

TVB Baler

OWNER / OPERATOR INSTRUCTION MANUAL

Operation, Maintenance, and Installation



CRAM-A-LOT®
J.V. Manufacturing, Inc.
Solid Waste & Recycling Equipment

MODEL
TVB-60-S
TVB-60LP-S
TVB-72-S
TVB-78-48



“Equipping The World For A Better Environment”

Congratulations

You have just purchased a quality designed and manufactured CRAM-A-LOT® Baler.

Manufacturing balers and compactors since 1978, J.V. Manufacturing offers quality workmanship, factory trained installation and a national service network. Advanced features have been designed into the Baler for modern waste disposal operations.

As with any investment, a return is expected, and the return received from this investment will be in the form of maximum performance during many years of dependable service.

In order to maintain quality performance and safe operation of your new baler, it is necessary to observe and practice the operation and maintenance information provided in this manual.

The employer involved in the operation, maintenance, and installation of the baler should read and understand the most current version of the following applicable standards.

ANSI Standard No. Z245.5, "Baler-Safety Requirements for Installation, Maintenance and Operation".

A copy of this standard may be obtained from:

ENVIRONMENTAL INDUSTRIES ASSOCIATION

4301 Connecticut Avenue, NW

Washington D.C. 20008

Website <http://www.wastec.org>

If, after thoroughly reading this manual, there are questions about the operation or repair of your baler, please contact J.V. Manufacturing, Inc., and our Customer Support Team will provide assistance.

CRAM-A-LOT® Customer Support

Tel: 800-754-4290

Fax: 479-751-7870

Hours: 7:00 am - 5:00 pm CST

Monday - Friday

service@jv.com

JV Manufacturing Corporate Philosophy

It is the stated goals of J.V. Manufacturing, Inc. to build equipment of uncompromising quality, provide the absolute best customer service in our industry, and to conduct all business with honesty and integrity, whether it be with customers, vendors, fellow employees or members of the community.

J.V. Manufacturing, Inc. encourages positive change. Change will provide opportunities for future growth and new directions as we move into the future.

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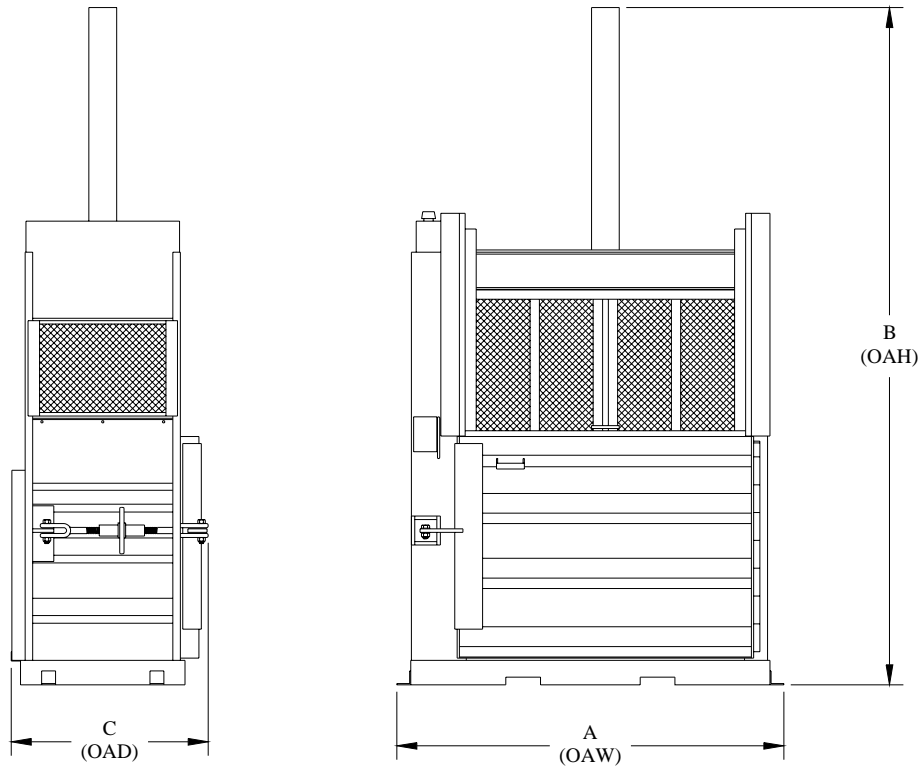
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Specifications



MODEL	A (OAW)	B (OAH)	C(OAD)
TVB-60-S	77-1/2"	146-1/2"	43"
TVB-60LP-S	77-1/2"	121-1/2"	43"
TVB-72-S	89-1/2"	146-1/2"	43"
TVB-78-48	111"	171-1/2"	62"

J.V. MANUFACTURING, INC

TVB BALER SPECIFICATIONS

Model		TVB-60-S	TVB-60LP-S	TVB-72-S	TVB-78-48
Bale Size	Depth	30"	30"	30"	48"
	Width	60"	60"	72"	78"
	Height	44"	41"	44"	46"
Bale Weight Range (lbs)		900	700	1,000	1,500
		1,200	900	1,350	2,250
Cylinder	Bore	6"	6"	6"	(2) 6"
	Stroke	52"	34"	52"	64"
Motor	HP	15	15	15	20
System Pressure (psi)	Normal	2,000	2,000	2,000	2,000
	Maximum	2,350	2,350	2,350	2,350
Compaction Force (lbs)	Normal	56,550	56,550	56,500	113,080
	Maximum	66,500	66,500	66,500	135,696
Cycle Time (sec)		54	40	54	60
Feed Opening		24"	20-3/4"	24"	34"
Unit Weight (lbs)		5,150	4,385	5,305	10,100

Operation Section

SAFETY DECALS



Baler Operation

Safety Orientation

Safe Operation

CRAM-A-LOT® balers meet or exceed all safety standards set by ANSI. Although we have included many safety features in the design and construction of your baler, safe operation of the equipment depends on the operator's adherence to certain guidelines. To prevent accidents to personnel or damage to the baler, the operator must **NEVER VIOLATE ANY OF THE FOLLOWING SAFETY PRECAUTIONS**. It is the owner / employer's responsibility to ensure these guidelines are known and followed by all operators of the baler.

NOTE: Publication of these safety precautions does not imply or represent an inclusive list.

- NEVER** place hands or arms in the baler while it is operating.
- NEVER** allow anyone except qualified electrical or hydraulic repair persons to work on the equipment.
- NEVER** disable any safety switch.
- NEVER** overload the baler chamber.
- NEVER** place concrete, heavy steel plate or castings, explosive materials, liquids, nor hazardous waste in the baler .
- NEVER** climb in or on the baler, nor perform any maintenance/repairs unless the power is disconnected and locked / tagged out.

NOTE: Hydraulic oil is the primary element of power transmission on the baler. Remember that hydraulic systems can remain pressurized even after the motor has stopped and or the power disconnected. Refer to the Lock Out / Tag Out instructions found elsewhere in this manual for instructions concerning the neutralization of these energy sources.

Z245.5—2004

Baler—safety requirements for installation, maintenance and operation.

Obtain a copy of this standard (ref: <http://www.wastec.org>) and become familiar with specific responsibilities and guidelines

Safety Terminology

The accident prevention decals on your **CRAM-A-LOT®** baler meet or exceed standards set by ANSI and OSHA. It is important that you are familiar with the terminology used on the decals and the varying degrees of hazards that are associated with this terminology.

DANGER—Indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury. This signal word is to be limited to the most extreme situations. The signal word Danger should not be used for property damage hazards unless personal injury risk appropriate to the level is also involved.

WARNING—Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury. This signal word should not be used for property damage hazards unless personal injury risk appropriate to this level is also involved.

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

NOTICE—Indicates a statement of company policy directly or indirectly related to the safety of personnel or protection of property. This signal word should not be associated directly with a hazard or hazardous situation.

Baler Operation, cont.

Owner/employer responsibilities for Baler. The employer/owner shall provide properly maintained balers that meet all applicable regulatory safety requirements and requirements of ANSI **Z245.5-2004**.

