' x 94") (1 27.0 cm x 1 1 6.8 cm x 243.8 cm)
Limit Switches:	Electromechanical
Stack Unloading System:	Loaded bed push-off
Operational Speed:	Field - up to 15 mph (up to 24 km/h) Road - up to 45 mph (up to 72 kp/h)

GENERAL INFORMATION

INTRODUCTION

The purpose of this manual is to assist the operator in maintaining and operating the Freeman 5200 Big Bale Roadsider. Read the manual carefully, it provides information and instructions designed to help you achieve years of dependable performance.

NOTE: Reference to left and right side used throughout the manual refers to the position when seated in the operators seat facing forward.

REPLACEMENT PARTS:

Only genuine Freeman replacement parts should be used to service the Model 5200 Roadsider. These parts are available from your local Freeman dealer. To ensure prompt, efficient service when ordering parts or requesting repair, always give the dealer the following information:

1. Correct part description or part number.
2. Model number of the Roadsider
3. Serial number of the Roadsider.

SERIAL NUMBER LOCATION:

The serial number is located on the main frame right front side (see illus. page 12). The serial number is very important and may be required to identify your machine in order that you can obtain the correct replacement parts.

⚠ **WARNING: Some of the illustrations in the manual show the machine without safety shields to allow for a better view of the area being addressed. The roadsider should never be operated with any of the safety shields removed.**

MAINTENANCE AND LUBRICATION

Check engine oil level Check transmission oil Check coolant level Inspect accessory drive belts Check hydraulic tank oil level Drain fuel system water trap Check and tighten bolts Check front wheel bearing oil level	**DAILY**
Grease steering knuckles Grease steering tie rod ends Grease drive line universal joint Grease load bed pivot points Grease bale tilt pivot tube Grease pushback cylinder clevis pin Grease leaf spring anchor pins Check rear differential oil level	**50 HOURS**
Grease air brake slack adjusters and cam bushings Grease rollers on roller rack (front only) Grease guide rollers for pushoff feet Check air brake reservoir for condensation	**100 HOURS**
Change engine oil Replace engine oil filter Replace air filter Clean air conditioner evaporator coil	**250 HOURS**
Service front wheel bearings Grease elevator chain drive shaft bearings Replace engine fuel filter	**500 HOURS**
Replace transmission oil Replace transmission oil filter Replace hydraulic system oil Replace hydraulic system filter Check oil level in rear axle electric shift unit Grease control lever linkage swivel ends	**ANNUALLY**

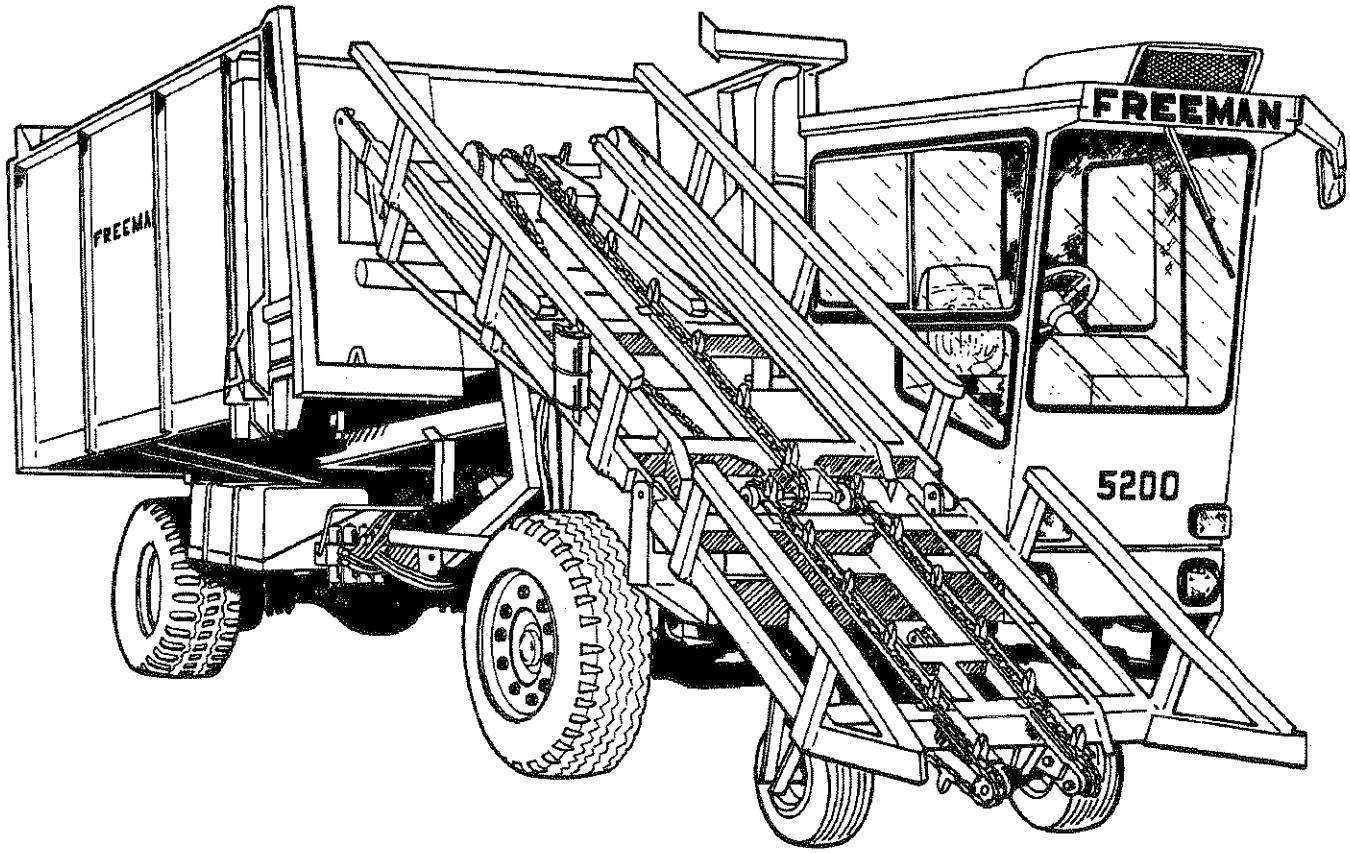
LUBRICANTS

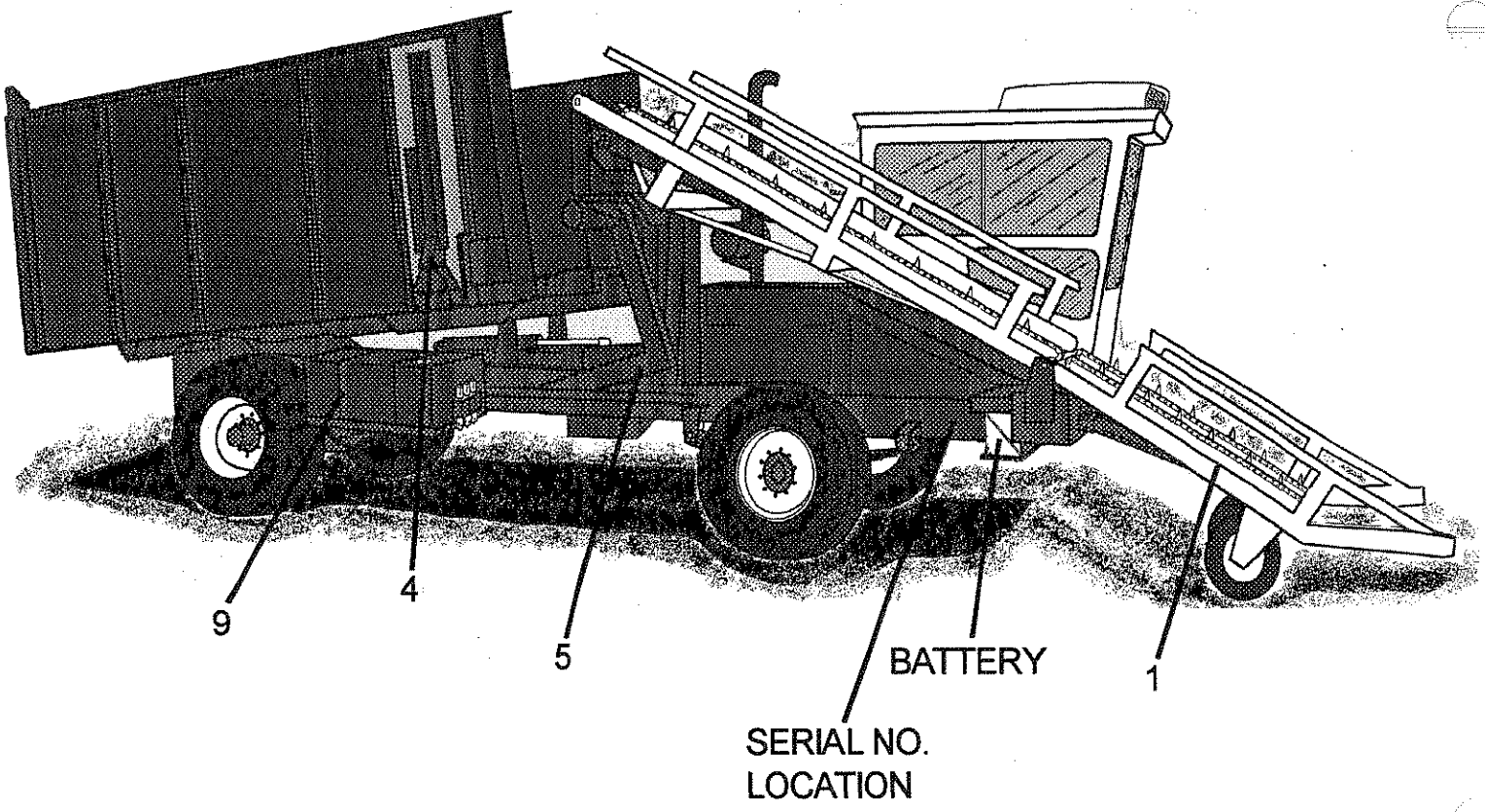
Engine oil:	Chevron 15W-40 API service CF
Hydraulic system:	Chevron AW-46 hydraulic oil or equivalent
Transmission:	DEXRON, DEXRON 11, ALLISON C3 ATF
Grease fittings:	Multi-purpose grease
Rear axle housing:	API Service GL-5 below 10 degrees F - SAE 80 up to 100 degrees F - SAE 90 above 100 degrees F - SAE 140
Rear axle electric shift unit:	SAE 10 engine oil

