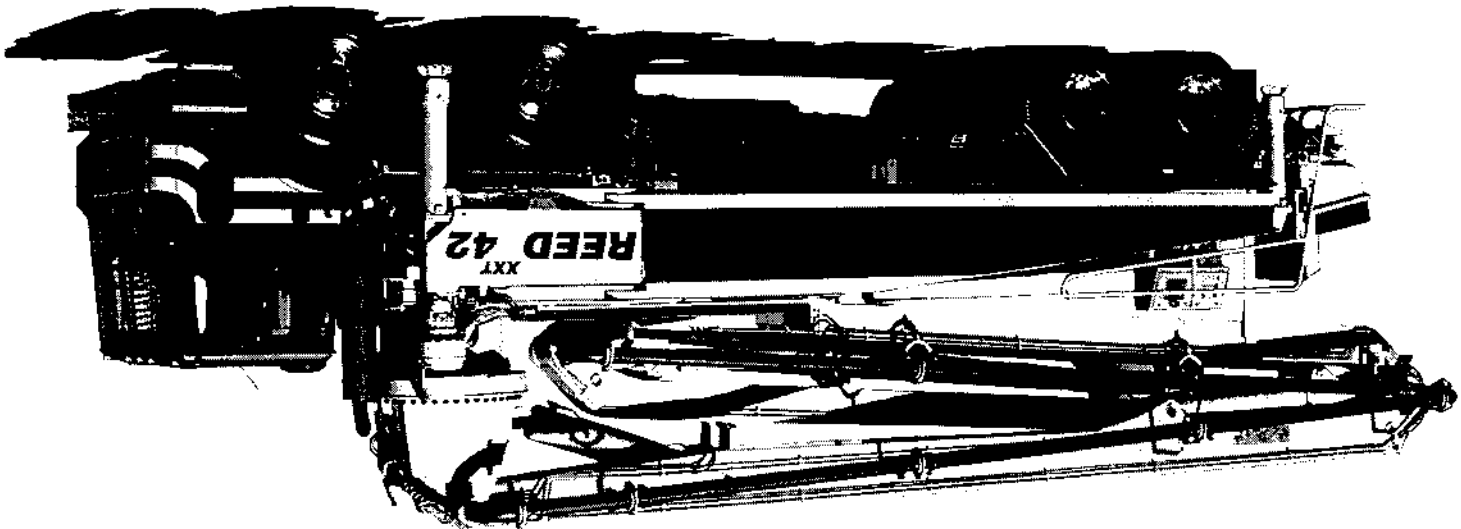




OPERATION, MAINTENANCE AND PARTS MANUAL TRUCK - MOUNTED CONCRETE BOOM PUMP MODEL: XXT 42



REED, provides this manual for the guidance of all owners, operators and servicing personnel in order to obtain the longest possible trouble-free service. It contains data, specifications, warranty, schematics, operating instructions, lubrication procedures, maintenance procedures, illustrated parts breakdown, vendor information, service bulletins, and safety rules.

Serial No.:

Date Delivered:

Customer:

NOTE: Additional copies of this manual (P/N: 801669) may be obtained through the **REED** Parts Department.

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13822 Oaks Avenue • Chino, California 91710-7008 • USA
Phone 909-287-2100 • Fax 909-287-2140

A.C.P.A. SAFETY MANUAL

A.C.P.A. BOOM INSPECTION BOOK

SB001 REED WARRANTY PROGRAM

SERVICE BULLETINS

VENDOR

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GENERAL

TABLE OF CONTENTS

**XXT42 TRUCK - MOUNTED
CONCRETE BOOM PUMP**



If you have not yet done so, please record the SERIAL NUMBER of your XXT 42 on the cover page of this manual. Throughout this manual, reference may be made to the serial number. When talking to our SERVICE DEPARTMENT or ORDERING PARTS, use of the serial number will assist us in giving prompt and accurate response and service.

NOTE

All product descriptions, illustrations and specifications found throughout this manual were in effect at the time the manual was released for printing. It should be noted **REED** reserves the right to make changes in design or to make additions to or improvements in the product without imposing any obligations upon itself to install them on products previously manufactured.

The manual covers and is applicable to a **STANDARD EQUIPPED MACHINE**. Depending on the circumstances, it is possible some machines are supplied with various options and specialized equipment. **REED** has tried to incorporate in the manual the appropriate data for these machines. If by chance, service information is not found, it is suggested you contact the **REED SERVICE DEPARTMENT**, which will forward the proper information if available.

This manual (Part Number: 801669) is provided to assist in accomplishing this goal. It is considered to be a **VALUABLE** tool for our **CUSTOMERS**. It includes an Operation Section, General Maintenance/Repair Procedures and Illustrated Parts Section. Everyone involved with the operation, maintenance and repair of the machine should be given and should take the opportunity to **READ** and thoroughly **UNDERSTAND** all sections of this manual. It is in their **BEST INTEREST** to do so.

A major factor in the minds of the operators and maintenance personnel should be use of the machine in a **SAFE** and **PROFICIENT** manner. This can only be accomplished by having a better understanding of the operation and maintenance of the **XXT 42 TRUCK MOUNTED CONCRETE BOOM PUMP**.

INTRODUCTION

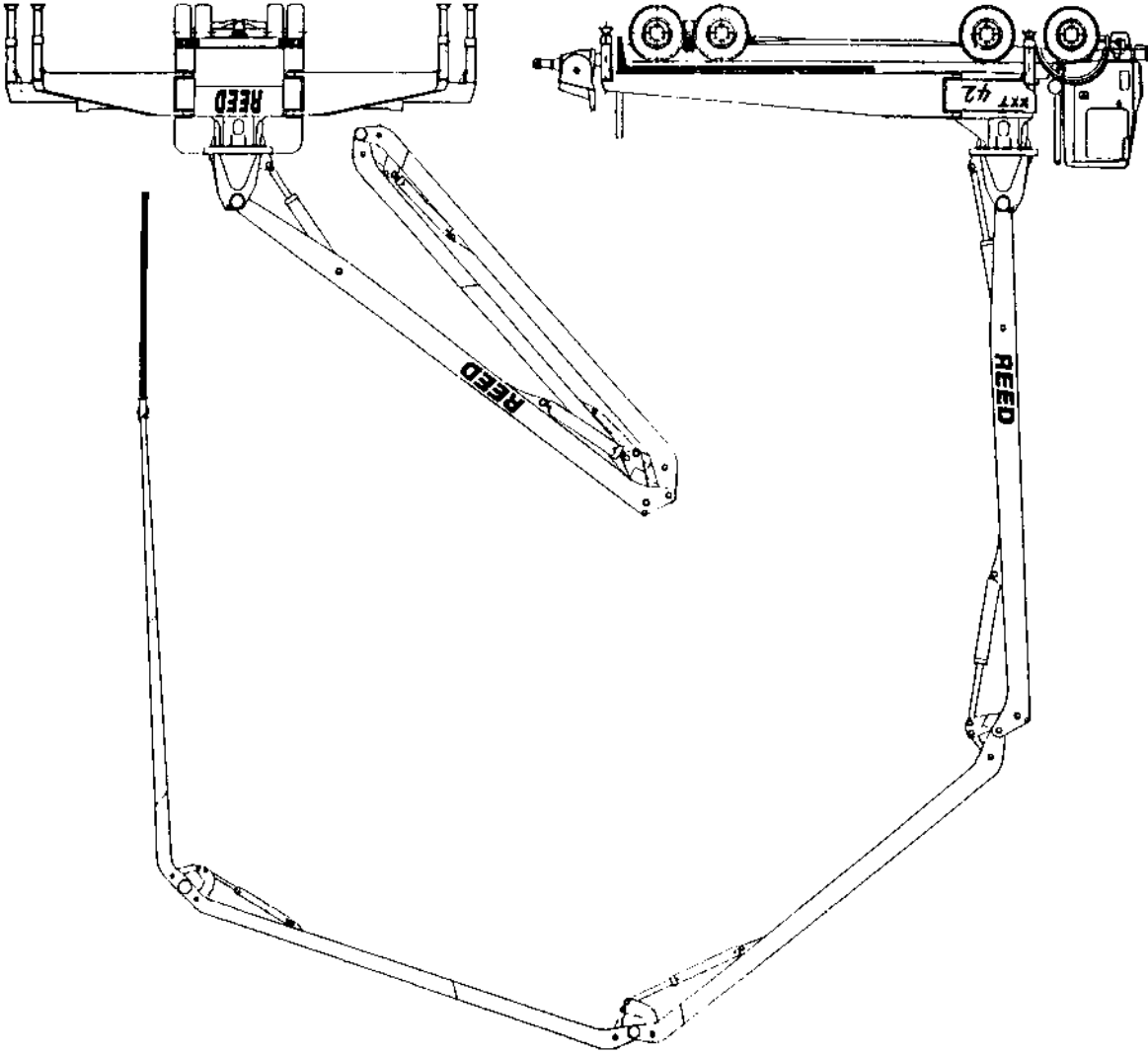
**XXT42 TRUCK - MOUNTED
CONCRETE BOOM PUMP**