- A Ensuring that the installation of the baler conforms to local codes, ordinances, and manufacturer's recommendations. If installing into a system, examine prevailing safety standards of associated equipment.
- B Providing to employees instruction and training in safe work methods before assigning them to operate, clean, service, maintain, modify, or repair the baler. Such instruction and training shall include procedures provided by the manufacturer. The employer will maintain records as to the names of employees and the dates of training.
- C Providing instructions for addressing abnormal situations (e.g., bridging of the loading chamber or feeding chute, jam of materials).
- D Assigning only trained employees to work on (which includes operating, loading, cleaning, servicing, maintaining, or repairing) the baler.
- E Monitoring the employee's operation of the baler and take appropriate action to insure proper use, including adherence to safe practices and the employee requirements of **Z245.5-2004**.
- F Repairing, prior to placing the baler into service, any mechanical malfunctions or breakdowns that effect the safe operations of the baler.
- G Establishing and following a program of periodic and regular inspections of all balers to insure that all parts, component equipment, and safeguards are in safe operating condition, and adjusted, in accordance with the manufacture's recommended procedures. This shall include keeping all malfunction reports and records of inspections and maintenance work performed.
- H Implementing a program for the maintenance of the baler which will incorporate the following elements:
 - 1) Requirements for trained, competent maintenance employees or contractors to perform inspection and repair work;
 - 2) Providing for the cleaning, inspection and repair of the baler in accordance with the manufacture's recommendations. Including periodic maintenance;
 - 3) Ensuring that all required safety features are operational and functioning, and repairing, prior to placing into service, any reported malfunction or defect that affects the safe operation of the baler;
 - 4) Ensuring that all caution, warning and danger markings required are installed and legible, or are replaced if damaged, defaced or missing.
- I Utilizing the manufacturer's recommended procedures for the control of hazardous energy sources (lockout/tag-out) in a program complying with Part 1910.147 of the Title 29 of the Code of Federal Regulations (OSHA).
- J Utilizing the manufacture's recommended procedures for access control for permit-required confined spaces as part of the employer's program;
- K Protecting any person by one of the methods in 5.9.1, AMERICAN NATIONAL STANDARD Revision of ANSI **Z245.5-2004**, or by other means as effective as those means of protection.
- L When Baler equipped with automatic start/cycling controls are provided, allowing their use only in locations where a startup alarm is utilized or it is demonstrated that automatic starting does not result in a risk of injury to persons;
- M Providing guard railings for dock ramps that meet U.S. Occupational Safety and Health Administration requirements. These shall be located around the loading chamber if walk on ramps are used to deposit refuse into the loading chamber. Guard railings and toe boards shall be provided on the sides of docks and ramps;
- N Providing for an adequate work area around the Baler for safe maintenance, servicing, and cleaning procedures.
- O Keeping all surrounding walking areas and floor free from obstructions, and from accumulations of waste matter, grease, oil and water;
- P Specifically inspecting safety interlocks, switches, and other protective devices to ensure that these devices are not disabled or bypassed, and not to permit the Baler to be operated unless these devices are fully functional. These inspections shall be in accordance with 'G';
- Q Ensuring that containers supplied are capable of withstanding the maximum forces generated by the compacting system;
- R Ensuring that loaders are aware of hazards and safety requirements;
- S Ensuring that only authorized employees (18 years or older) operate, inspect, or maintain Balers;
- T Ensuring that only authorized employees (16 years or older) load, but do not operate Balers; and
- U Incorporating Balers into the employer's safety program.

Baler Operation, cont.

Operator and employee responsibilities for balers. Operators who work on and around the baler shall be responsible for the items listed below:

- A. Using all applicable safety features provided on the baler;
- B. Using the baler only after receiving instructions;
- C. Reporting any damage to, or malfunction of the baler by submitting a report to the employer or responsible authority when the damage or malfunction occurs;
- D. Ensuring that access doors and service openings covers are in place, secure, and/or locked before operation begins;
- E. Ensuring that the area of operation around container/cart lifting systems and the container will be clear of persons during all phases of the lifting operation prior to energizing the dumping system;
- F. Ensuring that all persons are clear of the baler point of operation before actuating any compaction cycle controls or container/cart lifting system controls and being prepared to stop the compaction cycle or container dumping operation if necessary;
- G. Insuring that all persons are clear of the door (on baler combinations so equipped) before the door is opened or shut. The operator shall warn all persons not to cross behind or under an open door;
- H. Using the baler in accordance with the manufacture's instructions, including ensuring the proper position of all locks, doors, guards, etc.;
- I. Ensuring that no one disables or bypasses safety interlocks, switches, or other protective devices and that the baler is not operated unless these devices are fully functional;
- J. Locking out the unit when inspecting malfunctions, jams, or other problems arising from daily operations, servicing, or performing maintenance (except maintenance testing). The affected employee shall identify the type and magnitude of the energy that the baler uses, shall understand the hazards, and know the methods to control the energy;
- K. Operating, inspecting, and maintaining the baler only if 18 years old or older and being properly instructed and trained;
- L. Loading, but not operating, the baler only if 16 years old or older.

Procedure for the control of hazardous energy sources. (lockout/tag-out)

- 1. The owner/employer shall have a hazardous energy control (lockout/tag-out) procedure to follow when performing servicing and maintenance on baler where the unexpected energization or startup of equipment, or release of stored energy could cause injury to employees.
- 2. The owner/employer shall utilize the instructions provided by the manufacturer for the control of hazardous energy sources. The lockout/tag-out procedure shall isolate and render safe all energy sources including electrical, mechanical, hydraulic, pneumatic, chemical, thermal or other potential energy sources (e.g., gravity, etc). It shall be used to ensure that the baler is stopped, isolated from all potentially hazardous energy sources and locked out before employees perform any servicing or maintenance where the unexpected energization or startup of the baler or release of stored energy could cause injury.
- 3. The lockout/tag-out procedure shall include but is not limited to the following:
 - a) Shutting down all power sources;
 - b) Removing keys or other devices that enable the baler;
 - c) Installing a tag on an appropriate location, using a non-reusable fastener, or installing a similar warning device;
 - d) Placing operating components in such a position so as not to be subject to possible free fall and/or installation of additional blocking devices to prevent such free fall of any raised or elevated component; and
 - e) Relieving stored hydraulic or pneumatic pressure, after blocking devices are installed, if maintenance is to be done to the hydraulic or pneumatic system.
- 4. The procedure shall address the following:
 - a) Sequence of lockout for the baler;
 - 1. Notify all affected employees that servicing or maintenance is required on a baler and that the baler must be shut down and locked out to perform the servicing or maintenance.
 - 2. The authorized employee shall refer to the company procedure to identify the type and magnitude of the energy that the baler utilizes, shall understand the hazards of the energy, and shall know the methods to control them.
 - 3. If the baler is operating, it must be shut down by the normal stopping procedure (depress stop button, open switch, close valve, etc.).
 - 4. De-activate the energy isolating device(s) so that the baler is isolated from the energy source(s).
 - 5. Lock out the energy isolating device(s) with assigned individual lock(s).
 - 6. Stored or residual energy must be dissipated or restrained by methods such as grounding, repositioning, blocking, bleeding down, etc.
 - 7. Ensure that the baler is disconnected from the energy source(s) by first checking that no personnel are exposed, then verify the isolation of the equipment by operating the push button or other normal operating control(s) or by testing to make certain the equipment will not operate. **Caution;** Return operating control(s) to neutral or "off" position only after verifying the isolation of the equipment.

NOTE: The machine or equipment is now locked out.

Baler Operation, cont.

- b) Restoring the baler to service. When the servicing or maintenance is completed and the baler is ready to return to normal operating condition, the following steps shall be taken:
 - 1. Check the machine or equipment and the immediate area around the machine or equipment to ensure that all nonessential items have been removed and the machine or equipment components are operationally intact.
 - 2. Check the work area to insure that all employees have been safely positioned or removed from the area.
 - 3. Verify that the controls are in neutral.
 - 4. Remove the lockout devices and re-energize the machine of equipment.
NOTE: The removal of some forms of blocking may require re-energizing of the machine before safe removal.
 - 5. Notify affected employees that the servicing or maintenance is completed and the machine or equipment is ready for use.