GENERAL OVERVIEW
OF THE FREEMAN 5200 BIG BALE ROADSIDER

The 5200 Big Bale Roadsider is an automatic big bale stacker. An electric control circuit activates hydraulic components which place mechanical components in motion. Large rectangular bales are moved from the field to a position on the machine which allows them to be hauled efficiently to a stack site where they are unloaded in a neat and uniform stack.

The stacking process begins as the operator of the machine positions a bale on to the pickup assembly. The pickup chain conveys the bale from the ground to the upper elevator. When the bale reaches the upper elevator the control circuit is signaled to begin the automatic process of positioning bales on the load bed. One by one bales are picked up until a total of eight 38"x46" bales, or six 50"x46" bales have been loaded on the machine. The operator then drives to the desired stack site. At the stack site the operator raises the load bed and operates the load push-off system to move the load off the machine to a stacked position on the ground. When the machine is free of it's load the push off system is retracted and the load bed lowered. The operator is ready to return to the field for another load.



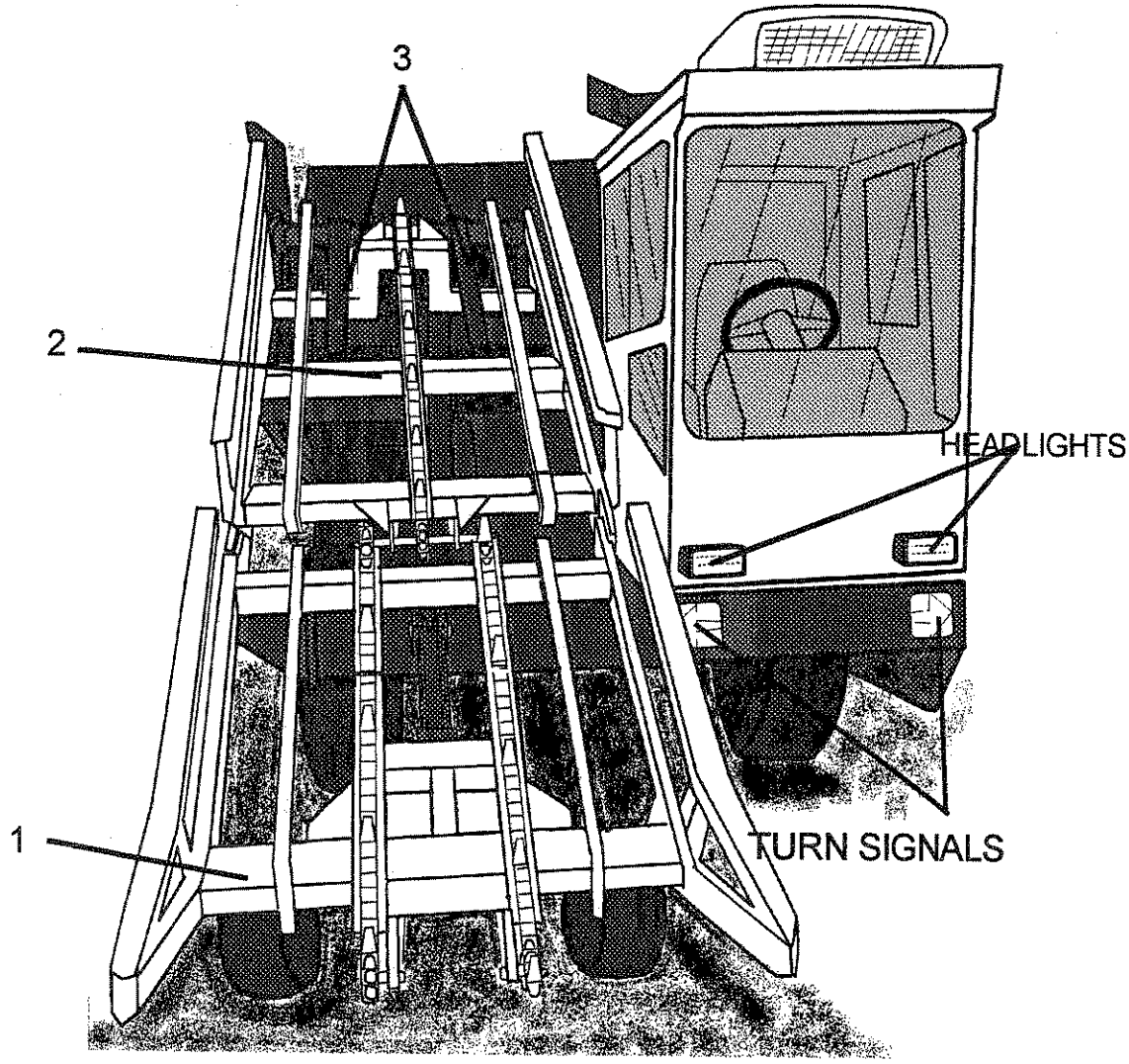


INDIVIDUAL COMPONENT DESCRIPTION

1. PICKUP
The pickup lifts and conveys the bale from the ground to the elevator. The pickup can be raised and lowered by operating the pickup lift lever in the cab. The pickup chain is controlled by a switch located in the handle of the pickup lift lever.

2. ELEVATOR
The elevator conveys the bale to a position over the bale tilt arms. The elevator chain is controlled automatically by the control circuit. Limit switches located on the elevator signal the control circuit as to the position of the bale.

3. BALE TILT ARMS
The bale tilt arms tip the bale up from it's position on the elevator and stands the bale on end into the load bed. When the bale is delivered to the load bed the control circuit is signaled.

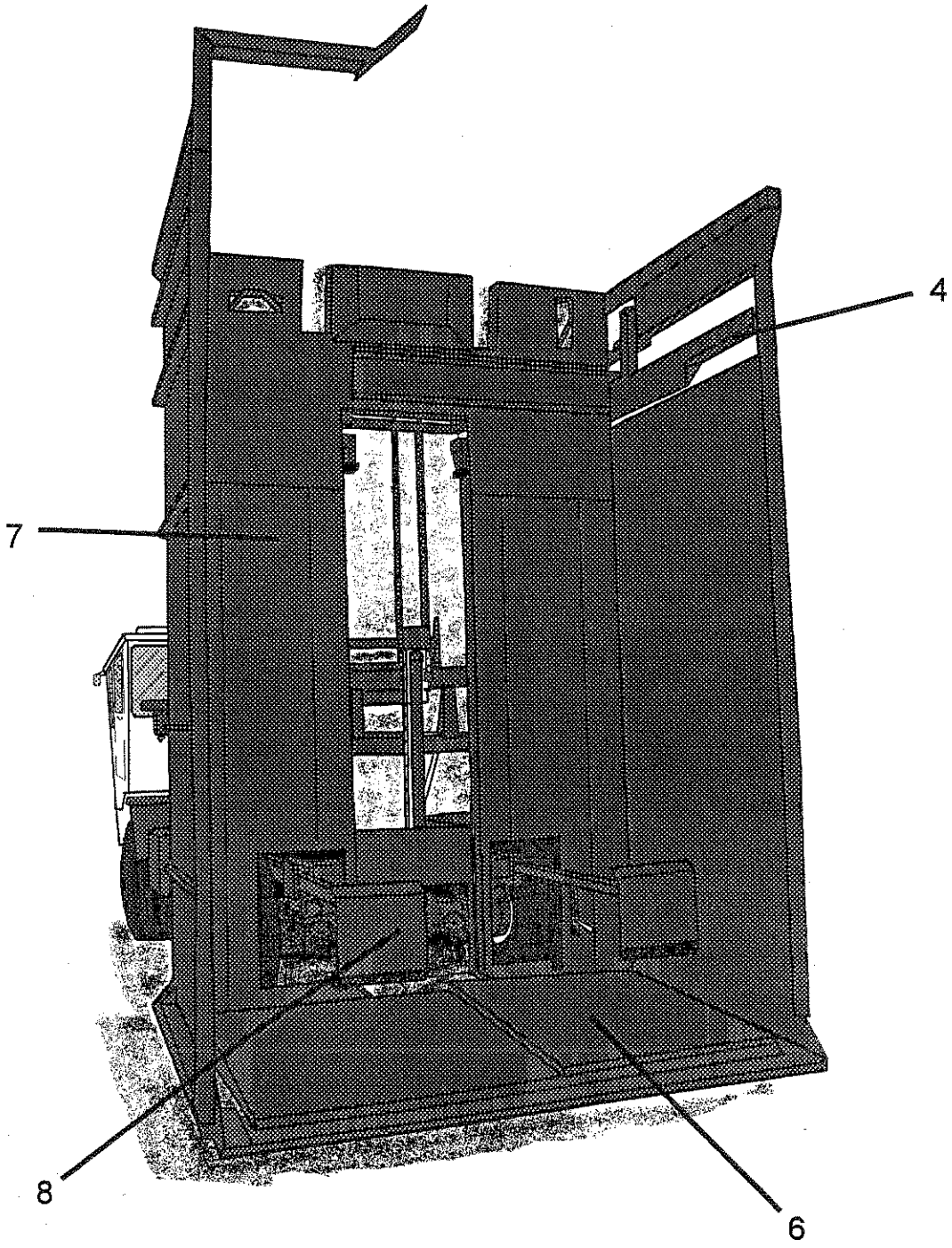


4. SIDE PUSHER

The side pusher moves the bale from it's position standing on end on the right hand side of the load bed to the left hand side of the load bed. The bale is held in position on the left hand side until another bale is in position on the elevator. The side pusher will then return to the home position to allow the second bale to be placed on the load bed. These two bales on the load bed form the first tier.