SPECIFIC ITEMS PERTINENT



**XXT42 TRUCK - MOUNTED
CONCRETE BOOM PUMP**



The MODEL XXT 42 is a 42 meter (138 ft.) TRUCK MOUNTED CONCRETE BOOM PUMP. Its operation encompasses the use of hydraulic and electrical systems. The machine is designed to pump wet concrete through a delivery system of pipes and hoses attached to a 4 section roll-and-fold boom. It is of rugged construction and durable design enabling the unit to pump even the harshest mixes within its published ratings and specifications.

The XXT 42 super structure is mounted on a heavy duty truck chassis, which provides mobility for on-off highway use. The chassis is a four (4) axle type having a GVW rating of 84,000 lbs (38,136 kg). Each front axle is rated for 20,000 lbs (9,070 kg) while the rear axle is rated for 44,000 lbs (19,955 kg). Stability of the unit during operation of the boom is provided by two (2) sets of outriggers, one set at the front swings out then it's leg telescopes out while the set at the rear swing out.

PRODUCT DESCRIPTION

**XXT42 TRUCK - MOUNTED
CONCRETE BOOM PUMP**



The power for operation of the boom and concrete pump is provided by the chassis engine, which drives the hydraulic pumps through a power take-off (PTO). One pump is used to supply the required hydraulics for operation of the boom functions and the other pumps are used for operation of the concrete pump.

THE MODEL XXT 42 employs the S-tube design delivery system. This system incorporates two (2) material cylinders, powered by two hydraulic cylinders that operate alternately. With concrete material in the hopper and pump operating, one material cylinder retracts sucking or drawing the material back inside the cylinder. At full retraction of the cylinder, a signal is sent to the S-tube swing cylinders causing the S-tube to shift over to the fully loaded material cylinder. The piston of the loaded cylinder then moves forward, pushing the material out through the S-tube and into the delivery lines. The shifting from one cylinder to the other cylinder continuously takes place providing a continuous flow of material through the delivery piping system. The hopper has a capacity of 23 cu. ft (650 L) and the material cylinders are 9 inches (230 mm) in diameter.

The boom assembly is a four (4) section articulated type having a maximum vertical reach, ground level to tip, of 138 feet (42 m). The pedestal structure is mounted directly behind the chassis cab and is equipped with a rotational mechanism incorporating a low friction double row rotational bearing. The mechanism allows for 370° non-continuous rotation with a minimum of boom backlash or whip. Each boom section can be operated independently through the pre-established design articulation parameters of each section movement. A 5 inch (125 mm) steel pipe delivery line is installed from the hopper discharge outlet, up through the pedestal and attached along side of the boom sections. A 4" x 10 foot (101 mm x 3m) heavy duty end hose is provided to facilitate concrete placement.

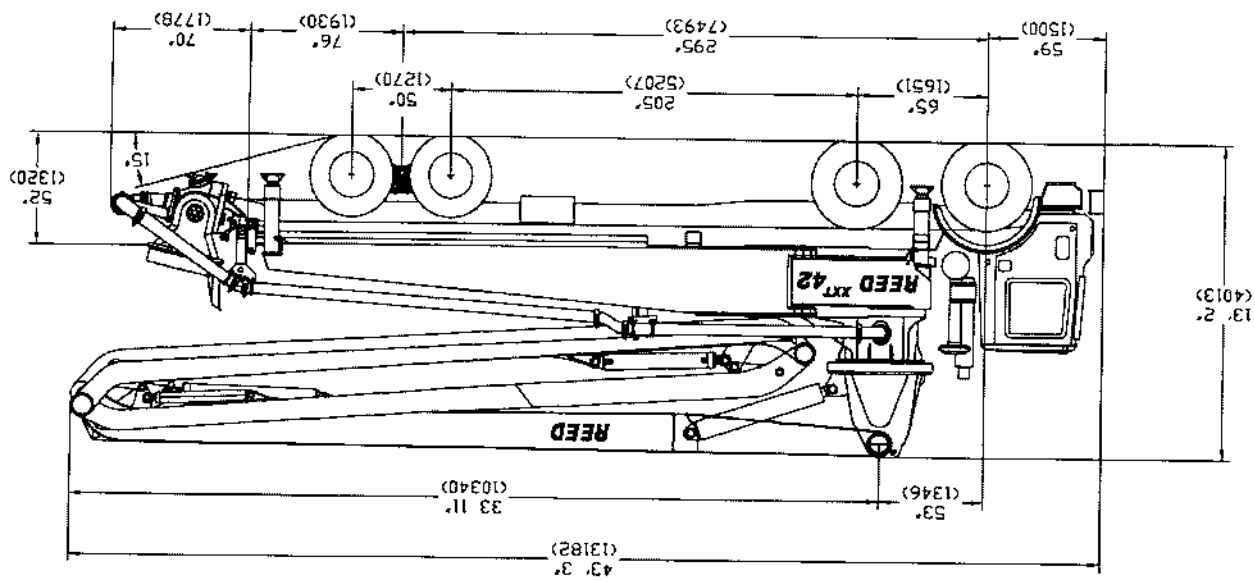
Stability of the unit during boom operation is obtained by use of two (2) sets of hydraulic powered outriggers, each with a vertical leveling jack. The front outriggers, located at the pedestal, swing out then telescope out while the rear outriggers, having their pivot located just ahead of the rear axle, swing out from the side of the structure.