5. Procedures for work in confined spaces:

- a) The owner/employer shall have a written procedure for work in confined spaces meeting the criteria of "permit required confined spaces," such as integrated power units. The procedure shall utilize the manufacturer's instructions for the hazardous energy control (lockout/ tag-out) procedure which shall isolate and render safe energy sources, including electrical, mechanical, hydraulic, pneumatic, chemical, thermal or other potential sources of energy (e.g., gravity, kinetic, etc.), which may create a hazard during entry into each of those confined spaces
- b) These instructions shall include the requirement to affix a sign to the baler, at or near the entrances to those confined spaces for which hazardous energy control procedures are provided, such as, "**Warning — Follow lockout/tag-out procedures.**"
- c) These instructions shall include the requirement to affix a sign to the baler, at or near the entrances to those confined spaces for which hazardous energy control procedures are provided, such as, "**Danger — Confined Space.**"

Safety and training program

General: Employers shall evaluate and manage safety issues related the operation of compaction equipment as part of their safety program

Safety Program

The employer's program shall include at a minimum the following elements:

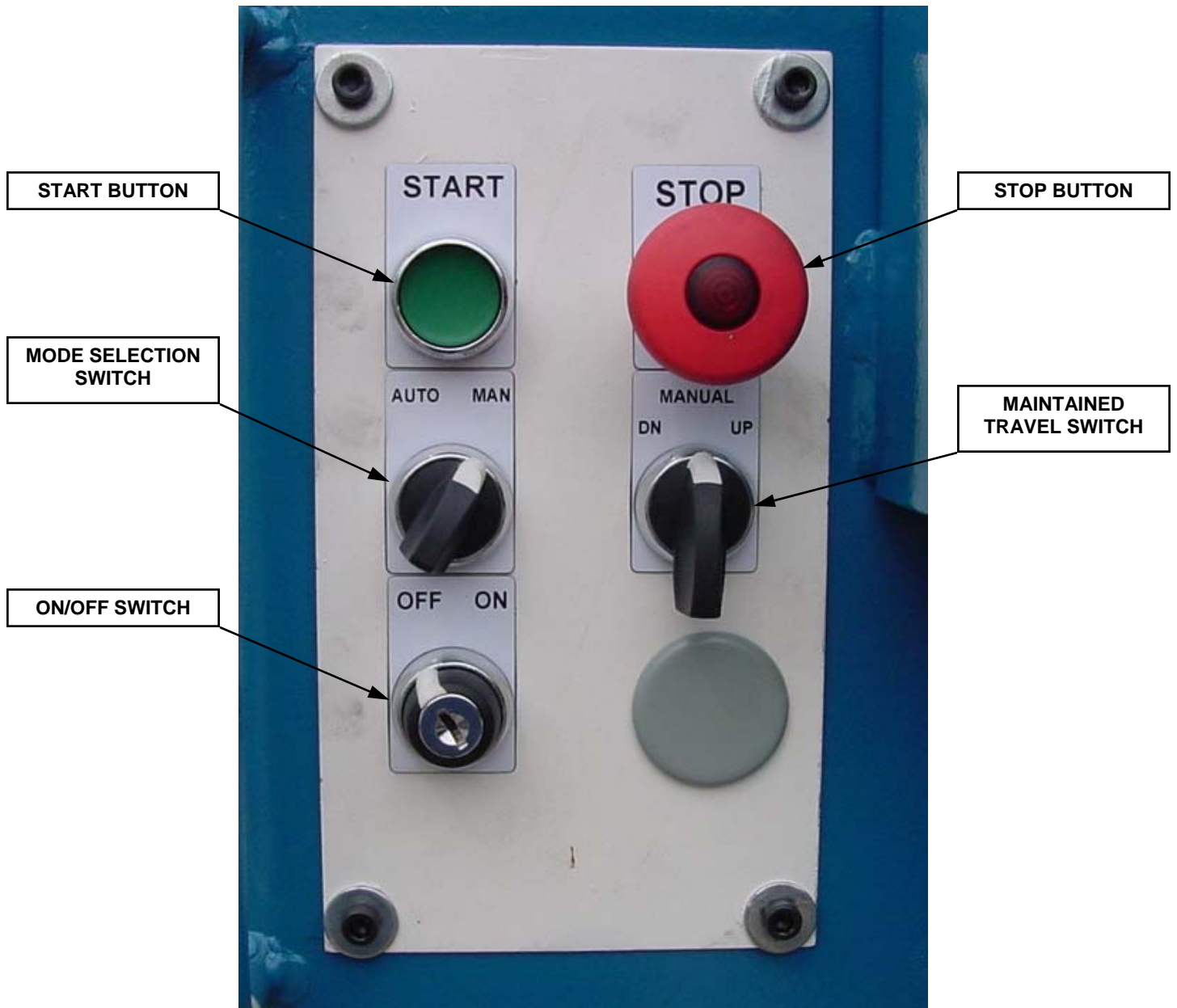
- a) A hazard assessment in which the employer conducts a review of the various types of compaction equipment that the employer utilizes and the hazards associated with them and, review and assess the capabilities, qualifications and training of any person who may potentially encounter these hazards.
- b) An evaluation of the means and methods of controlling the hazards identified in the hazard assessment, including information such as industry and regulatory requirements, instructions for the operation, inspection, and maintenance of balers, and other information appropriate to the hazards that are identified.
- c) A written program, based upon the hazard assessment and evaluation, to include procedure for the operation, inspection, and maintenance of balers, prohibited practices, record keeping, training requirements, and normative references to documents, such as operating manuals, that are relied upon and may be required as part of that program.
- d) Periodic review and program revisions as necessary to ensure the effectiveness of the safety program.

General training

Employers shall ensure all employees, including supervisors, contract laborers, and all other persons engaged in the operation, cleaning, maintenance, service or repair of compacting equipment are properly trained appropriate for their assigned jobs and tasks. Contractor's who may be engaged to operate or maintain the employer's baler shall be advised of the unique hazards related to the equipment that may affect the activities in which the contractor's employees will engage.

Baler Operation, cont.

Baler Controls



Baler Operation, cont.



CAUTION

It is unlawful to operate this machine if you are under 18 years of age!

Emergency Procedures

Should an emergency occur while operating the baler, press the RED EMERGENCY STOP BUTTON and the baler will terminate all functions and shut down. **EVERYONE AUTHORIZED TO OPERATE THE BALER SHOULD KNOW THIS EMERGENCY PROCEDURE.**

Standard Operation

This baler is designed to provide long and continuous service. It will make full size, proper weight bales and eject them when the instructions listed below are followed accurately.

Producing a Bale

1. With the bale chamber door open, place one large piece of cardboard in the bottom of the bale chamber to provide a good support for the bale ties.

Caution: Never enter or reach into the baler.

2. Close the bale chamber door, then turn the wheel turnbuckle door lock until the door is tightened securely against the frame.

Caution: Never attempt to bale material unless the bale chamber door is completely closed and locked.

3. Automatic operation: Turn key switch to the on position. Set the Auto/Manual switch in the "Auto" position; the power Indicator light will be on.
4. With the platen and loading chamber gate in the up position, fill the loading chamber with material to be baled. Distribute the material into the chamber evenly, especially in the sides and corners. Pull the loading chamber safety gate down against the chamber door. The baler will not start until the gate is closed and will shut off automatically if the gate is opened during operation. If any obstruction prevents the loading chamber safety gate from closing, the baler will not start.
5. Press the start button, hold for two seconds, then release. The baler will make one cycle and return to the full up position. Add material and repeat step 5.

Caution: Keep clear of the loading area while the baler is in operation.

6. The bale size indicators allow the operator to produce bales of consistent size and weight. To determine the proper size bale, observe the colored indicators through the safety gate. When the platen reverses while the indicators are aligned at 100%, the bale is the proper height.

Conditions During Standard Operation

Stop button is pressed:

- The motor and the ram will stop immediately.
- The stop button must be pulled out before operation can resume.

Stop button is pulled:

- With the Mode selector switch in the auto position the baler will start by depressing the green start button and run through one cycle.
- With the mode selector switch in the manual position the baler will start by depressing the green start button. The ram can be extended by turning and holding the manual up/down selector to the down position or the ram can be retracted by turning and holding the manual up/down selector to the up position.

Note: With the lower chamber door open and the baler in the manual mode the ram will only retract regardless of what position you turn the manual up/down selector.

Baler Operation, cont.