5. PUSH-BACK

The push-back moves the previously formed tier towards the rear of the machine to allow room for the next tier to be formed.



6. ROLLER RACK
The roller rack is a moveable support for the bales as they are loaded in the load bed. The roller rack prevents bales from falling to the rear of the machine as they are positioned on the load bed. When the load bed is raised to the unloading position the roller rack supports the bottom of the stack until it is pushed off on to the ground.

7. LOAD BED
The load bed contains the bales as they are gathered to form a stack. Components located on the load bed are the side pusher and the roller rack.

8. PUSH-OFF FEET
When the load bed is raised to the unloading position the push-off feet are extended to push the stack of bales away from the machine.

9. FUEL TANK: Located on the left hand side of the machine. Capacity is 45 gallons.

10. HYDRAULIC TANK: The hydraulic tank is located on the left hand side of the Roadsider.

11. AIR CLEANER: The air cleaner is a dry element type with a precleaner.

12. LOAD BED TILT CYLINDERS: Convert hydraulic energy to mechanical energy to raise the load bed.

13. RADIATOR: The radiator provides cooling for the engine, hydraulic system and transmission. A hydraulicly operated fan circulates air through the radiator. The fan rotates clockwise to draw air through the radiator and is reversed at regular intervals to remove collected dust and chaff from the radiator screen.

SAFETY ITEMS

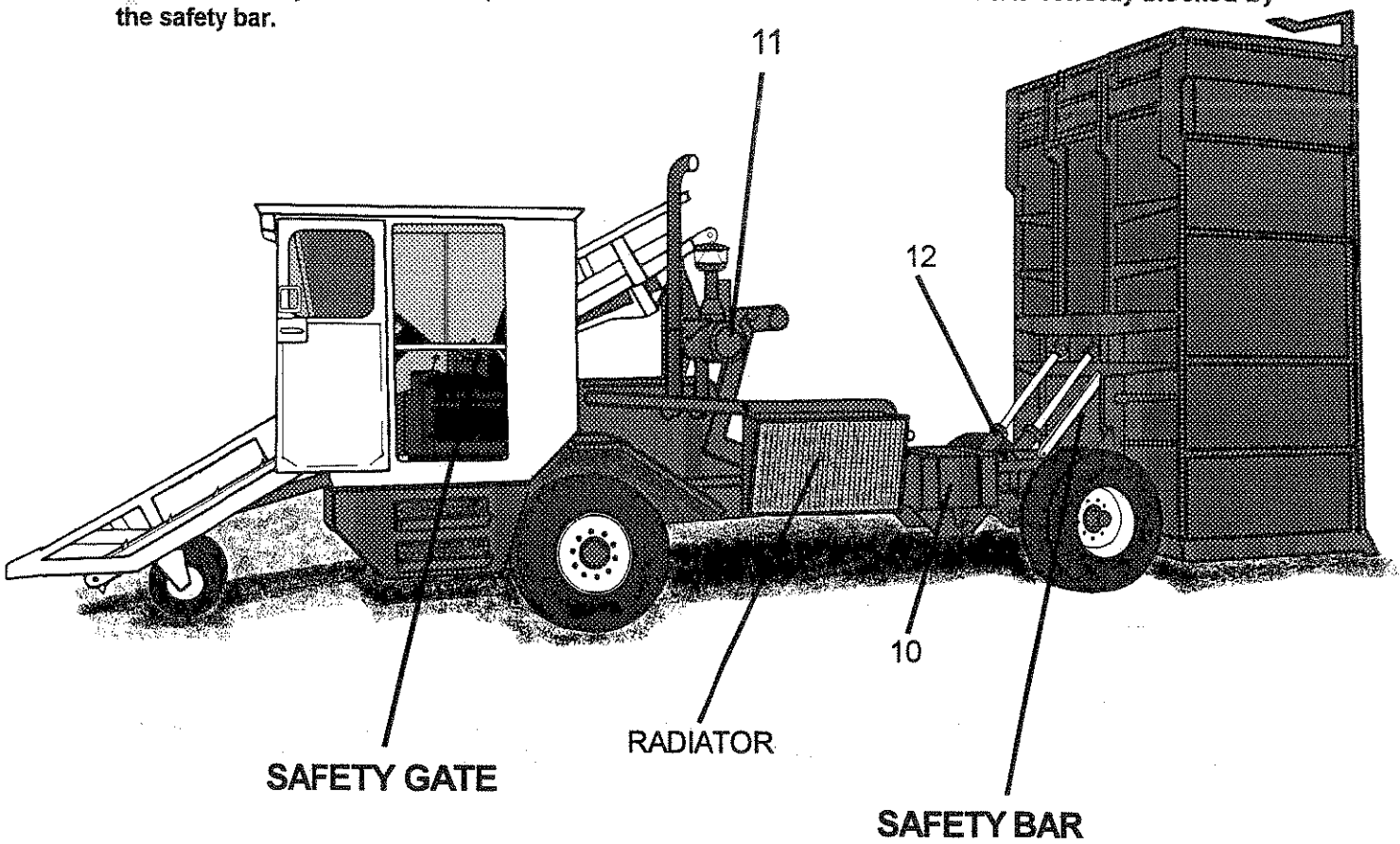
SAFETY GATE

The safety gate bar prevents the operation of hydraulic components unless the bar is raised. The safety gate is located just inside of the cab door. To operate the Roadsider hydraulic functions sit in the operators seat. Raise the safety gate and place it in the retaining hook at the front of the doorway. Do not attempt to operate the Roadsider from any position other than the operators seat.

SAFETY BAR

The safety bar is located on the left rear of the Roadsider mainframe. The safety bar is provided for use when performing maintenance or repairs when the load bed is in the raised position. When ever any service is performed requiring the load bed to be raised, raise it completely and swing the safety bar in to position to block the load bed from lowering.

⚠ **Do not allow anyone to work on, near or around the raised load bed unless it is correctly blocked by the safety bar.**



OPERATOR CONTROLS

1. IGNITION SWITCH

Located on the right hand side of the steering column. The ignition switch can be turned to four positions: off, accessory, on and start. To operate the ignition switch insert the key and rotate the switch clockwise.

OFF POSITION

When in the off position power is not available to most of the accessories. The engine will not operate. Power is available to the headlights and the dome lamp.

ON POSITION

With the ignition switch in the on position, power is provided to all accessories and the bale stacking control circuit. A warning system is active while the switch is in the on position. This system activates a warning buzzer and indicator lights to alert the operator of low oil pressure, low air pressure, or high coolant temperature. The warning lights will go off once the engine is started and proper operating pressures are reached.

START POSITION

Rotate the switch fully clockwise and the engine starting motor will be activated. Release the ignition switch as soon as the engine starts. The switch will automatically return to the on position when released. A neutral safety switch prevents the starting motor from being activated while the transmission is in gear.

ACCESSORY POSITION

Rotate the switch counterclockwise from the off position to operate accessories only.

2. IGNITION SWITCH LOCK RELEASE

The ignition switch lock release (located just below the ignition switch) must be depressed in order to move the ignition switch from the on position to the off position. With the ignition switch in the off and accessory positions the steering wheel is locked and cannot be turned.

3. EMERGENCY FLASHER

The emergency flashers are operated by a switch on the right hand side of the steering column below the ignition switch. Push the switch in to activate the flashers. Pull out on the switch to shut off the flashers.

4. ENGINE SPEED CONTROL

A foot operated pedal is provided to control engine speed. A hand operated control is located on the right hand side of the instrument panel support pod. Engine RPM is controlled by pulling the lever towards the rear of the machine to increase engine RPM. Push the lever towards the front of the machine to decrease engine RPM.

5. BRAKES

A foot operated brake pedal is provided on the floor of the cab on each side of the instrument panel support pedestal. These pedals operate together to apply the service brakes. The parking brake control is located on the right hand side of the instrument panel. To set the parking brake bring the Roadsider to a complete stop. Pull out on the yellow parking brake control knob to set the parking brake. Push in on the control knob to release the brake. Refer to page 26 for more information on the air operated brake system.

6. TURN SIGNAL, HEADLIGHTS, WIPER

The turn signals, headlights and wiper control switches are located on a single lever on the left hand side of the steering column.