Controls for operation of the outriggers are located on the curb (right) side of the chassis, near the rear outrigger pivot. A second set of controls for the outriggers only is located on the street side (left) of chassis. These controls are manual directional type. The boom functions controls are located on top of the curb side deck, near outrigger pivot. These can also be operated from the remote control console.

The concrete pump can be operated at the pump control station on the chassis bed or can be operated from the cabled or radio remote control console. The remote consoles are easily portable and contain a carrying strap to facilitate using both hands when required.

XXT42 TRUCK - MOUNTED CONCRETE BOOM PUMP





Above data is based on using a Mack Model MR688S chassis.

NOTE

MOBILITY DATA	U.S.	METRIC
• Overall Travel Length	43 ft - 3 in	13.18 m
• Overall Travel Height	13 ft - 2 in	4.01 m
• Overall Travel Width	8 ft - 2 in	2.49 m
• Chassis Wheel base	295 in	7.99 m
• Departure Angle	15°	15°
• Gross Vehicle Weight (GVW)	75200 lbs (approx.)	34182 kg (approx.)
• Front Axle Weight	35500 lbs (approx.)	16136 kg (approx.)
• Rear Axle Weight	39700 lbs (approx.)	18045 kg (approx.)

TECHNICAL DATA - SPECIFICATIONS

**XXT42 TRUCK - MOUNTED
CONCRETE BOOM PUMP**



- Max. Output - Rod Side - Piston Side
- Max. Pressure - Rod Side - Piston Side
- Max. Strokes P/Min - Rod Side - Piston Side
- Stroke Length
- Concrete Cylinder Diameter
- Variable Volume Control
- Hopper Capacity
- Maximum Aggregate Size
- Hydraulic System Type
- Hydraulic System Pressure
- Hydraulic Tank Capacity (Pump)
- Hydraulic Tank Capacity (Boom)
- Water Tank Capacity
- Hydraulic Drive Cylinders - Rod Dia. - Piston Dia.

PUMP SPECIFICATIONS

- Type
- Vertical Reach, Height
- Horizontal Reach from C Rotation
- Net Reach from Front of Truck
- Below Ground Reach
- Unfolding Height
- Rotation (Non-Continuous)
- Section #1 Articulation
- Section #2 Articulation
- Section #3 Articulation
- Section #4 Articulation
- Section #1 Length
- Section #2 Length
- Section #3 Length
- Section #4 Length
- Delivery Pipe Diameter
- End Hose - Diameter & Length
- Front Outrigger Spread
- Rear Outrigger Spread

BOOM SPECIFICATIONS

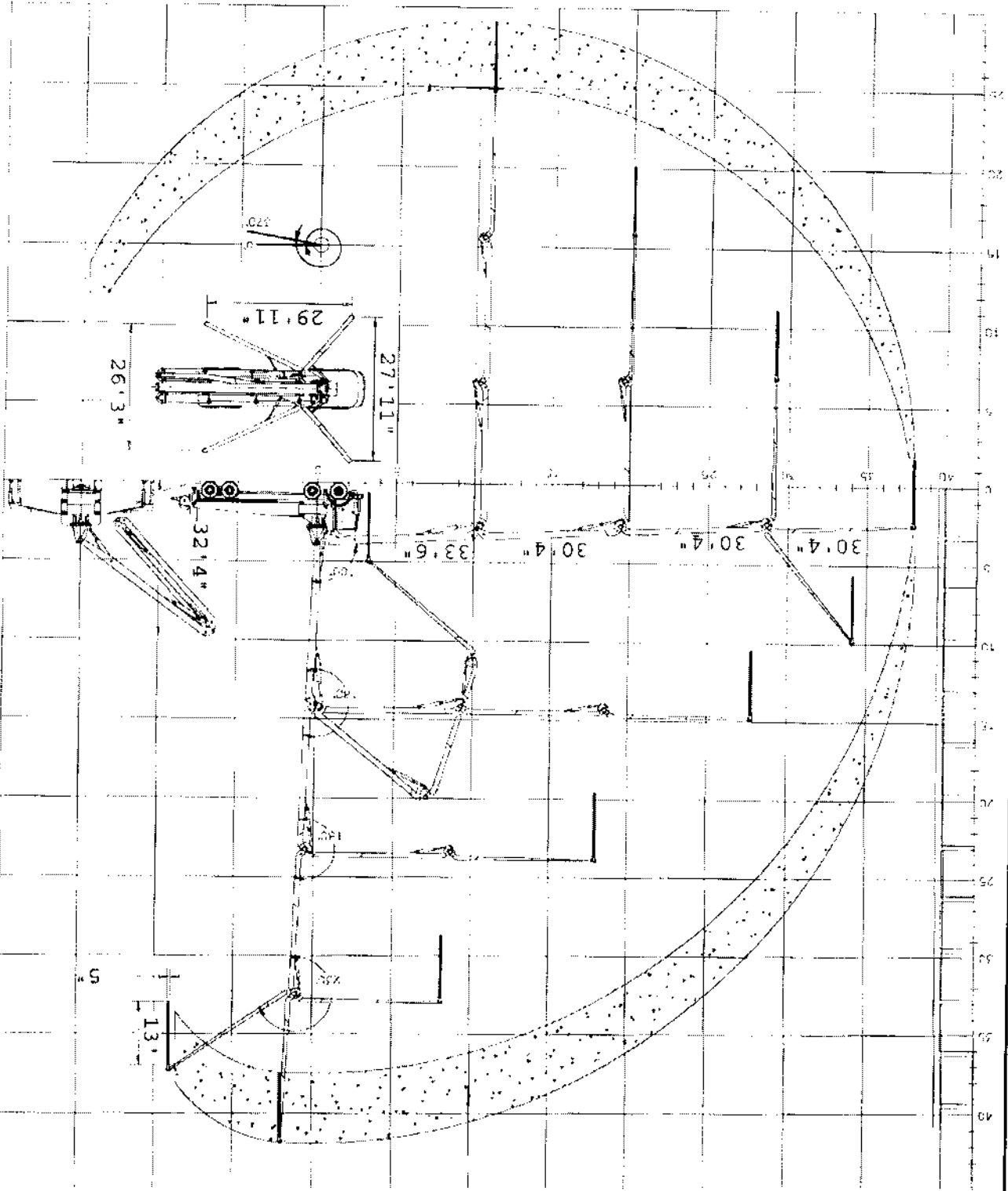
Four (4) Section Articulated

METRIC	U.S.
42.0 m	138'
38.0 m	125'
34.85 m	114'
25.00 m	82'
9.85 m	32' - 4"
370°	370°
100°	100°
180°	180°
180°	180°
235°	235°
10.2 m	33' - 5"
9.2 m	30' - 3"
9.2 m	30' - 3"
9.2 m	30' - 3"
125 mm	5"
101 mm x 3 m	4" x 10'
8.50 m	27' - 11"
8.00 m	26' - 3"

METRIC	U.S.
154 m ³ /hr	200 yd ³ /hr
101 m ³ /hr	131 yd ³ /hr
90 bar	1300 psi
129 bar	1853 psi
31	31
18	18
2000 mm	79"
230 mm	9"
0 to Full	0 to Full
650 L	23 # ³
63 mm	2.5"
Closed Loop	Closed Loop
345 bar	5000 psi
450 L	118 gal
400 L	106 gal
1120 L	295 gal
80 mm	3.15"
140mm	5.51"