Tying the bale

1. When the bale is the correct height, place a large piece of cardboard on top of the completed bale.
2. Place the Automatic/Manual selector switch in the manual position, press the start button for two seconds, turn the manual down/manual up selector switch in the downward position and compress the bale. When the bale size indicators are aligned to 100%,

Warning: All personnel must be cleared from the front of the baler when opening the bale chamber door. Pressure from the compacted material may push the door open with force when it is unlocked.

3. Turn the wheel lock counterclockwise slowly to unlock the bale chamber door. Open both the bale chamber door and the loading safety gate.
4. Push the pointed end of the bale ties through the slots in the chamber floor until only the loop end of the tie remains at the front of the bale.
5. From the rear of the baler, push the pointed end of the ties back through the slots in the platen at the top of the bale until the excess tie protrudes from the top front of the bale. Run the pointed end of the bale tie through its looped end, pull it snug, then wrap the pointed end around the tie at least five times to secure the wire. Use four to seven ties, depending on the baler model, spaced evenly across the bale.

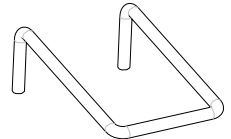
Ejecting the bale.

"CHAIN EJECT BALER"

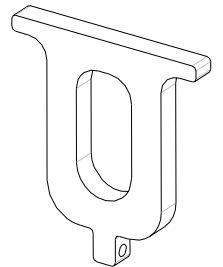
1. The eject lifting eye "**Cradle**" must be installed before operating the baler. The eject **chain lifting eye** should rest in its cradle when not in use. Failure to install the cradle can result in chain breakage upon next baling cycle.
2. Lay the eject lifting eye over the **platen lifting hook**. Place the Automatic/Manual selector switch in the manual position; hold the manual up/manual down button in the "MAN UP" position, then press start button for two seconds. The platen will return to the full up position as the bale is being ejected.
3. After bale has been ejected, place AUTO/MAN switch in auto position, close the chamber door and feed Gate, press the start button to run the machine for one cycle so the lifting eye can return to its cradle.
4. The baling cycle is complete. Refer back to step # 1 producing a bale.

"HYDRAULIC EJECT BALER"

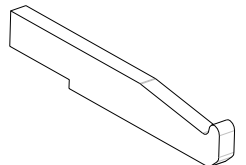
1. After tying the bale, place the Automatic/Manual selector switch in the manual position, hold the manual up / down button in the "MAN UP" position.
2. Press the start button for two seconds. The platen will return to the full up position.
3. While standing clear of bale chamber door area, turn the eject switch clockwise to eject bale.
4. The baling cycle is complete. Refer back to step # 1 producing a bale.



CRADLE



CHAIN LIFTING EYE

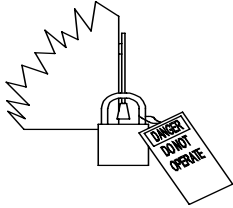


PLATEN LIFTING HOOK

Authorized Technician Maintenance Section

Authorized Technician Maintenance

Lock-out & Tag-out Instructions

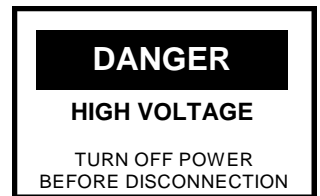


FORWARD: Before entering any part of the baler, be sure that all sources of energy have been shut off, all potential hazards have been eliminated, and the baler is locked-out and tagged-out in accordance with OSHA and ANSI requirements. If the ram is pressing against a load, move the ram rearward before shutting the baler down. The specific lock-out and tag-out instructions may vary from company to company (i.e. multiple locks may be required, or other machinery may need to be locked-out and tagged-out). The following instructions are provided as minimum guidelines.

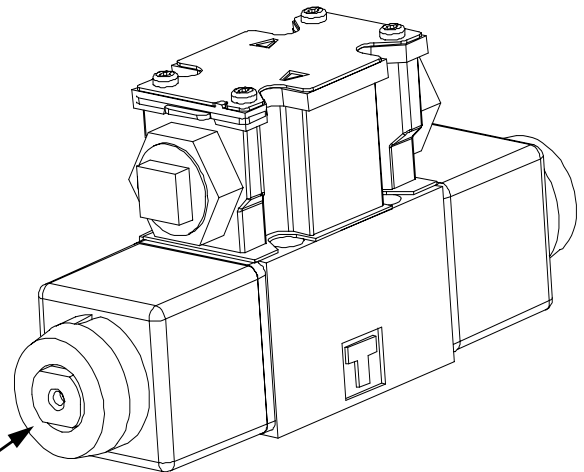
INSTRUCTIONS

1. Move the main disconnect lever to the OFF position.
2. Padlock the disconnect lever with a keyed padlock and take the key with you.
3. Along with the padlock, place an appropriate, highly visible, warning tag on the disconnect lever. The tag should provide a warning such as "Danger: Do not operate equipment. Person working on equipment" or "Warning: Do not energize without permission of _____".
4. After locking and tagging the baler, try to start and operate the baler (as outlined in the Operating Instructions) to make sure the lock-out and tag-out is effective. If the lock-out and tag-out is effective, remove the key from the key-switch and take it with you.

ELECTRICAL: The motor control panel contains high voltage components. Only authorized service personnel should be allowed inside the panel. Authorized service personnel should be allowed inside the panel only after the baler has been locked-out and tagged-out.



HYDRAULIC: Stored hydraulic energy must be removed from the baler hydraulic circuit for complete lock-out and tag-out. Make sure that this energy has been relieved by manually depressing the solenoid valve pin located in the center of each coil end of the directional valve.



Manual Operating Pin (both ends).

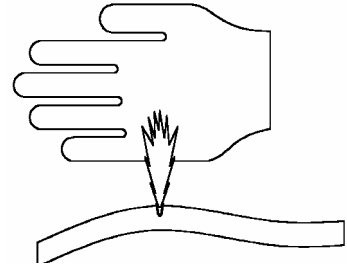
Authorized Technician Maintenance, cont.

HYDRAULIC SAFETY: PLEASE READ CAREFULLY!



Warning: Escaping fluid under pressure can penetrate the skin causing serious injury. Avoid the hazard by relieving pressure before disconnecting hydraulic lines. Tighten all connections before applying pressure. Search for leaks with a piece of cardboard. Protect hands and body from high pressure fluids.

If an accident occurs, see a doctor immediately. Any fluid injected into the skin must be surgically removed within a few hours or gangrene may result.



AVOID HEATING NEAR PRESSURIZED HYDRAULIC HOSES

Flammable spray can be generated by heating near pressurized hydraulic hoses, resulting in severe burns to yourself and bystanders. Do not heat by welding, or using a torch near hoses. Hose can be accidentally cut when heat goes beyond the immediate flame area.

THE FOLLOWING WARNINGS PERTAIN TO THE MORE COMMON ABUSES OF HYDRAULIC HOSE:

1. **INSPECT** the hose assembly before each use.
2. **REPLACE** the hose assembly immediately if:
 - a. The jacket of the hose appears abnormal.
 - b. You have reason to believe it may be abnormal.
 - c. There is any fluid leakage.
 - d. The couplings are damaged.
 - e. The hose is damaged or kinked.
 - f. The reinforcement is visible through the jacket.
3. DO NOT **EXCEED** the maximum recommended working pressure of the hose.
4. DO NOT **KINK** the hose assembly.
5. DO NOT **BEND** the hose assembly beyond its minimum recommended bend radius.
6. DO NOT **EXPOSE** to temperatures in excess of 225 degrees Fahrenheit.
7. DO NOT USE AS A **STRENGTH MEMBER** for pulling or lifting equipment.



Caution: If replacing hydraulic hose, use only hose that meets or exceeds 3,000 PSI working pressure.

IMPORTANT: ANY REPAIR TO THE MACHINE SHOULD BE DONE BY AN AUTHORIZED TECHNICIAN, THERE ARE NO USER SERVICABLE PARTS ON ANY OF OUR MACHINES!

Authorized Technician Maintenance, cont.

PREVENTIVE MAINTENANCE

We recommend the user of *CRAM-A-LOT*® balers adopt a program of regularly scheduled maintenance procedures. This schedule should be followed to insure against premature failure of mechanical or hydraulic components.