TURN SIGNALS

The turn signals are activated by moving the lever up to activate the right-hand signals or down to activate the left hand signals. Green indicator lamps on the instrument panel will light when the signals are activated.

HEADLIGHTS

Headlights are turned on by pulling the lever towards the steering wheel. Pulling the lever a second time turns the headlights off. An amber light on the instrument panel will illuminate when the headlights are turned on.

WIPER

The wiper motor can be turned on by rotating the end of the turn signal lever counterclockwise. A low speed and high speed position is provided.

7. STEERING WHEEL TILT / TELESCOPE

The steering wheel can be tilted forward or backward to ease exit and entry from the operators seat. To adjust the steering column pull the lever on the left hand side of the steering column (below the turn signal lever) towards the steering wheel. Release the lever when the column reaches the desired position.

The steering column can be extended or retracted to suit the operator. To adjust the column length locate the release lever at the center of the steering wheel hub. Move the lever in a clockwise direction to release the column. Position the column as desired and move the lever counterclockwise to lock the column in position.

8. TWO SPEED AXLE

The two speed axle is operated by a toggle switch located just behind the transmission selector lever. Select the desired axle ratio before engaging the transmission.

INSTRUMENT PANEL

The instrument panel houses gauges and indicator lights so that the operator can monitor the condition of the machines primary components.

VOLTMETER: Monitors electrical system voltage. Normal system voltage is 12.5 - 14.5 volts. The voltmeter will show lower voltage when the vehicle is being started, and higher voltage when the batteries are charging. Whenever the voltmeter shows an undercharged or overcharged condition for an extended period, check the batteries and charging system.

OIL PRESSURE GAUGE: Indicates engine lubricating oil system pressure. Oil pressure should read a minimum of 30 psi at rated speed and not less than 10 psi at idle. Consult the engine operators manual for further information.

OIL PRESSURE WARNING LIGHT: Illuminates when engine oil pressure is low. An audible tone will sound when the warning light illuminates to further warn the operator.

⚠ **CAUTION:** A sudden decrease or absence of oil pressure may indicate mechanical failure. Bring the machine to a safe stop, and investigate the cause to prevent further damage. Do not operate the engine until the cause has been determined and corrected.

WATER TEMPERATURE GAUGE: Indicates engine coolant temperature. During normal operation, the water temperature gauge should read 175° to 203°F. If the temperature remains below 160°F or exceeds a maximum temperature of 210°F, inspect the cooling system to determine the cause. Refer to the engine operators manual for troubleshooting and repair procedures.

WATER TEMPERATURE WARNING LIGHT: Illuminates when engine coolant temperature is high.

FUEL GAUGE: Indicates the amount of fuel in the fuel tank.

TRANSMISSION OIL TEMPERATURE GAUGE: Indicates temperature of the automatic transmission oil. The transmission oil temperature gauge reading should not exceed 250°F during normal operation.

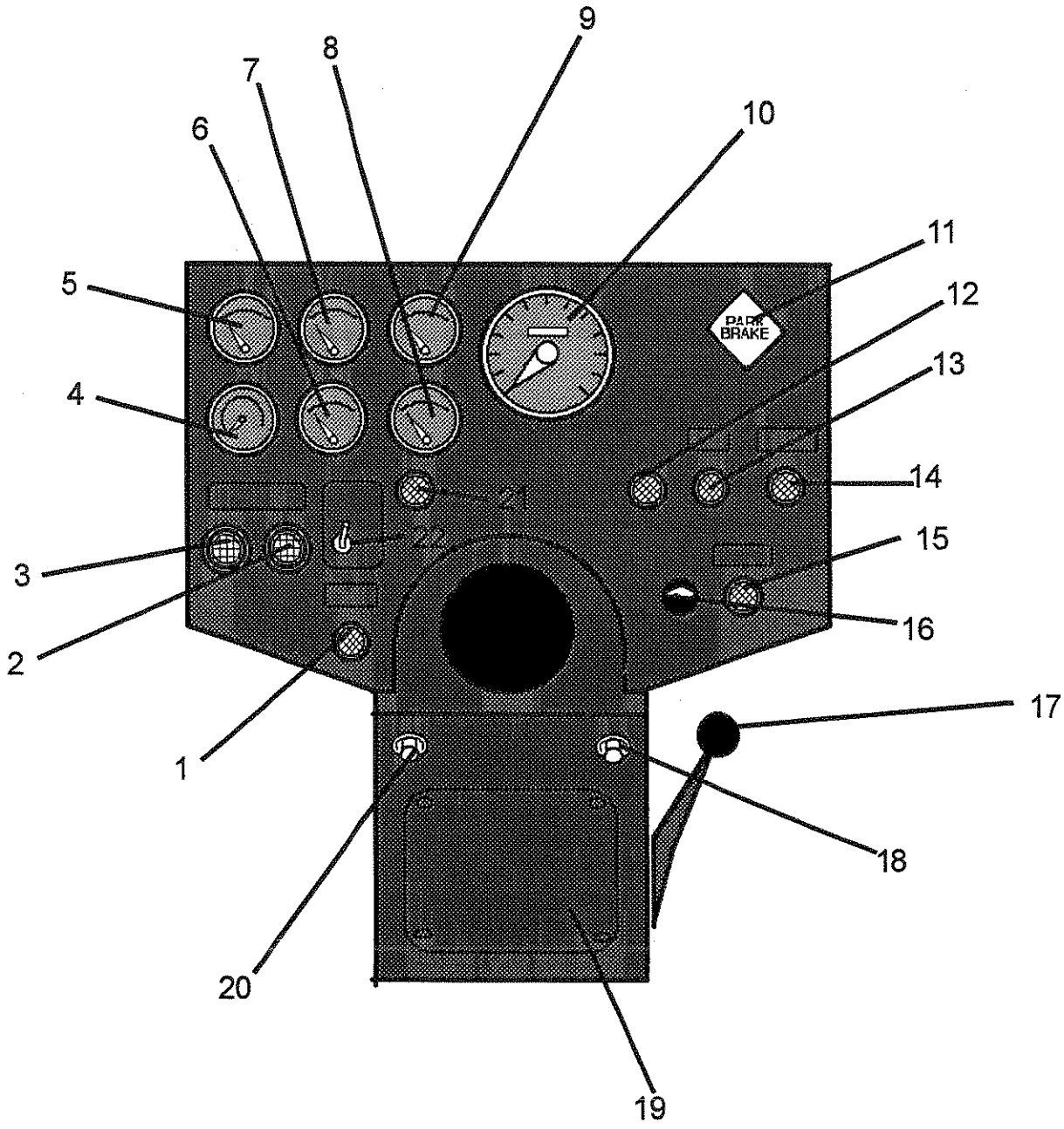
⚠ **CAUTION:** A sudden increase in oil temperature that is not caused by a load increase may indicate mechanical failure. Bring the vehicle to a safe stop, and investigate the cause to prevent further damage. Do not operate the vehicle until the cause has been determined and corrected.

AIR PRESSURE GAUGE: The single air pressure gauge registers the constant pressure in the primary and secondary air systems. The single gauge contains two separate pointers that appear as one unless there is a difference in pressure between the primary and secondary systems. Normal pressure with the engine running, is 95 to 125 psi in both systems. A low air pressure warning light and buzzer connected to both the primary and secondary systems, activate when air pressure in either system drops below a minimum of 65 psi. When the engine is started, the warning light and buzzer remain on until air pressure in both systems exceeds minimum pressure.

TACHOMETER: A Tachometer indicates engine speed in revolutions per minute (rpm), and serves as a guide for keeping the engine in the appropriate rpm range during operation. Low idle is set at 750 rpm and maximum rated speed is set at 2450 rpm.

HOUR METER: The tachometer includes an engine hour meter. An engine hour meter records continuous operating hours of the engine.

PARTIAL LOAD INDICATOR: An amber light on the dash illuminates when six-38"x 46" or four-50" x 46" bales have been loaded on to the load bed. This indicates to the operator that two more bales can be loaded on to the machine to complete the load.



1. HEADLIGHT ON INDICATOR LAMP
2. SECONDARY AIR PRESSURE WARNING LAMP
3. PRIMARY AIR PRESSURE WARNING LAMP
4. AIR PRESSURE GAUGE
5. FUEL GAUGE
6. TRANSMISSION OIL TEMPERATURE GAUGE
7. ENGINE OIL PRESSURE GAUGE
8. VOLTMETER
9. ENGINE WATER TEMPERATURE GAUGE
10. TACHOMETER
11. PARKING BRAKE CONTROL KNOB
12. RIGHT TURN INDICATOR LAMP
13. LOW OIL PRESSURE WARNING LAMP
14. HIGH WATER TEMPERATURE WARNING LAMP
15. PARTIAL LOAD INDICATOR
16. HEATER FAN CONTROL KNOB
17. HAND THROTTLE CONTROL LEVER
18. WORK LIGHT SWITCH
19. FUSE PANEL
20. WORK LIGHT SWITCH
21. LEFT TURN INDICATOR LAMP
22. RADIATOR FAN CONTROL SWITCH

INSTRUMENT PANEL; continued

HEATER FAN: (OPTIONAL) The heater fan is controlled by the knob on the lower right-hand side of the dash panel. Rotate the switch counter-clockwise to turn on the heater fan.

RADIATOR FAN CONTROL SWITCH: Selects the operating mode of the radiator fan. In the Field mode the fan reverses periodically to purge dust and chaff from the radiator screen. Select the Highway position when traveling on roadways. This allows the fan to operate continuously in one direction.