XXT42 TRUCK - MOUNTED CONCRETE BOOM PUMP

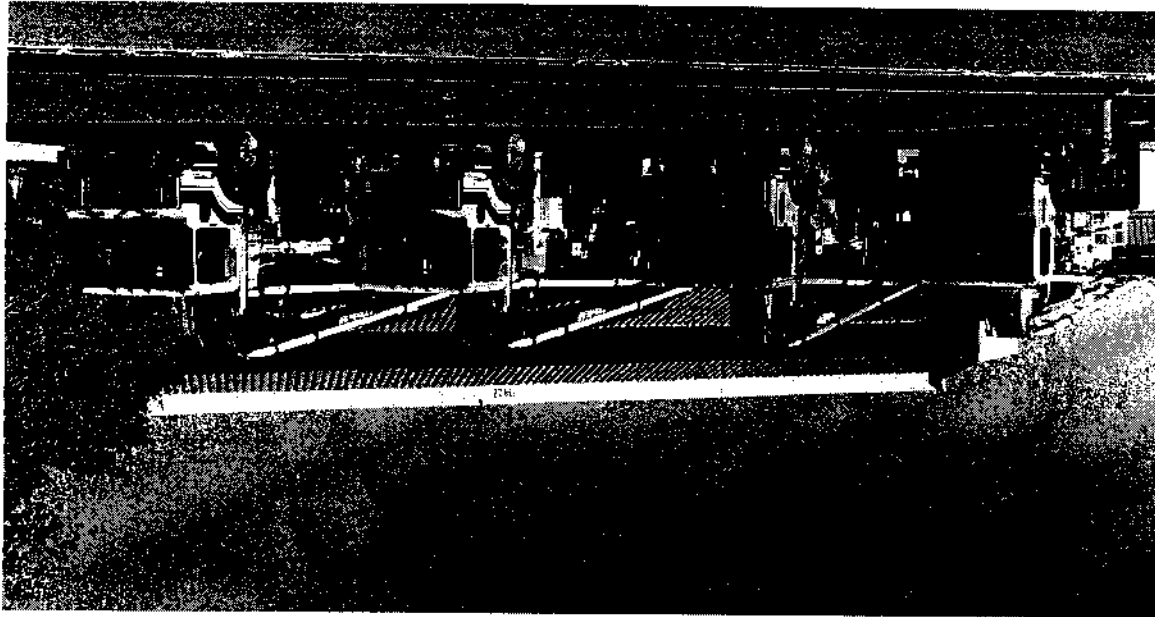




**BOOM OPERATIONAL ENVELOPE
(CONFIGURATION)**

**XXT42 TRUCK - MOUNTED
CONCRETE BOOM PUMP**





An operating procedure, practice, condition, etc., which is essential to emphasize.

NOTE

Direct attention to unsafe practices, which could result in personnel injury or death if proper precautions are not taken.

WARNING

Directs attention to unsafe practices, which could result in damage to equipment and possible subsequent personnel injury or death if proper precautions are not taken.

CAUTION

Cautionary signal word (Warning-Caution) may appear in various locations throughout this manual. Information accented by one of these signal words must be observed to minimize the risk of personal injury to service personnel, or the possibility of improper service methods which may damage the pump or render it unsafe. Additional Notes are utilized to emphasize areas of procedural importance and provide suggestions for ease of repair. The following definitions indicate the uses of these advisory labels as they appear throughout the manual:

ADVISORY LABEL LOCATION

**XXT42 TRUCK - MOUNTED
CONCRETE BOOM PUMP**



THE CONCRETE PLACING BOOM MUST NEVER BE USED AS A CRANE. During operation of the unit NO PROTECTIVE DEVICES are to be REMOVED and NO SAFETY LOCKOUTS are to be DISCONNECTED.

▲ CAUTION

DISENGAGE POWER TAKE OFF (PTO) BEFORE TURNING OFF ENGINE.

▲ WARNING

Because your job is to operate the equipment does not prevent you from focusing some attention on the maintenance and troubleshooting aspect of the unit. Just being aware of some tell-tell signs, unusual noises or a tweak here or there may enable you to complete the pumping job instead of shutting down and losing all that concrete.

make yourself thoroughly familiar with the contents of this manual. repairing the **MODEL XXT 42**. However **YOU and ONLY YOU**, must take the initiative to technical manual can be used to assist in the safest and best manner of operating and identified before proceeding with the task at hand. The information contained in this seem singular but may in fact be due to several causes. These need to be sorted out and During operation, troubleshooting or repair, problems may arise or be encountered that assistance from other trained/qualified personnel.

All personnel assigned to operate, repair or troubleshoot the **MODEL XXT 42** must be thoroughly familiar with this Technical Manual (P/N: 801669). For the protection of yourself and others around you, it is of utmost importance that the **WORK** be done **SAFELY**. One of the best ways to accomplish this is to fully **UNDERSTAND** and **KNOW** the job you do. If there is any doubt about what you are doing is **UNSAFE**, even marginally, obtain

the maximum **PERMISSIBLE** sizes and are not to be **EXCEEDED**. consistency having a specific weight of not more than 2.4 kg/dm³. The diameter of the delivery pipeline and the length of the end placing hose as noted on the **CODE PLATE** are was manufactured. This purpose is the placing of concrete or other material of a plastic The **MODEL XXT 42** concrete placing boom is only to be used for the purpose for which it

SAFETY AWARENESS AND PRECAUTIONS

XXT42 TRUCK - MOUNTED CONCRETE BOOM PUMP



- Use only qualified operators who know the machine
- Use only qualified maintenance personnel who understand the systems
- Wear protective equipment and helmets
- Keep work area clear of unauthorized personnel
- Before leaving chassis cab, set parking brake
- Chock all wheels
- Extend and set outriggers and jacks to proper position
- Level truck on uneven terrain or slopes
- Avoid operation near electrical power lines. Keep at least 17 ft. (5.1m) away from electrical lines
- Observe boom when raising or lowering that no obstructions are in its path.
- Do not operate pump or boom in traffic lanes. Always place cones and barricades around truck
- Do not use the boom as a crane
- Don't increase the boom capacity by increasing the size of the delivery line
- Don't increase the diameter size or length of tip hose
- Make sure boom and outriggers are properly stored before moving truck
- Always keep walkways and deck areas clean and neat.

No matter how often it is said or pointed out, there are people who have a tendency to **IGNORE** safe operation until it becomes too **LATE**. Don't be this type of person. Keep **SAFETY** utmost in your mind.

The following points out some pretty **COMMON** conditions and situations, which you might encounter at one time or another. **BE ALERTED** to these and try to **PREVENT** the inevitable. They may seem simple but are often the **MOST OVERLOOKED**.

-----T H I N K S A F E T Y -----T H I N K S A F E T Y -----



**XXT42 TRUCK - MOUNTED
CONCRETE BOOM PUMP**

**YOUR SAFETY IS OUR UTMOST CONCERN
AND YOUR RESPONSIBILITY**

- Do not pour material into the hopper without having the grate in place. Operator must monitor material being dumped into the hopper, keeping a watchful eye out for unmixed or dry concrete, sticks, pieces of metal and other foreign objects.
- Hydraulic oil systems can be dangerous. Know the circuit you are repairing, it may contain high pressure and injury could occur. If in doubt, stop the machine and allow sufficient time for the oil pressure to zero. Check system pressure gauge.
- The concrete delivery system should not be **OPENED** without relieving the pressure. This can be done by reversing the pump and pumping backwards.
- Never enter the hopper with any parts of your body. It is a **DANGER** area and physical **INJURY** can occur even if the engine is shut-down.
- Never **REMOVE** the hopper grill cover when the pump is in **OPERATION**. It protects against accidental contact with the agitator and other moving parts inside the hopper.