1. INITIAL CHECK:

- a. All nuts and bolts during the first week of use, and then monthly thereafter.
- b. Hydraulic reservoir should be at the mid to upper range of the sight glass with ram retracted. Use a good quality 5W-20 Hydraulic fluid.
- c. Hydraulic lines for leaks.
- d. Hydraulic hose condition. (Check for damage, kinks, etc.).
- e. Access covers to be sure fasteners are in place.
- f. Power unit. Remove dust and dirt from outside of control box. Wipe off any dirt or grease, oil or moisture.

2. MONTHLY CHECK

- a. Check external hoses for chafing, rubbing, or other deterioration and damage.
- b. Check for any obvious unsafe conditions, such as electrical lines or operator obstructions, in baler area.
- c. Check oil level in hydraulic reservoir.

3. 3 MONTH CHECK:


- a. Check functional operation of standard controls and options (stop button, timers, lights, etc.).
- * b. Open door and clean out above and around ram. Clean out any accumulation of waste material.
- c. Check hydraulic cylinder and hoses for leakage, hoses for chafing and wear.


4. YEARLY CHECK:

- * a. Electrician to check all electrical connections, check motor resistance (recording successive readings helps prevent future failure), Under heavy use, grease the motor. (DO NOT OVER-GREASE).
- b. Hydraulic system—drain, and clean inside of reservoir by removing drain plug. Replace plug and refill. Check for tightness. Refill reservoir with high quality 5W-20 Hydraulic fluid.
- c. Check structure for potential trouble areas and repair as needed.
- d. Check hoses to insure that they do not become severely worn before being replaced. A broken hose will allow the reservoir to be pumped dry and ruin the pump.
- * e. Check condition of ram guide shoes. Replace if necessary. **Keeping the slide material replaced when necessary will greatly extend the life of the baler sides.**

LUBRICATION:

NOTE: Clean-out or maintenance requires the gate to be open, but be sure the baler ram is extended first. To EXTEND the ram - - first turn the key to "ON" position, push the start button and fully extend the ram. When ram is fully extended, press the "STOP" button, and turn the key to "OFF" position remove the key, **lockout/tag-out** the power, then the door can be opened.

- *  Warning **Before opening door or entering bale chamber, make absolutely sure main disconnect power box is shut off and locked, with key to said lock in possession of person entering bale chamber or area behind bolted access covers. A tag should also be attached to the disconnect stating "UNDER REPAIR, DO NOT USE", with persons name on the tag who is entering above the ram.**

-  Warning **This procedure is for maintenance only. All access covers or doors shall be replaced and bolted into position after lubrication or clean-out.**

Authorized Technician Maintenance, cont.

Checking and adding oil.

Time: 30 minutes

Tools: Clean funnel

Parts: SAE 5W-20 high grade hydraulic oil (Sun 2105 or equivalent)

Supplies: Disposable shop towels.

Tips: Make sure the ram is fully retracted when checking and filling with oil.

Be patient when filling with oil.

The cleanliness of the oil is very important to the long term reliability of the hydraulic system.

Checking the oil level.

1. Run the machine to place the ram in the fully retracted position.
2. Check the oil by looking at the sight gauge on the side of the oil tank. If the oil level is below the sight gauge, oil needs to be added to the tank.

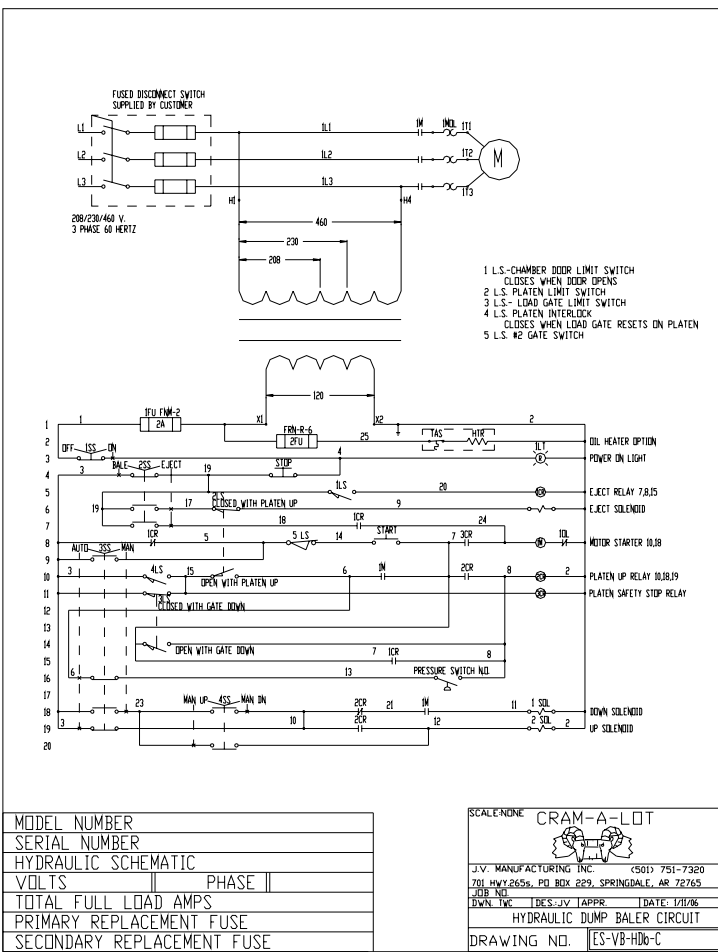
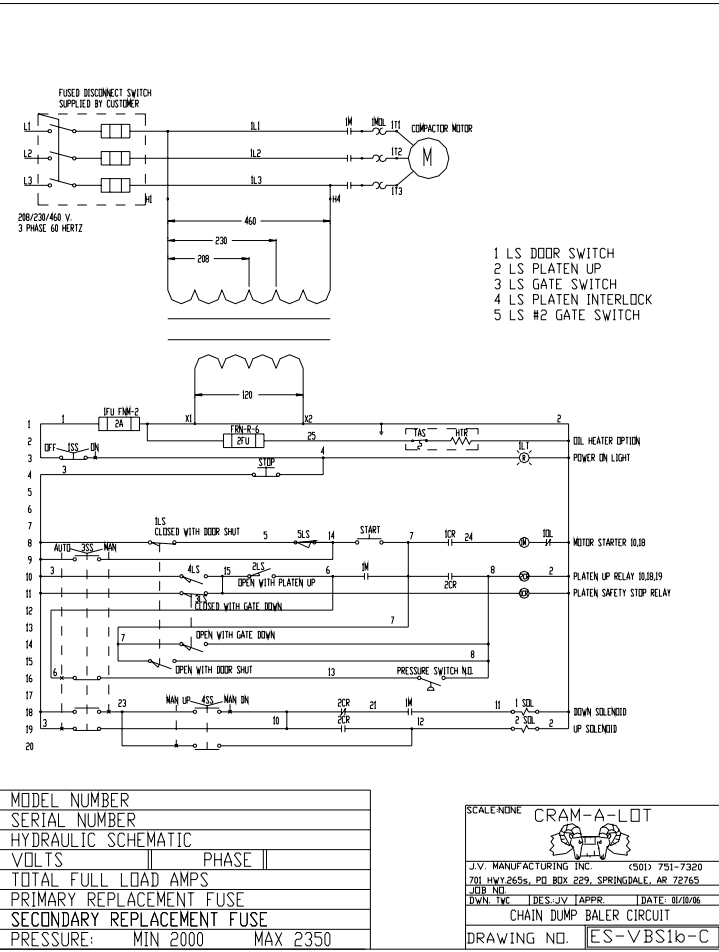
Adding oil.



3. IMPORTANT! - Follow all lockout/tag-out procedures before continuing this service procedure.
4. Place a step ladder in front of the power unit and use it to reach the top of the oil tank.
5. Using a disposable shop towel, clean any dust and debris from around the oil fill port to prevent contaminants from entering the hydraulic system.
6. Remove oil fill cap.
7. Using clean funnel, pour oil into the port until oil level has reached the center on the oil sight gauge.
8. When the oil level reaches the center, remove the funnel, replace the oil fill cap.
9. Clean any spilled oil off the machine with a disposable shop towel.
10. Remove the lockout/tag-out according to procedures and restore power to unit.
11. Check unit operation.