TURN INDICATORS: Indicator lamp will flash when the turn signals are in use

WORK LIGHTS: Two push-pull type switches operate the work lights. The switches are located on the support pedestal facing the operator.

FUSE PANEL: Fuses for cab accessories are located under a panel on the dash support pedestal.

HAND THROTTLE

A hand operated control is located on the right hand side of the instrument panel support pod. Engine RPM is controlled by pulling the lever towards the rear of the machine to increase engine RPM. Push the lever towards the front of the machine to decrease engine RPM.

PARKING BRAKE

The parking brake control is located on the right hand side of the instrument panel. To set the parking brake bring the Roadsider to a complete stop. Pull out on the yellow parking brake control knob to set the parking brake. Push in on the control knob to release the brake.

CONTROL PANEL

The control panel contains the switches necessary to operate the stacking functions of the big bale roadsider. The control panel is located to the right of the operators seat.

1. POWER SWITCH: The power switch is located in the lower left corner of the control panel. This switch turns on power to the control circuit. A red indicator light above the switch illuminates when the power switch is on.

2. CONTROL MODE: A switch located at the top center of the control panel allows the operator to select either automatic or manual operation of the control circuit. During normal stacking operations the control circuit will be operated in the automatic mode. The switch can be moved to the manual mode should it become necessary to manually activate any of the stacking functions . No automatic functions will occur in the manual mode.

3. SYSTEM SELECTOR: The system selector directs hydraulic flow to operate the bale loading functions or stack unloading functions. With the system selector in the load position the pickup can be raised or lowered and stacking functions can operate in either the manual or automatic mode. In the unload position the load bed can be raised or lowered, the push off feet extended or retracted and the load rack lowered.

4. INDICATOR LAMP: A red light illuminates when the control circuit is on.

MANUAL CONTROL SWITCHES

The manual control switches are functional when the control circuit is in the manual mode and the load selector valve in the load position.

5. ELEVATOR SWITCH: A rocker switch is located in the upper left corner of the control panel to allow the operator to control the operation of the elevator chain with the control circuit in the manual mode. The elevator chain can be operated intermittently in forward or reverse directions.

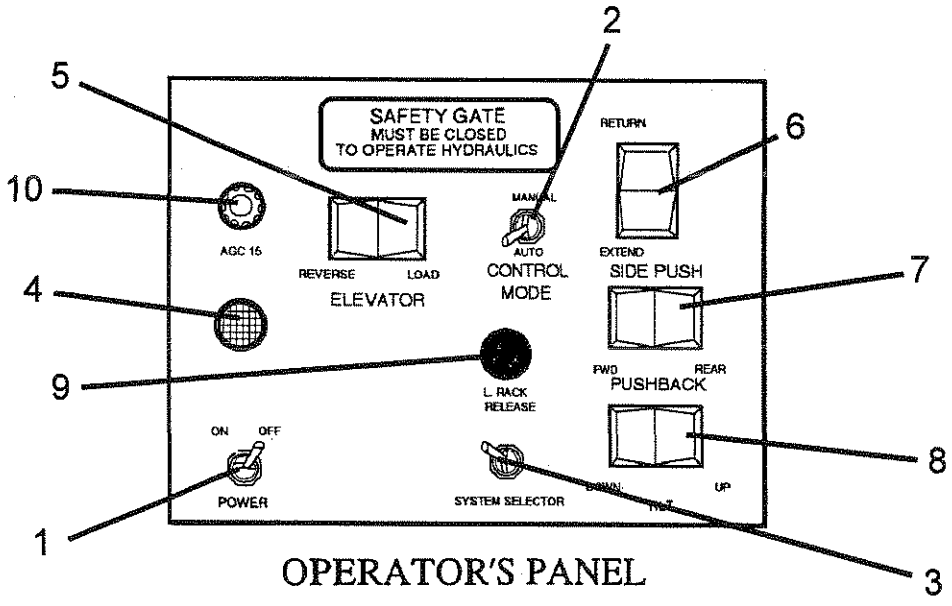
6. SIDE PUSH: A rocker switch is located in the upper right corner of the control panel to allow the operator to manually control the side pusher. Always return the side pusher to the home position before operating any other components.

7. PUSH BACK: A rocker switch located at the right hand center position of the control panel allows the operator to manually control the push back to push bales to the rear of the machine.

8. TILT: A rocker switch located at the lower right corner of the control panel allows the operator to manually control the bale tilt. Make sure the side pusher is in the home position before operating the tilt mechanism.

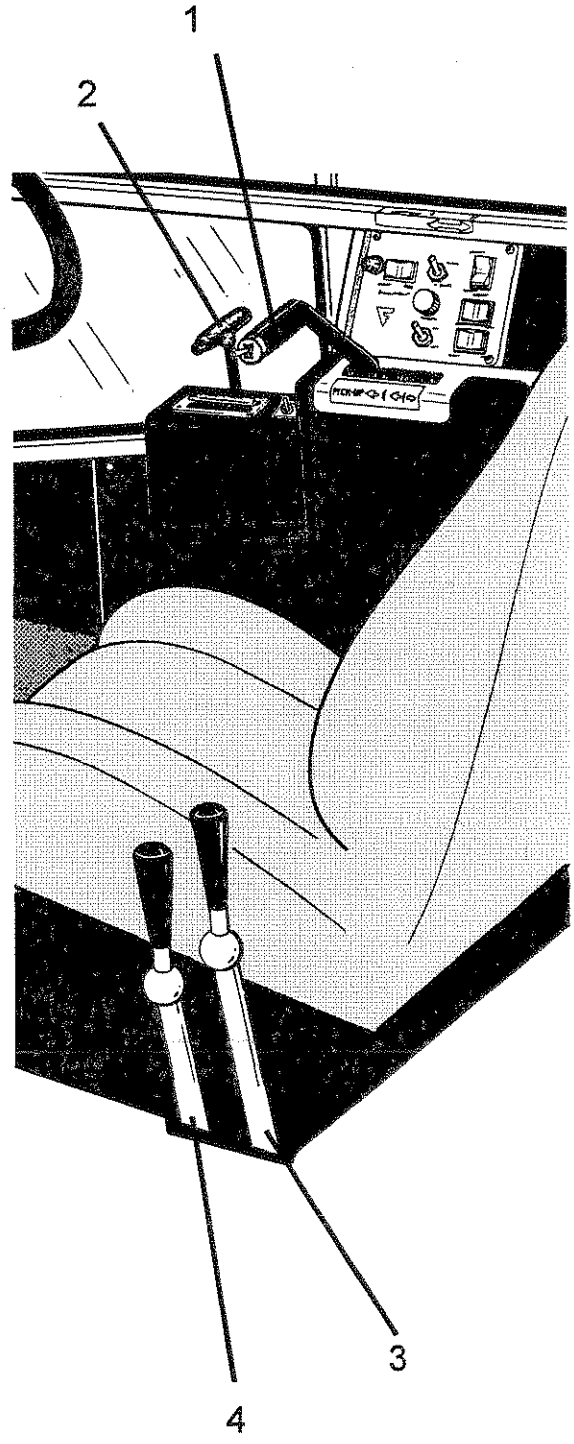
9. LOAD RACK RELEASE: The load rack release is a push-button switch located in the center of the control panel. This switch allows the load rack to lower to the back of the load bed when a partial load needs to be unloaded. For proper operating procedures refer to the instructions for unloading a stack.

10. CONTROL CIRCUIT FUSE: A 15 amp fuse is located at the upper left corner of the control panel. This fuse protects the control circuit. Do not substitute with a higher rated fuse.



OPERATOR'S PANEL

MANUAL CONTROL LEVERS



1. PICKUP CONTROL LEVER
PICKUP CHAIN CONTROL SWITCH:
The pickup control lever can be pulled back to raise the pickup and pushed forward to lower the pickup. The system selector must be in the load position to operate the pickup lift. A toggle switch located in the handle of the pickup lift lever controls the pickup chain operation when stacking with the control circuit in the automatic mode. The pickup chain can be operated intermittently by pressing the switch forward. When the switch is released the switch will return to the center (off) position. To operate the pickup chain continually move the switch rearward. A detent will allow the switch to remain in that position and the pickup chain will run continuously.

2. AUTOMATIC TRANSMISSION SELECTOR: Selects forward or reverse direction. Press in on the button on the left hand side of the selector and move the selector to the desired position.

3. LOAD BED TILT: The load bed tilt lever is located to the far left of the operators seat. With the system selector in the unload position the load bed can be raised by moving the lever towards the rear of the machine. To lower the load bed move the lever towards the front of the machine.

4. PUSHOFF FEET: The pushoff feet control lever is located to the immediate left of the operators seat. Once the load bed has been raised the pushoff feet can be extended to push a stack off the machine and on to the ground. Move the control lever towards the rear of the machine to extend the pushoff feet. Move the control lever towards the front of the machine to retract the pushoff feet. The pushoff feet must be retracted before the load bed can be lowered.

⚠ SAFETY GATE: The safety gate bar is located to the left of the operators seat at the cab door. In order for any hydraulic functions to operate the safety gate must be in the raised position. Do not operate the bale wagon unless the operator is in the operators seat.