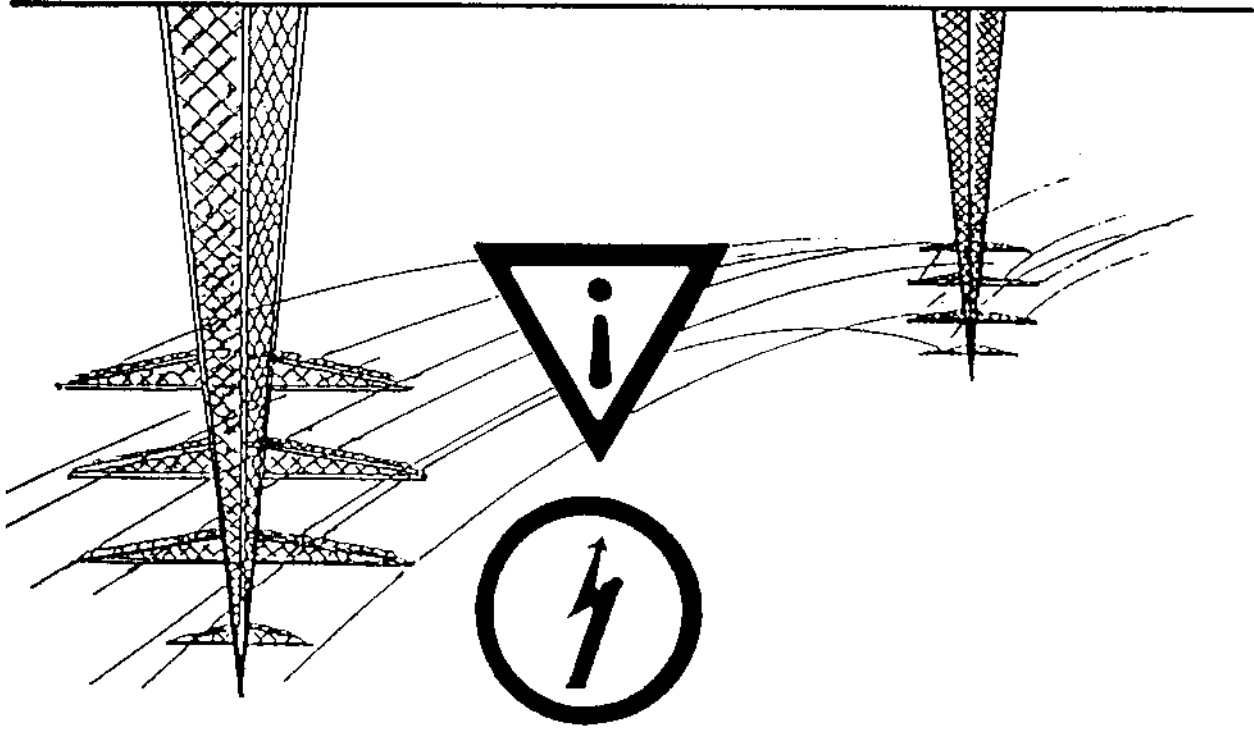
**BETTER SAFE THAN SORRY - DON'T TAKE CHANCES
THAT COULD CAUSE INJURY TO YOU AND/OR OTHERS**

WARNING

- Don't clean, lubricate or make adjustments while boom is in operation.
- Keep safety decals and operation instructions legible
- Do not alter or disconnect safety devices
- Maintain specified tire pressure
- Report items that need attention or require service
- Disengage PTO before making any adjustment or repairs to unit