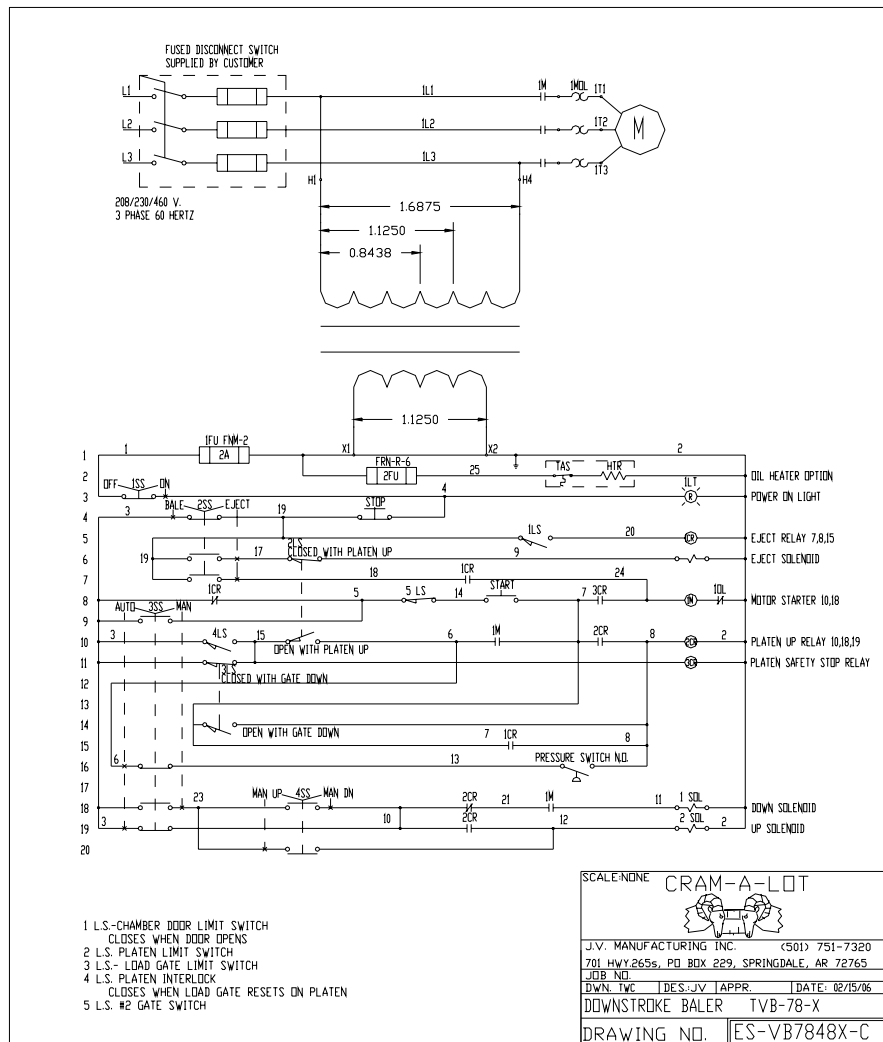
Authorized Technician Maintenance, cont.

Electrical Schematic



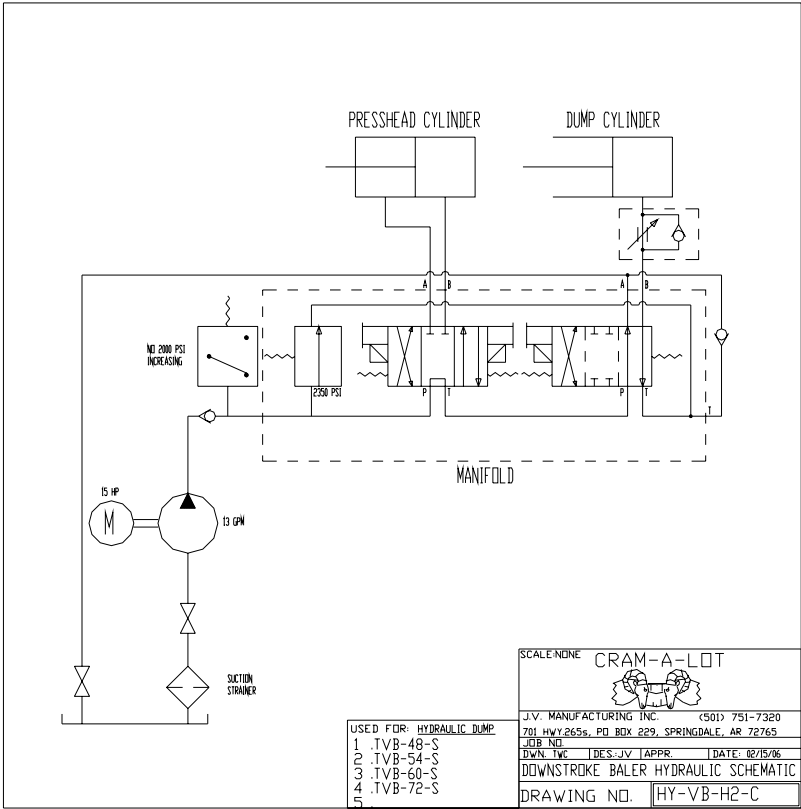
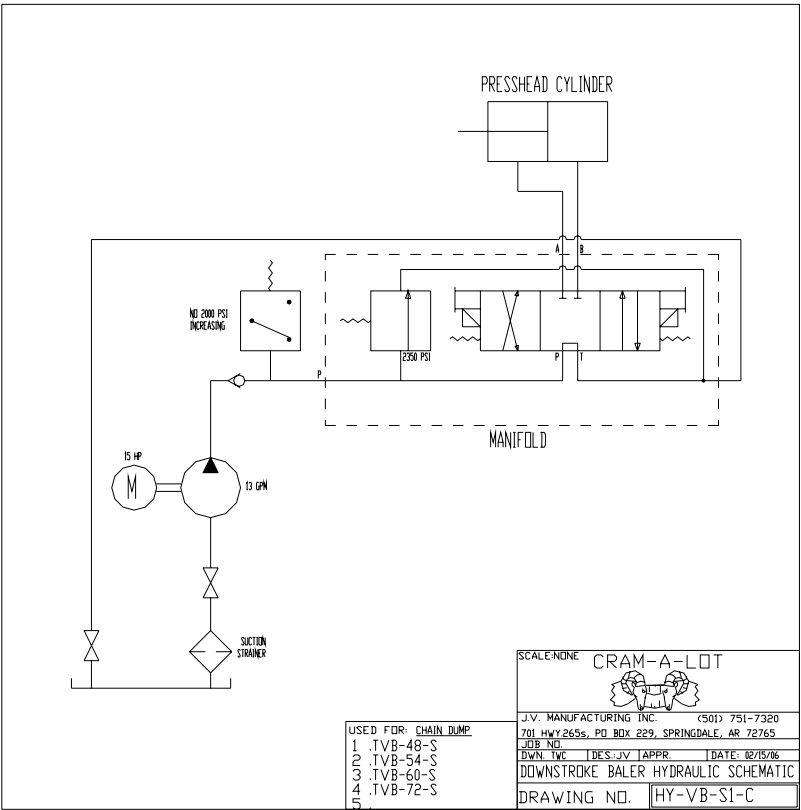
Authorized Technician Maintenance, cont.