AIR CONDITIONING

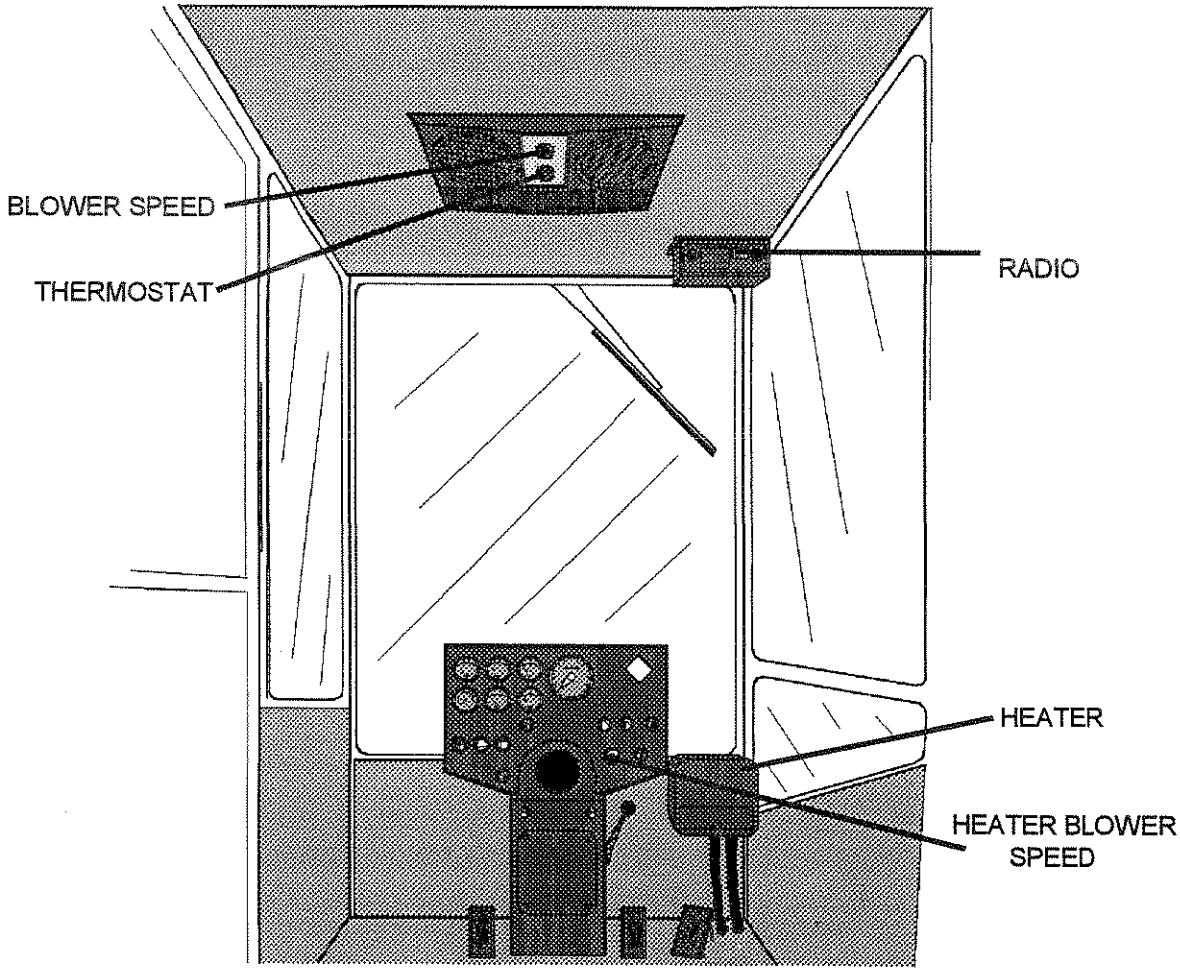
A roof mounted air conditioning unit provides cool dehumidified air to the cab of the Freeman Roadsider. Controls for the air conditioner are all located above the instrument panel on the ceiling of the cab. Two knobs allow the operator to control the comfort level inside the cab. A blower switch provides three speed settings for the blower. A second knob allows the operator to regulate the temperature of the circulated air. Rotating the control knob counterclockwise increases the amount of cooling. The air outlets may be rotated to direct air flow as desired.

HEATER; (optional)

The optional cab heater is located to the right of the dash support pedestal. A single knob on the dash panel operates the blower fan for the cab heater. Heat is provided by engine coolant circulated through the heater. If necessary, coolant flow to the heater can be shut off by closing a valve on the top right-hand side of the engine.

RADIO; (optional)

The optional radio is mounted in the upper right corner of the cab. For operation instructions see the manual provided by the radio manufacturer.



PREPARATION - PREOPERATION CHECK LIST

J.A. Freeman & Son recommend a daily prestarting inspection. The following will help prepare the machine for field operation and ensure the unhindered function of the Freeman Big Bale Roadsider.

CHECK LIST:

1. Perform periodic maintenance and lubrication as recommended. (See page 10)
2. Check for correct tire pressure, (75 psi front, 65 psi rear), and wheel lug torque (450-500 ft.-lbs.).
3. Perform complete visual inspection, looking for oil leaks and loose bolts, chains cables, etc.
4. Check engine compartment and remove all possible hazards such as chaff and debris.
5. Check fuel filter and drain and/or clean as required.
6. Check and clean engine air precleaner and cleaner as required.
7. Check engine crankcase oil and hydraulic oil for proper levels.
8. Check radiator coolant level.
9. Clean cab windows as required to ensure good visibility.
10. Safe and efficient operation of the Freeman Big Bale Roadsider is greatly dependent upon a well trained, safety minded and conscientious operator.

OPERATING THE 5200 BALE WAGON

1. Inspect the machine as described in the preoperation checklist.
2. Enter the cab and adjust the operators seat, steering column and mirrors as required.
3. Place the safety bar in the horizontal position across the doorway.
4. Ensure that the parking brake is engaged.
5. Place transmission in the NEUTRAL position.
6. Start engine.
7. Move the system selector switch to the load position and raise the pickup. Move the machine to the location of bales to be picked up.

LOADING

1. Set the control mode switch on the control panel to the AUTO position.

2. Lower the pickup and operate the elevator chain by moving the control switch on the pickup lift handle to the run position.

3. Approach a bale at a slow speed and, while holding the Pickup lever forward, ease the pickup against the bale. As the pickup elevator begins to lift the bale continue to drive forward to assist loading the bale onto the pickup.

4. When the bale is fully on the elevator drive the machine towards the next bale to be picked up. Raise the pickup if necessary. The machine will automatically tip the first bale onto the load bed. The side shift will position it to the left hand side of the load bed and hold it there.

5. Pick up the next bale using the method described in step 3. This bale when positioned fully on the pickup elevator will signal the control circuit to return the side pusher to the home position. The bale on the elevator will then be tilted on to the load bed. With two bales on the load bed the pushback mechanism is activated and the bales are pushed to the rear of the load bed allowing room for two more bales to be positioned on the load bed.

6. Continue to pick up bales until the partial load light on the dashboard illuminates. This light indicates that four 50" x 46" bales or six 38" x 46" bales are on the load bed. Two more bales can be loaded to complete the load.

7. When the last bale has been loaded raise the pickup and switch the control mode switch to manual. Depress the pushback control switch to manually extend the pushback. When the pushback is extended as far as it will travel release the switch. This action will complete the loading process by pushing the load fully to the rear of the load bed. Positioning the pushback against the bales also provides support to stabilize the bales in the load bed as they are transported to the stacking area.

NOTE: Avoid picking up bales while descending steep hills.
Avoid hard braking. Bales may tip forward.
Always support the front of the stack on the load bed with the pushback when transporting bales.

UNLOADING

1. Select a level, solid ,well drained location to begin a stack. Position the machine in line with the stack or area where the stack is to be made.

2. Retract the pushback to the home position.

3. Move the system selector to the unload position.

4. Raise the load bed to a near vertical position by pulling back on the tilt lever.

5. Back up to the stack until the load touches the stack.

6. Raise the bed to the fully raised position (past vertical)

7. Place the transmission gear selector in neutral. Pull back on the pushoff feet control lever to move the load from the load bed to the ground by extending the pushoff feet. Use the service brakes or throttle as necessary to assist in properly positioning the stack.

8. After the pushoff feet are fully extended and the stack pushed off, return the pushoff feet to the home position by pulling forward on the pushoff feet control lever.

9. Lower the load bed by pulling forward on the tilt lever. Return to the field and resume stacking.

AIR BRAKES

A dual air brake system consists of two independent air brake systems which use a single set of brake controls. Each system has its own reservoir, plumbing, and brake chambers. The rear service brakes are normally operated by the primary air system. If a loss of primary air pressure occurs, the rear brakes will be operated automatically by the modulating valve using secondary air pressure. Loss of secondary air pressure cause the front axle brakes to be inoperative.

Before driving your Roadsider, allow time for the air compressor to build up a minimum of 95 psi pressure in both the primary and secondary systems. Monitor the air pressure system by observing the dual system air pressure gauge and the low-air-pressure warning light and buzzer. The warning light and buzzer shut off when air pressure in both systems reaches 64 to 76 psi.

The warning light and buzzer come on if air pressure drops below 64 to 76 psi in either system. If this happens, check the air system pressure gauges to determine which system has low air pressure. Although the machine's speed can be reduced using the foot brake control pedal, either the front or rear service brakes will not be operating, causing a longer stopping distance. Bring the machine to a safe stop, and have the air system repaired before continuing.

If both the primary and secondary systems become inoperative, the spring parking brakes will automatically apply when air pressure drops below 20 to 30 psi. **Do not wait for the brakes to apply automatically; when the warning light and buzzer first come on, immediately bring the vehicle to a safe stop. Before continuing operation of the machine, correct the cause of the air loss.**

Note; Before a machine with insufficient system air pressure can be moved, the spring parking brakes must be released by applying an external air source, or by manually caging (releasing) the parking brake springs.