**XXT42 TRUCK - MOUNTED
CONCRETE BOOM PUMP**

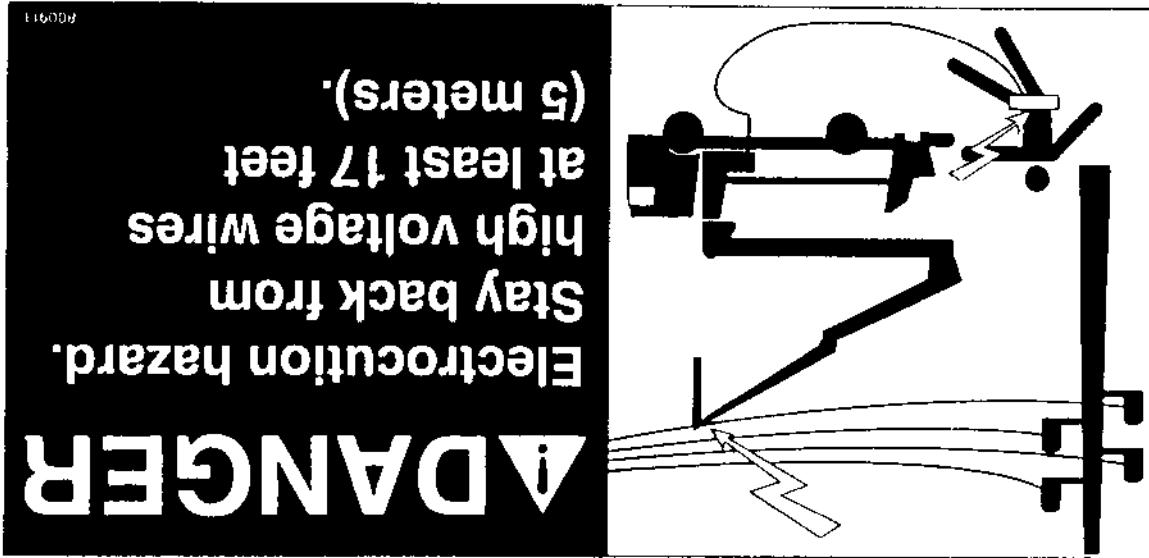




**UNLAWFUL TO OPERATE
THIS EQUIPMENT
WITHIN 17 FEET OF
HIGH VOLTAGE LINES**

**XXT42 TRUCK - MOUNTED
CONCRETE BOOM PUMP**



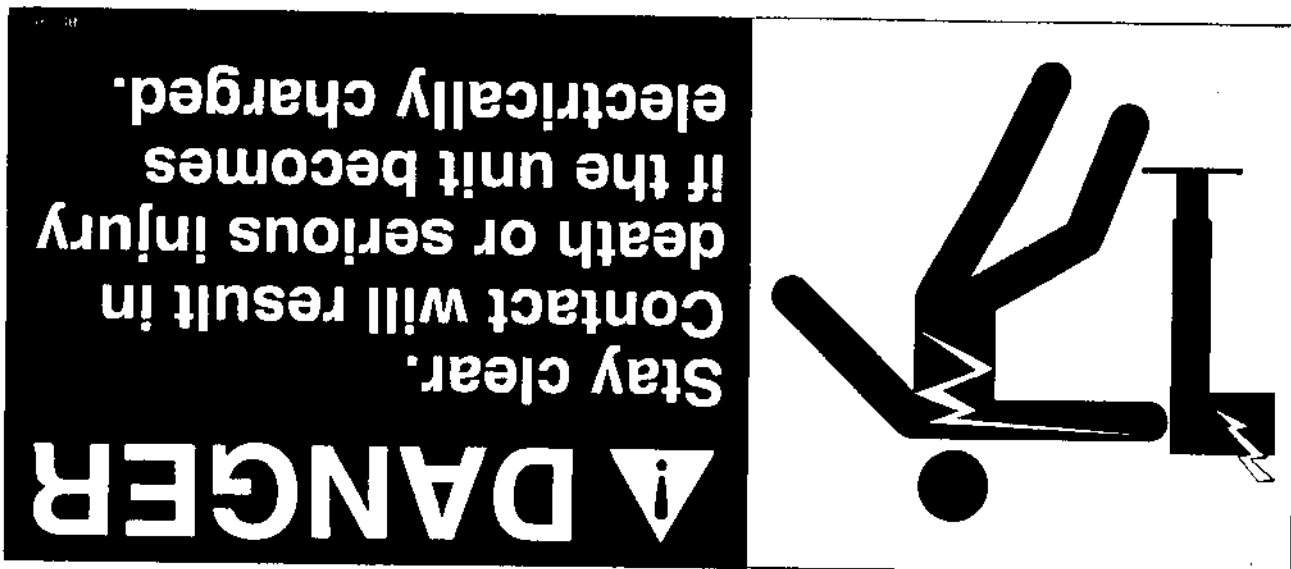
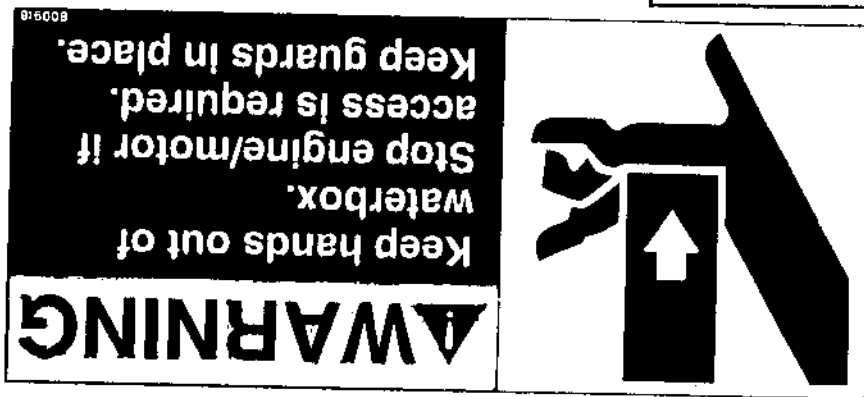
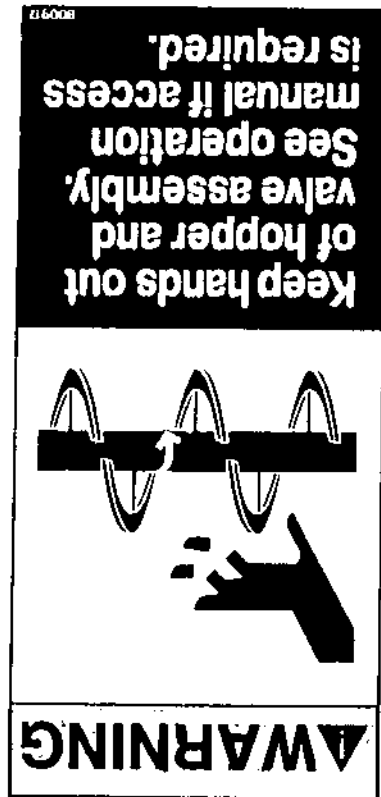
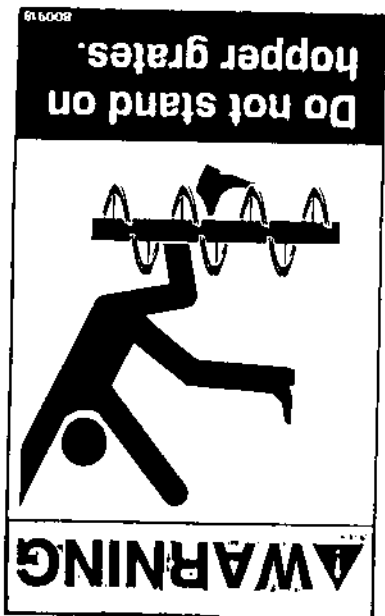


DANGER ----- **CAUTION** ----- **WARNING**
 decals are designed for your protection. They are placed at appropriate areas on the machine to be constant reminders of the ever-present dangers. Know and adhere to the information they provide.

SAFETY ALERT DECALS



**XXT42 TRUCK - MOUNTED
 CONCRETE BOOM PUMP**



WARNING

Before opening a blocked pipeline, relieve pressure by reversing pump.
See manual.

800922

WARNING

Do not operate at pressures exceeding the rating of the entire material delivery system.

800821

WARNING

Clear area before activating outriggers

600920

WARNING

Stand clear of outriggers when activating.

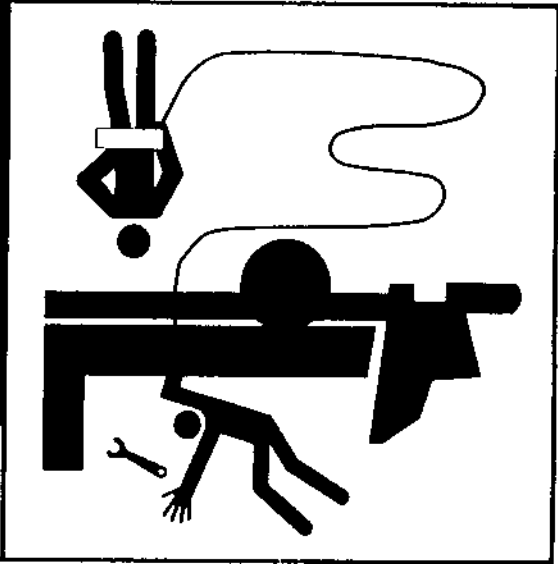
800919

**XXT42 TRUCK - MOUNTED
CONCRETE BOOM PUMP**



⚠ WARNING

This machine is remote controlled and may start at any time. Stop engine before servicing unit.



⚠ WARNING

Use retaining pins in all delivery system snap clamps.



XXT42 TRUCK - MOUNTED CONCRETE BOOM PUMP



WARNING

Total weight of all hanging hoses, reducers and clamps must NOT exceed 376 pounds including concrete.

800978

WARNING

Do not use the boom as a crane or hoist.

800978

WARNING

Do not operate this machine without training. Understand the warnings in safety manuals and on decals.