Electrical Schematic

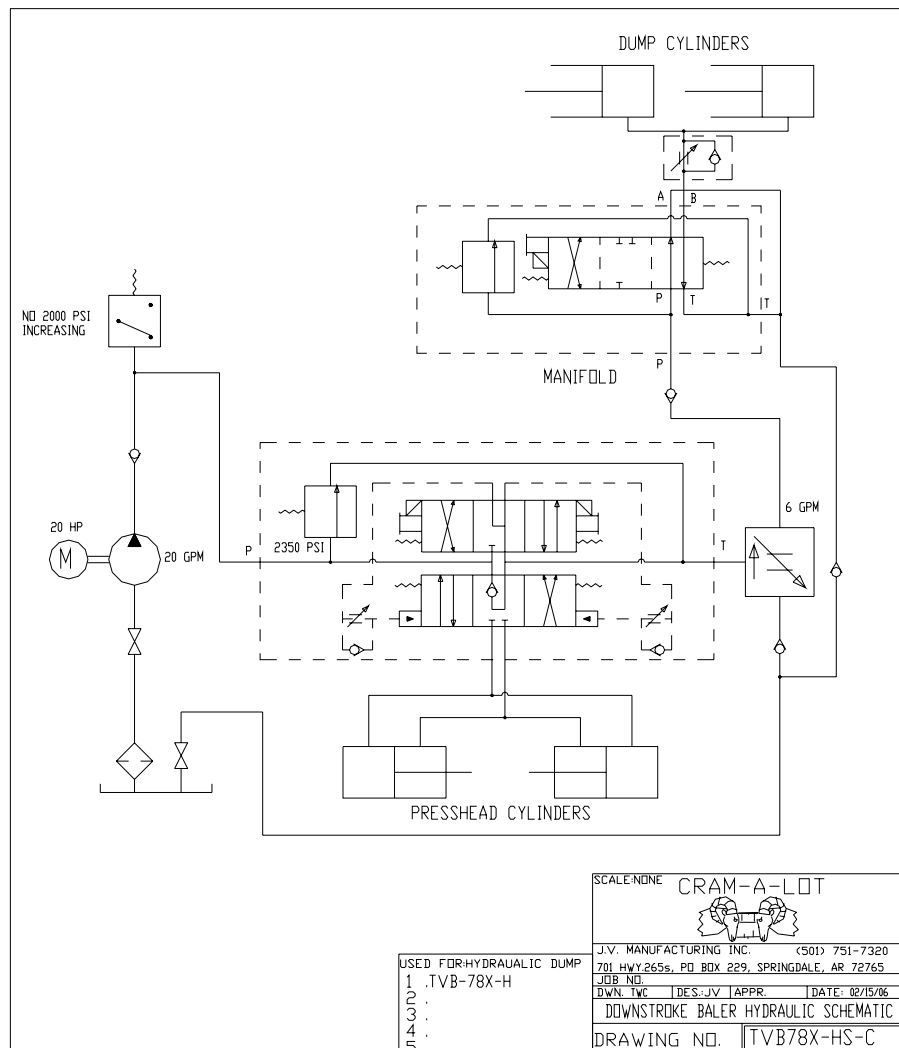


Authorized Technician Maintenance, cont.

Hydraulic Schematic



Hydraulic Schematic



Authorized Technician Maintenance, cont.

TROUBLE-SHOOTING CHART

Note: Before performing any maintenance, always **LOCK AND TAG-OUT THE DISCONNECT.**

<u>Problem</u>	<u>Solution</u>
Motor will not operate.	<ol style="list-style-type: none">1. Check fused disconnect.2. Check motor starter thermal overloads. Reset if necessary.3. Check loading door limit switches.4. Check motor starter coil.
Motor runs but ram does not move.	<ol style="list-style-type: none">1. Check for proper motor rotation. (clockwise from the fan end).2. Check for proper mode of operation.3. Check the directional valve for proper operation.4. Check the pressure switch.5. Check relief valve for proper adjustment.6. Check contact blocks on rear of mode selector switch.7. Check the mode selector switch.8. Check hydraulic fluid level.
Baler will not operate in automatic mode.	<ol style="list-style-type: none">1. Check loading door limit switches.2. Check contact blocks on rear of mode selector switch for binding.
Baler will not operate in manual down mode.	<ol style="list-style-type: none">1. Check contact blocks on rear of mode selector switch for binding.2. Check chamber door limit switch
Baler will not operate in manual up mode.	<ol style="list-style-type: none">1. Check contact blocks on rear of mode selector switch for binding.
Baler weights are low.	<ol style="list-style-type: none">1. Check for proper system pressure.2. Check for proper relief valve adjustment.3. Check for proper pressure switch adjustment.
Baler shifts erratically.	<ol style="list-style-type: none">1. Check for proper system pressure.2. Check for proper pressure switch adjustment.3. Check relays and bases for signs of arcing.4. Check directional valve.
Baler does not eject well.	<ol style="list-style-type: none">1. On new balers the paint on the sides of the bale chamber may cause the bale to not eject well. From normal use this problem should disappear. If the problem persists lubricate the chamber walls.
Baler makes excessive noise.	<ol style="list-style-type: none">1. Check hydraulic fluid level.2. Check for water or air in hydraulic fluid.3. Check suction line components for tightness.

Installation Section

Installation

CONCRETE PAD REQUIREMENTS

Caution:

Review this manual before making the installation. Study the job-site and installation requirements carefully to be certain all necessary safeguards and or safety devices are provided to protect all personnel and equipment during installation and as a completed system. Special attention is directed to the extract from American National Institute Z245.2.

J.V. Manufacturing does not assume responsibility for the installation procedures of this equipment. Conformance to applicable local, state, and federal laws concerning installation rest with the customer.

CONCRETE PAD

1. Preferred dimensions of the concrete pad are 11 ft. wide and a length of 12 ft. It should be level and of minimum 3000 PSI concrete reinforced, 4 in. thick.

Note: The clearances given are minimums. Your installation may require greater clearances depending on the site and the hauling equipment that will be used.

POSITIONING

Position the baler so that sufficient room is available for proper and safe operation. The baler should be placed no less than 24 inches from any structure. Also, allow enough room in front of the baler to allow the chamber door to swing fully open so the finished and tied bale can be ejected.

ANCHORING

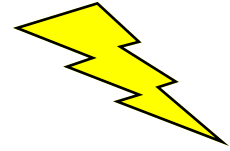
The baler should be anchored to the pad with anchor bolts (minimum 3/8" x 4"). To allow for construction variances, the holes should be drilled after locating the baler in the desired position.

Installation, cont

ELECTRICAL & HYDRAULIC INSTALLATION



The motor control panel contains high voltage components. Only authorized service personnel should be allowed inside. See Lock-Out and Tag-Out instructions in the maintenance section.



A lockable fused disconnect switch (customer furnished) must be installed and be within sight of the baler motor control panel location, not to exceed 50' 0" from the baler. This fused disconnect switch should be sized in accordance with the baler.

GROUNDING INSTRUCTIONS

This appliance must be connected to a grounded, metal, permanent wiring system; or an equipment-grounding conductor must be run with the circuit conductors and connected to the equipment-grounded terminal or lead on the appliance.

MACHINE MOUNTED POWER UNITS

1. Install the included vented cap on the hydraulic tank before operating the machine.

PUSH BUTTON OPERATOR STATION

If a remote operator station is furnished, it will be factory wired using Sealtite. If it is necessary to disconnect it from the wires (to install the operator station inside a building), exercise care that these wires are reconnected as originally furnished. (Check local codes to be certain that Sealtite is acceptable).

CAUTION: Operator Station should be located so that the Mushroom (Emergency) Stop Button is readily accessible to the operator and within three (3) feet of the charging chamber access door. If installation requires the operator station to be located in a more remote area, a second Emergency Stop Button should be added and installed in the manner described above.

ELECTRICAL CONNECTIONS

1. Run power lines, between fused disconnect switch (customer furnished) and baler's motor control panel, in accordance with local electrical codes, using knock-outs in bottom of motor control panel.
2. Check voltage at fused disconnect to be certain it is the same as is shown on baler or remote power pack. If voltage is correct, put fused disconnect switch in "ON" position.
3. Check motor wiring, voltage, motor rotation.
4. Check motor starter, thermal overload selector and voltage.

START-UP INSTRUCTIONS

1. With the ram fully retracted, check to be sure the oil reservoir is full to the 3/4 level on the sight gauge. Refer to the Maintenance Section for hydraulic oil recommendations). The hydraulic system pressure has been factory set and the entire unit has been operated prior to shipment.
2. **CAUTION: MAKE SURE PERSONS AND MATERIAL ARE CLEAR OF CHARGE BOX AREA.**
3. Depress the start button and check the pump for proper rotation.
CAUTION: If pump rotates backward, stop immediately. The pump will be damaged if it is operated in reverse even for short periods. Reversing any two incoming power lines will change the motor/pump rotation (3 phase).
4. **Make sure that the operators are trained in the proper use of this equipment.**

Warranty Policy And Procedure

Warranty Policy

TERM

Unless terminated as hereinafter provide, this warranty shall continue in full force for a period of three years, and shall govern all transactions between the parties hereto following the completion of installation of the product at the end user's facility, and evidenced by a signed and dated installation report and warranty registration returned to J.V. Manufacturing, Inc. If no registration card is remitted or the installation is not provided by the factory, the warranty period shall be considered to start on the date of shipment.