⚠ **WARNING: Do not drive the machine with parking brakes caged; there would be no means of stopping the machine, and this could result in serious personal injury or machine damage. Before caging the spring parking brakes, chock the tires or provide some means to secure the machine from rolling.**

After correcting the brake system problem, uncage the spring parking brakes before resuming normal vehicle operation.

AIR BRAKE COMPONENTS

COMPRESSOR: The air compressor is the energy source for the air brake system. A governor mounted on the compressor stops the compressor from pumping when air pressure in the storage reservoir reaches approximately 120 psi. The compressor resumes pumping when air pressure reaches about 90 psi.

AIR DRYER: Compressed air from the air compressor enters the air dryer . The air dryer removes moisture by a process of condensation. The air is filtered and further dried when it passes through a filter and a desiccant cartridge. The moisture collected by the air dryer is purged each time the compressor is signaled to stop pumping. The collected moisture in the air dryer is prevented from freezing by a thermostatically controlled heating element which activates only on demand. The air dryer eliminates the need to frequently purge collected moisture from the air reservoirs. Air reservoirs need only be checked occasionally for excess moisture (over a teaspoon). Excess moisture in the air reservoirs indicates that the air dryer may require service.

AIR RESERVOIRS: Three reservoirs store compressed air for braking. The supply tank receives air from the air dryer. The supply tank is equipped with a safety relief valve to prevent overpressurization of the air reservoirs. A primary and secondary reservoir store compressed air available to the primary and secondary braking systems. Check valves prevent the reservoirs from discharging should a leak occur in the opposite system. Manual drain valves are attached to the bottom of each tank to allow for the draining of collected moisture. Because the Roadsider is equipped with an air dryer, frequent draining of the reservoirs is not necessary. Occasional inspection is recommended. Moisture drained from the reservoir in excess of approximately one teaspoon may indicate that the dryer may require service.

SERVICE BRAKES: The service brakes consist of four clamp type brake chambers. The brake chamber pushrods rotate an S-cam to apply the brakes. Spring brake parking brakes are provided on the rear axle only. The spring brakes are applied automatically when air pressure is below 20 - 30 psi. The spring brakes can be applied manually by pulling out on the control knob located on the dash panel. The service brakes are equipped with automatic slack adjusters. Inspect the brakes regularly to assure that the automatic adjusters are functioning correctly. Pushrod travel should be 1" to 1 1/2" when the brakes are applied if the adjustment is correct.

ACCESSORY PORT: An accessory port is provided off the primary air reservoir. This can be utilized to air tires and clean chaff and dust from the Roadsider. Consult your local Freeman representative for more information.

LIMIT SWITCH FUNCTIONS

LS-1: TILT DELAY
LS-1 is the first limit switch operated when a bale is loaded on the pickup. LS-1 prevents the bale tilt arms from operating until the bale is positioned high enough on the elevator. When LS-1 is released the bale tilt arms are activated if LS-2 is operated.

LS-2: TILT
LS-2 is the second switch operated by the bale. When LS-2 is operated the bale tilt arms can be activated to tip the bale onto the load bed as soon as LS-1 is released.

LS-3: TILT RETURN
LS-3 is operated by a cam on the bale tilt arms when they reach the end of their stroke. When operated, LS-3 causes the bale tilt arms to return to their home position.

LS-4: TILT RETURN STOP
LS-4 is operated by the retracting bale tilt arms to stop them in the home position.

LS-5: SIDE PUSH EXTEND
LS -5 is operated when a bale is tilted on to the load bed. It signals the control circuit to activate the side push for the first bale tilted on to the load bed. The side push positions the bale to the left hand side of the load bed. This operates LS-8. When a second bale is tilted on to the load bed LS-5 in conjunction with LS-8 allows the pushback to operate.

LS-6: SIDE PUSH EXTEND STOP
LS-6 is operated by the side push when it has pushed a bale fully to the left of the load bed. When operated the side push is stopped in the extended position to hold the first bale in place. While the side push is extend the bale tilt and the push back will not operate. The side push will be signaled to return when the next bale on to the pickup operates LS-1.

LS-7 SIDE PUSH RETURN STOP
LS-7 is operated by the side push as it is retracted. When operated it stops the side push in the home position. When the side push is in the home position the bale tilt and the push back can operate.

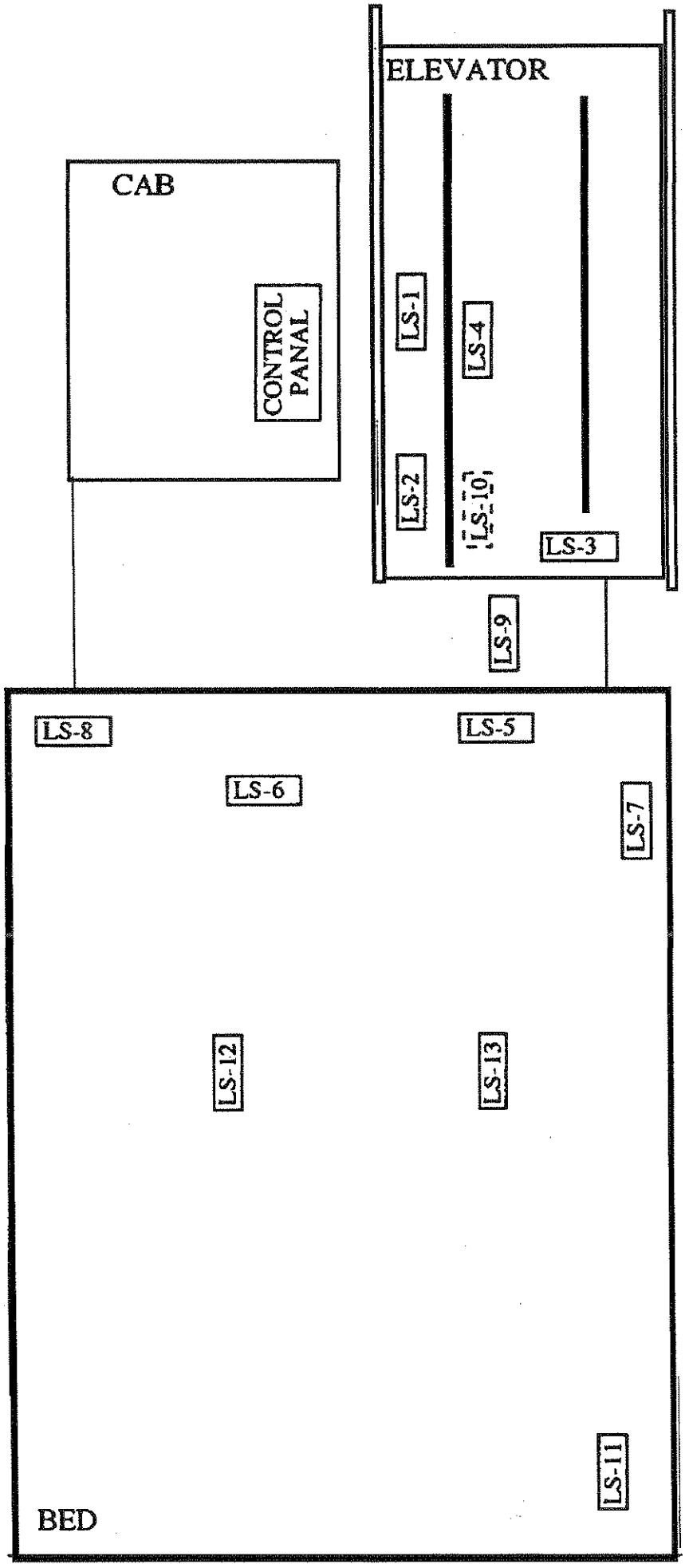
LS-8: PUSHBACK EXTEND
LS-8 is operated when a bale is side pushed to the left side of the load bed. When operated, LS-8 signals the control circuit. When a second bale is tilted onto the load bed LS-5 is operated. When both LS-5 and LS-8 are operated the pushback is activated to push the two bales towards the back of the load bed allowing room for the next set of bales to be loaded.

LS-9: PUSHBACK RETURN
LS-9: is operated by the pushback when it reaches the fully extended position. It signals the control circuit to return the pushback to it's home position. LS-9 must be adjusted to accommodate 38" x 46" bales or 50" x 46" bales. Refer to page 30 for adjustment information.

LS-10: PUSHBACK RETURN STOP
LS-10 is operated by the Pushback as it is retracted. It stops the pushback in the home position. The bale tilt arms and the side push will not operate until the pushback is in the home position.

LS-11: FULL LOAD PUSHBACK SAFETY
LS-11 is operated by the first tier of bales when they are pushed to the rear of the load bed. When operated LS-11 prevents the pushback from being activated. A lamp on the dashboard is illuminated when LS-11 is operated. This indicates to the operator that only two more bales can be loaded on to the load bed.

LS-12, LS-13: PUSH OFF SAFETY, L.H.and R.H.
LS-12 and 13 are operated by the left and right hand push off mechanism when in the fully retracted position. When LS-12 and 13 are released and the push off feet are extended the load bed cannot be raised of lowered.