800978

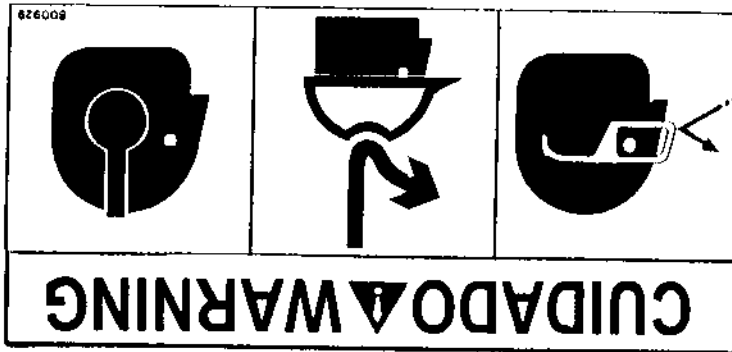
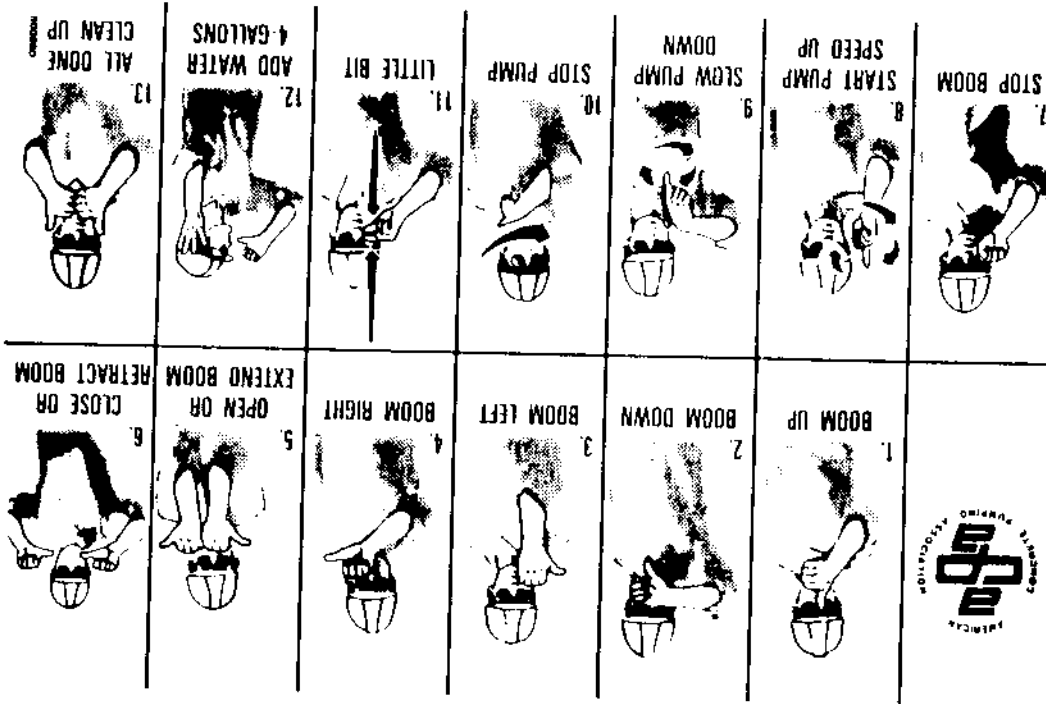
WARNING

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800978

XXT42 TRUCK - MOUNTED CONCRETE BOOM PUMP







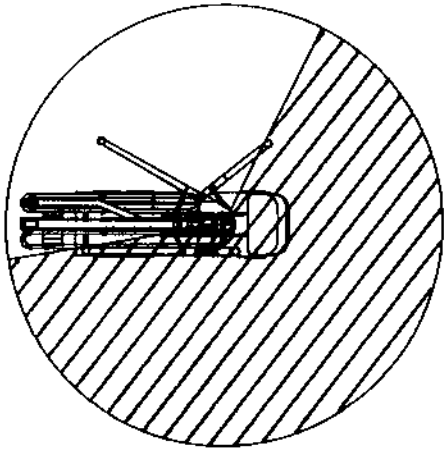
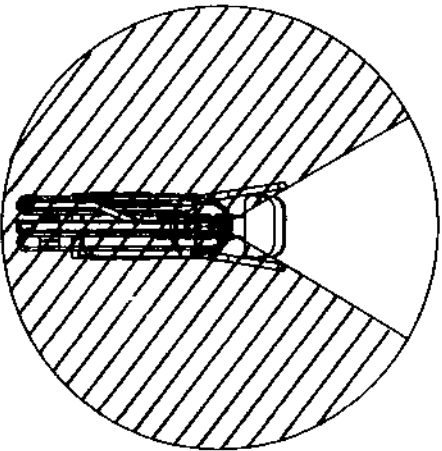
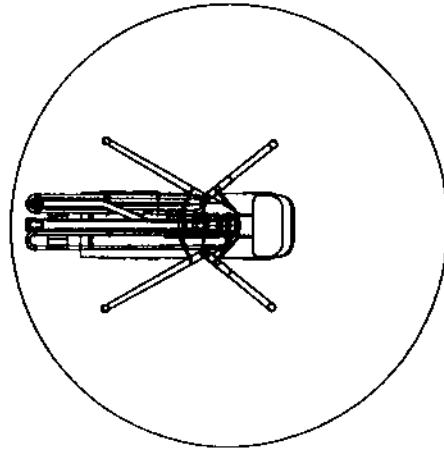
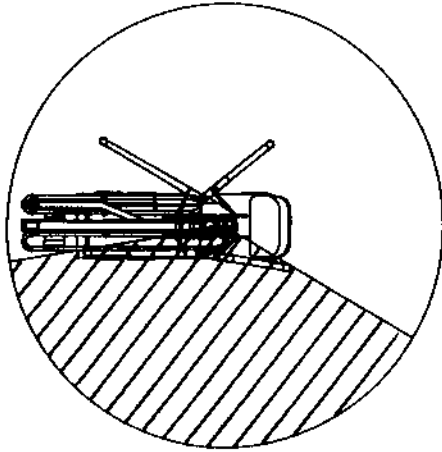
XXT42 TRUCK - MOUNTED CONCRETE BOOM PUMP



PN 801441

Outriggers must be fully extended and opened as shown.
All four outrigger jacks must be set on firm level ground.
Chassis must be level side to side and front to rear.

Do not operate boom in this area due to danger of tipover.
Boom must be folded and vertical when rotating to operating area.
NON-OPERATING AREA  OPERATING AREA 



REED MODEL XXT42 DRAGONFLY
TYPICAL OPERATING CONFIGURATIONS

! WARNING



**AN UNKNOWN OPERATOR IS AN UNSAFE OPERATOR
AND A SORRY OPERATOR**

- Making the choice for an operator is a vital decision as it affects safety and productivity. The **MODEL XXT 42** has been thoroughly inspected and tested by the **REED** Quality Control Department prior to shipment. The design of the unit incorporates several built-in safety features and also allows for an average skilled person to readily become proficient in the safe operation of the **MODEL XXT 42**. The unit is a pressurized concrete boom pump and can be potentially **DANGEROUS** in the hands of **UNTRAINED OR CARELESS OPERATORS**.
- Knowing the characteristics of the machine and function of the controls are important to **SAFE, PROPER OPERATION** and **USE**.
- It is the responsibility of all users to read and comply with the following rules and information designed to promote **SAFETY** and **UNDERSTANDING** of the **MODEL XXT 42** boom pump.
- The first requirement for any user/operator is to obtain a thorough understanding of the operating characteristics and limitations of the machine. This should not be overlooked regardless of their prior experience with similar type equipment.
- Only **QUALIFIED TRAINED** personnel who have been authorized must be allowed to operate the **MODEL XXT 42**. A Qualified Trained Operator is one who has **READ** and **UNDERSTOOD** the instructions in this manual and is thoroughly familiar with the operating characteristics and limitations of the machine.
- Individuals who cannot **READ** and **UNDERSTAND** the signs, warnings, notices and operating instructions that are part of the job, in the language in which it is printed **MUST NOT BE ALLOWED** to operate the **MODEL XXT 42**.
- Know and follow all cautions, warnings and operating instructions on the machine.
- Repair and adjustments must only be made by **QUALIFIED TRAINED** personnel.
- No modification is to be made to the machine without prior written consent of the **REED** Customer Service Department.
- Attach a **SIGN-OFF** sheet on the unit to enable the operator to report any damage, defects, problems or accidents to his work supervisor.
- Understand and **OBEY** all applicable Local and Government statutes and regulations applying to safe operation and use of concrete pumping machines.