As limited herein, the *CRAM-A-LOT*® products (the "goods") you have purchased are warranted by J.V. Manufacturing, Inc. ("seller") through the specified period to be free of defects in material and workmanship. This warranty does not apply to any damage caused by negligence, misuse, modifications, alterations, or accidents by purchaser or third parties.

Owning *CRAM-A-LOT*® quality is as easy as 1-2-3! J.V. Manufacturing, Inc will furnish without charge:

- 1) All parts and labor expenses through the first year of ownership to remedy any faults proven to be the result of defective materials or workmanship.
- 2) All parts through the second year of ownership to remedy any faults proven to be the result of defective materials or workmanship.
- 3) All labor expenses through the third year of ownership to remedy any structural faults proven to be the result of defective materials or workmanship.

LIMITED WARRANTY

Seller's liability under warranty shall be limited to the repair and replacement of parts and the necessary labor and services required to repair the goods and shall be in lieu of any other remedy available under applicable law and shall not to exceed the purchase price of the goods. IT IS EXPRESSLY AGREED THAT THIS WARRANTY WILL BE IN LIEU OF ALL OTHER WARRANTIES WHETHER EXPRESS OR IMPLIED, OF FITNESS AND IN LIEU OF THE WARRANTY OF MERCHANTABILITY, AND ALL SUCH OTHER WARRANTIES ARE HEREBY REVOKED AND DISCLAIMED. **WARRANTY "VOID" UPON NON-PAYMENT.**

- Seller neither assumes nor authorizes any representative or person to assume for seller any other liability in connection with the sale or shipment of our products.
- Seller reserves the right to make changes or improvements in our products without notice and without incurring any obligation to prospective customers.
- Seller reserves the right to make changes or improvements in our products without incurring any obligation to similarly alter products previously purchased.
- Except in the case of damages or defect attributable to the Seller, Buyer shall not make any claim against Seller for any damaged or defective product or part.
- If Seller breaches or repudiates this contract, Buyer shall not be entitled to recover any incidental damages as that term is defined in the Uniform Commercial Code.
- If Seller breaches or repudiates this contract, Buyer shall not be entitled to any consequential damages as defined in the Uniform Commercial Code.
- Seller does not warrant that any product purchased shall conform to: (1). any affirmation of fact or promise relating to it, or (2). any description of it. No affirmation, promise, or description relating to any product purchased shall be deemed part of the basis of the parties bargain.
- No agent, employee, or representative of Seller has any authority to bind Seller to any affirmation, representation, or warranty concerning the goods sold under this contract, and unless an affirmation, representation, or warranty made by agent, employee, or representative is specifically included within this contract, it will not be enforceable by Buyer.

ITEMS NOT COVERED

Seller waives the standard warranty on the following components and systems: Downstroke Baler bale ejection system - to include dump rods, dump handles, dump trays and associated components; Sonozaire hoses and fittings; Broken or lost machine keys; Broken or bent limit switch arms; All fuses and thermal / voltage / current limiting devices; Guide islands, wheel-stops, and anchor bolts; Container nose rollers.

RETURN OF PRODUCTS OR SERVICE PARTS FOR REPAIR OR CREDIT

Unless Seller shall have authorized or permitted the return of any products or parts, in writing, or by phone with Return Material Authorization (RMA) Number assigned by J.V. Manufacturing, Inc. to the specified product or parts, seller shall not be obligated to accept from Buyer any products or parts returned, nor to make any exchange thereof, nor to credit Buyer therefor.

Warranty Policy, continued

NOTICE OF CLAIMS

- A) Buyer must notify Seller immediately by e-mail, phone, writing, or fax, of any defect, malfunction, or nonconformity after he or she knows or has reason to know the basis of any claim, and in no event more than ten days thereafter. Within 24 hours after receiving notice from the buyer, Seller will authorize repair or replacement of the defective part. (1) J.V. Manufacturing, Inc., at its sole discretion, will have the option to make repairs or authorize a distributor or third party to make repairs. (2) All claims for repairs must be accompanied with a Warranty Job Order Number. Failure to obtain a Job Order Number will relieve Seller from all liability.
- B) Failure to give the notice prescribed by Subsection shall relieve the seller from all liability on any claim in respect to any transaction growing out of this warranty.
- C) The provisions of this shall survive the termination of any other portions of this warranty.

COMMON CARRIERS AGENTS OF DISTRIBUTOR

Whenever Seller shall deliver or cause to be delivered to a common carrier any goods ordered by Buyer, whether the particular carrier shall have been designated in the shipping or routing instructions of the Buyer or not, Seller shall not be responsible for any delays or damages in shipment and the common carrier, to which Seller shall deliver goods shipped to the Buyer, is declared to be the agent of the Buyer.

COMPLETENESS OF INSTRUMENT

This instrument contains all of the agreements, understandings, representations, conditions, warranties, and covenants made between parties hereto. Unless set forth herein, neither party shall be liable for any representations made, and all modifications and amendments hereto must be in writing.

COMPLETENESS OF INSTRUMENT

This instrument contains all of the agreements, understandings, representations, conditions, warranties, and covenants made between parties hereto. Unless set forth herein, neither party shall be liable for any representations made, and all modifications and amendments hereto must be in writing.

NO IMPLIED WAIVERS

The failure of either party at any time to require performance by the other party of any provision hereof shall not affect in any way the full right to require such performance at any time thereafter. Nor shall the waiver by either party of a breach of any provision hereof be taken or held to be a waiver of the provision itself.

CONTROLLING LAW

The validity, interpretation, and performance of this warranty shall be controlled by and construed under the laws of the State of Arkansas, the state in which this warranty is being executed. It is understood, however, that this is a general form of warranty, designed for use in the United States wherever the Seller may desire to sell its products and that any provision herein which in any way contravenes the laws of any state or jurisdiction shall be deemed not to be a part of this warranty therein.

BUYER NOT AN AGENT

This warranty does not constitute the Buyer as the agent or legal representative of the Company, or the Company as the agent or legal representative of the Buyer for any purpose whatsoever. Neither party is granted any express or implied right or authority by the other party to assume or create any obligation or responsibility on behalf of or in the name of the other party, or to bind the other party in any manner or thing whatsoever.

FINALITY OF THIS WRITING

The parties intend this document to be the final expression of their agreement and it is intended also as a complete and exclusive statement of the terms of their agreement. No course of prior dealing between the parties and no usage of the trade shall be relevant to supplement or explain any term used in this document. Acceptance or acquiescence in a course of performance rendered under this document shall not be relevant to determine the meaning of this contract even when the accepting or acquiescing party has knowledge of the nature of the performance and opportunity for objection.

OPTIONAL EXTENDED WARRANTY

Call for details.

Warranty Procedures

To request a warranty repair:

1. All warranty repairs must be administered through **CRAM-A-LOT®** Customer Support. Failure to contact Customer Support before performing repairs may result in the denial of your warranty claim and may void the warranty on your machine.
2. Contact Customer Support by phone, fax, or e-mail, as soon as possible after identifying any defect, malfunction, or nonconformity.
3. Please provide the following information when contacting Customer Support for service: Customer name / Store number, Model Number, Serial Number, Shipping Address, Billing Address, and a description of the defect, malfunction, or nonconformity.
4. A Customer Support representative will open a service order and dispatch a Factory Authorized Service Technician to assess the repairs at the machine location within 24 hours.
5. The service technician will make repairs or order any necessary parts to correct the defect, malfunction, or nonconformity. Parts will be delivered to the Service Technician or to the customer's shipping address, at the discretion of the Customer Support representative.
6. The service technician will correct the defect, malfunction, or non-conformity to the customer's satisfaction. Any parts or components that have been diagnosed as defective will be returned to be evaluated by **CRAM-A-LOT®** Quality or Engineering Department personnel, or the vendor who supplied the part, as determined by **CRAM-A-LOT®** Customer Support.
7. The warranty claim will be denied if any parts are found to be defective as the result of damage or neglect on the customer's part. In this case the customer will be notified and invoiced for the repair.

CRAM-A-LOT® CUSTOMER SUPPORT

Tel: 800-754-4290

Fax: 479-751-7870

Hours: 8:00a.m–5:00p.m. CST

Monday – Friday

service@jv.com