ELEVATOR
CAB
CONTROL PANAL
LS-1
LS-4
LS-2
LS-10
LS-3
LS-9
LS-8
LS-5
LS-6
LS-7
LS-12
LS-13
LS-11
BED

SETTING LOAD BED FOR BALE SIZE

The Big Bale Roadsider is set at the factory for Freeman bales. To change this setting for 4 foot bales follow the following steps:

1. Install 4 bolts to both Roller Rack stops. See Fig. A

2. Install Roller Rack stops and stop spacers. See. Fig. B

3. Reposition cam assembly CAM0020478, see Fig. A, using alternate mounting holes. The short portion of the cam assembly should now contact LS-9 when the Push back extends.

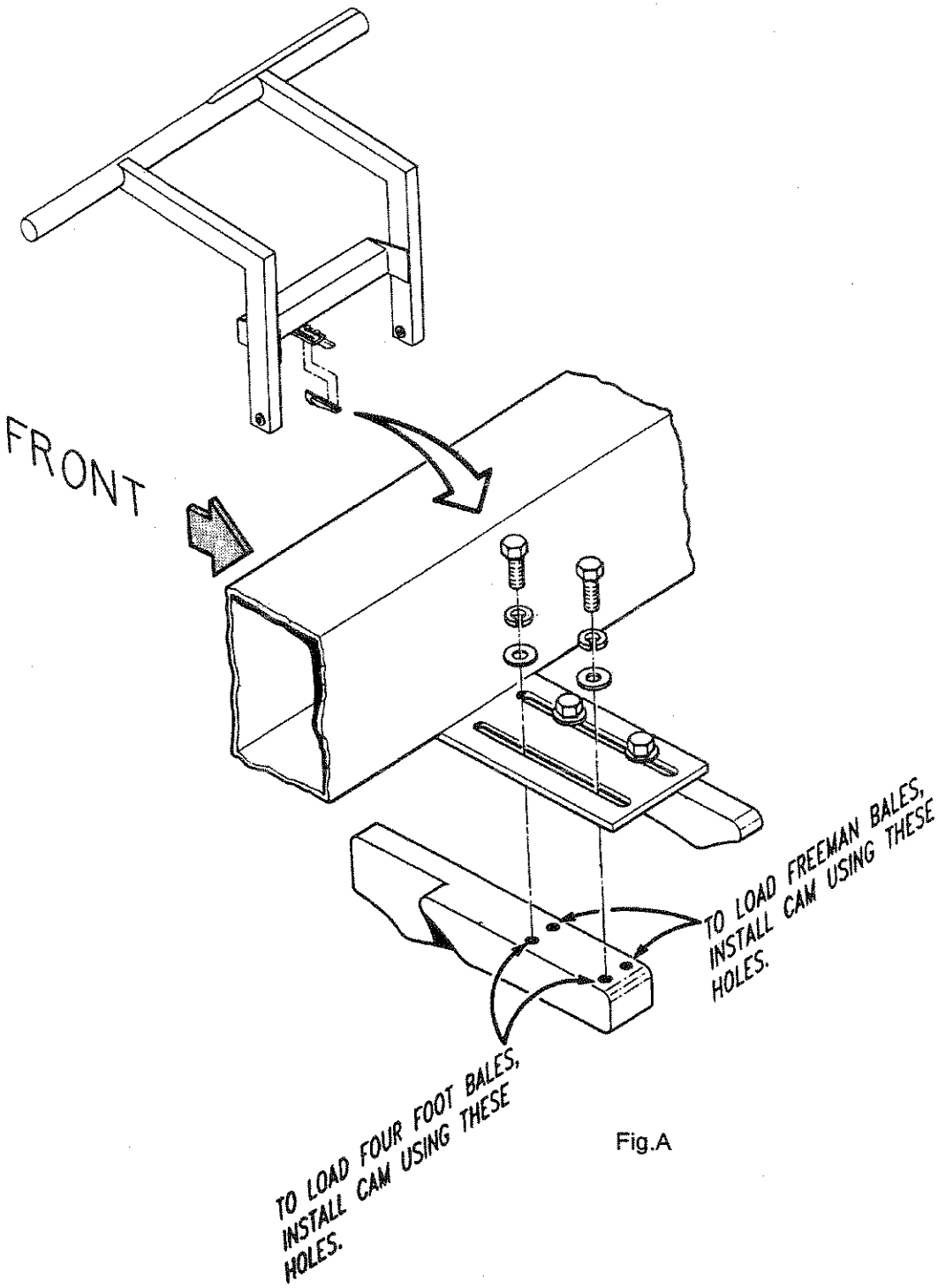


Fig.A

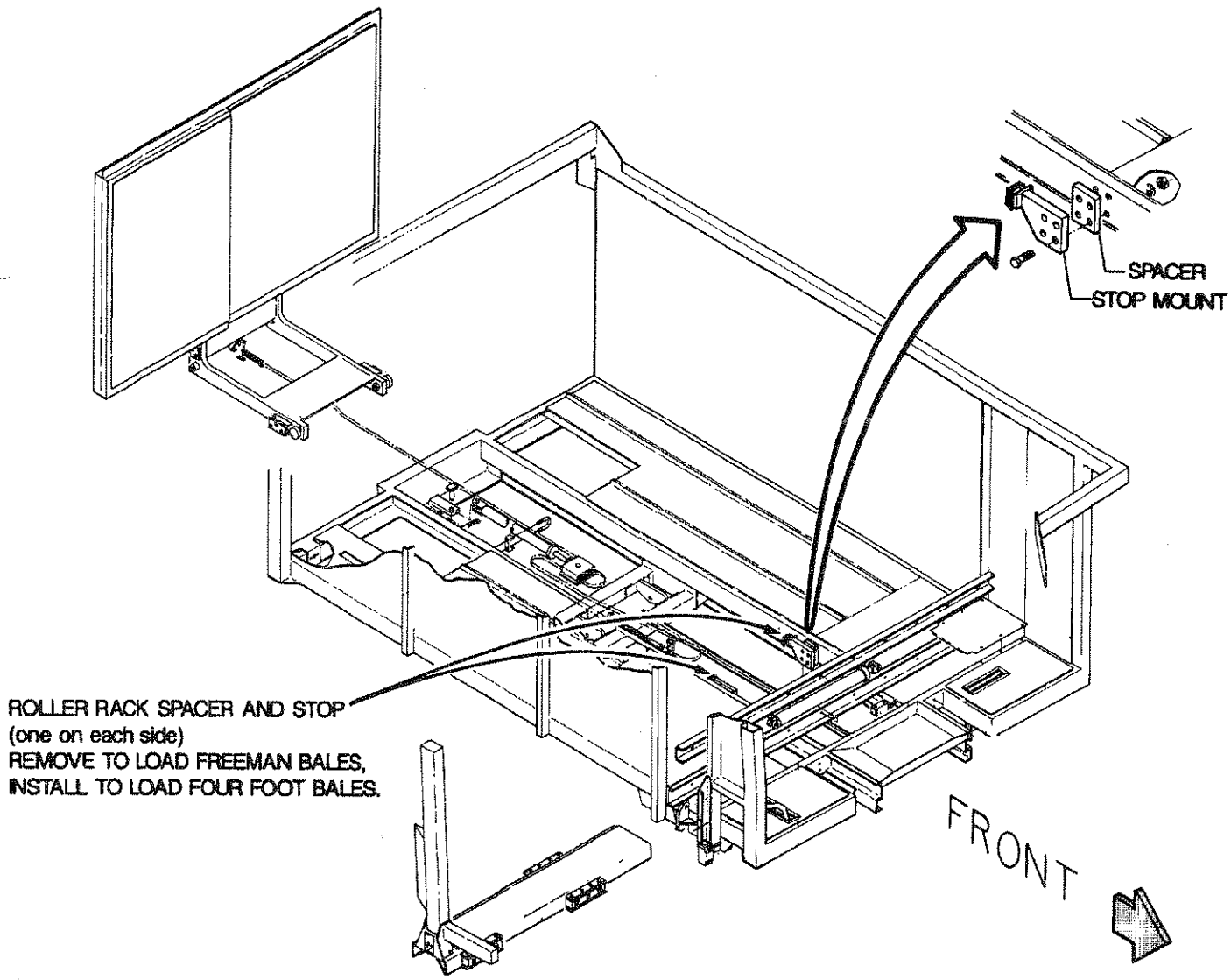

SPACER
STOP MOUNT
ROLLER RACK SPACER AND STOP
(one on each side)
REMOVE TO LOAD FREEMAN BALES,
INSTALL TO LOAD FOUR FOOT BALES.
FRONT

Fig. B

HYDRAULIC SERVICE ADJUSTMENTS

NOTE: This procedure is to be performed by a authorized Freeman Service Representative.

A. Roller Rack relief valve.

1. Ensure main system relief valve is adjusted to 2500 psi.
2. Hold bed Tilt lever in "down" position to force oil flow to relieve through Roller Rack relief valve.
3. Adjust load rack relief valve to 1200 psi as measure on the gauge installed for reading main system pressure.

B. Roller Rack counterbalance valve.

1. Adjust main system relief valve to 1600 psi.
2. Ensure Roller Rack is at front of bed. Raise Load Bed to vertical position and securely block to prevent bed from accidentally lowering.

⚠ **WARNING: Keep all persons out from under Roller Rack.**

3. Have an assistant hold Pushback manual control switch in "EXTEND" position.
4. Adjust counterbalance valve until Roller Rack just begins to fall. Turn adjusting screw out (C.C.W.) to increase pressure, turn in (C.W.) to decrease.
5. Adjust main system relief back to 2500 psi.

NOTES

NOTES