OPERATOR QUALIFICATIONS

**XXT42 TRUCK - MOUNTED
CONCRETE BOOM PUMP**





- Loose or damaged hoses, tubing, fittings
- Hydraulic leaks
- Hydraulic fluid level
- Cleanliness of fluid, filter condition indicators
- Hydraulic valves and control levers
- Hydraulic cylinders

2. HYDRAULIC SYSTEM

- Engine oil level
- Fuel tank level
- Battery condition and cable connections
- Tire condition and inflation
- Fuel, oil, transmission leaks
- Wheel lug nuts missing or loose
- Overall condition of chassis

1. CHASSIS

Some major items to be considered for your inspection include the following:

The **CONDITION** of the unit prior to start-up is a very **IMPORTANT** factor as it directly affects the operator's safety as well as those around him. It should be a common practice that the operator perform a general inspection of the **MODEL XXT 42** before each days' operation.

The purpose of the operator's inspection is to keep the equipment in **PROPER** working condition and to **DETECT** any sign of malfunction during normal operations between scheduled maintenance checks.

DOWNTIME is **COSTLY** and can possibly be prevented by taking a few minutes prior to start-up to do a thorough walk-around inspection. This inspection must be performed each day before the unit is operated. Report any damage or faulty operation immediately. Attach a sign, if need be, at the control panel which states ----- **DO NOT OPERATE** -----.

Repair any discrepancies before use.

PRE-OPERATION INSPECTION



**XXT42 TRUCK - MOUNTED
CONCRETE BOOM PUMP**

Defective components, structural damage, missing parts or equipment malfunctions, jeopardize the SAFETY of the operator and other personnel and can cause extensive damage to the machine. A poorly MAINTAINED machine can become the greatest OPERATIONAL HAZARD you may encounter.

▲ CAUTION

- Visually check condition of outriggers, pedestal
- Visually check boom sections, signs of damage, cracked welds
- Check condition of pivot pins, retainers, lubrication
- Check delivery pipe, clamps, mountings
- Check end hose condition, clamps

5. BOOM STRUCTURE

- Frayed or broken wires or loose connections
- Condition of switches, lights, connections
- Instruments and gauges - condition

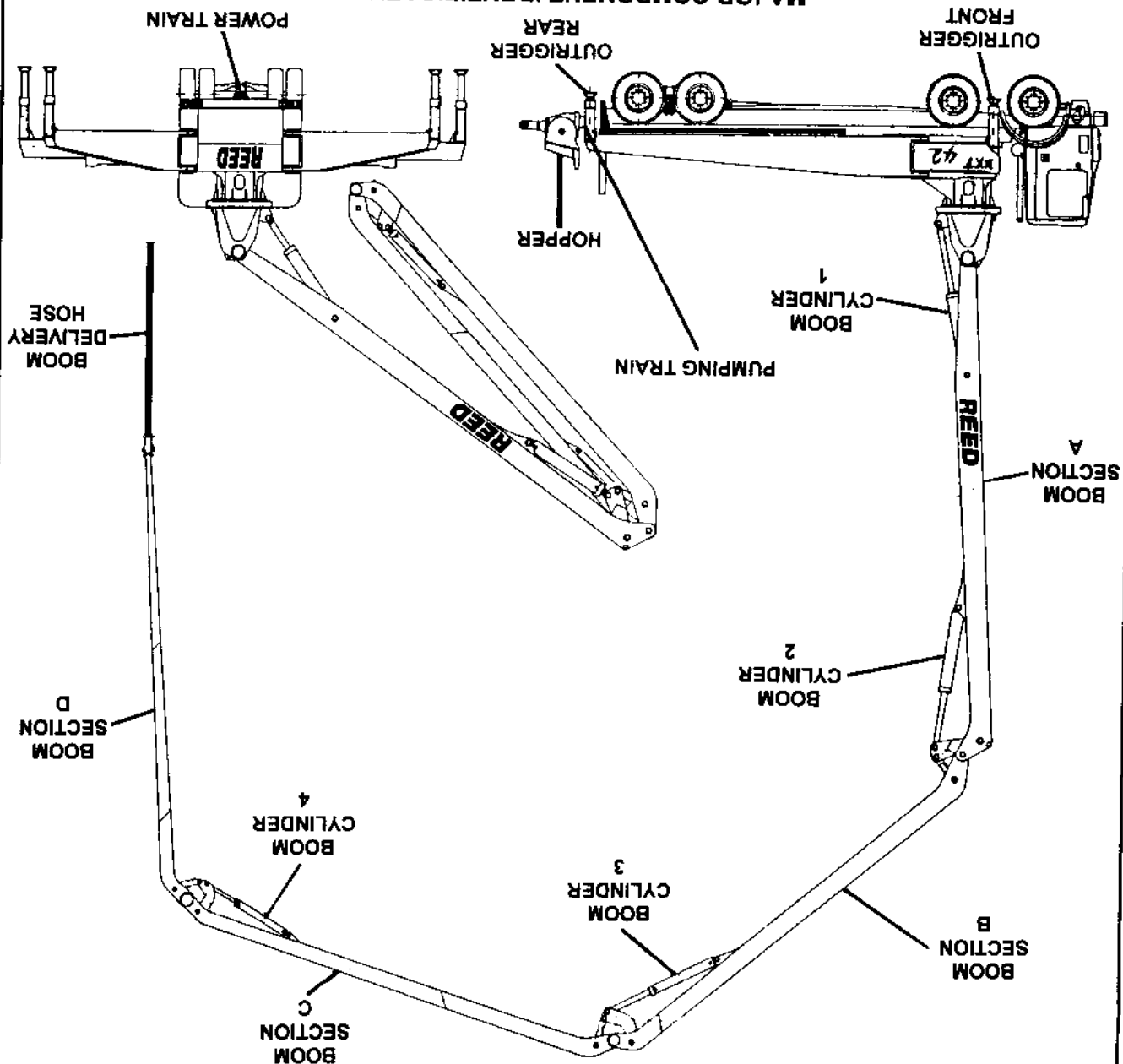
4. ELECTRICAL

- Grate in place not damaged
- S-tube connection
- Agitator condition, drive motor
- Outlet connection, cleanliness
- Lubrication, loose, broken lines

3. HOPPER



MAJOR COMPONENT IDENTIFICATION



42. Carefully study these. These next few pages will assist you in GETTING ACQUAINTED with the MODEL XXT

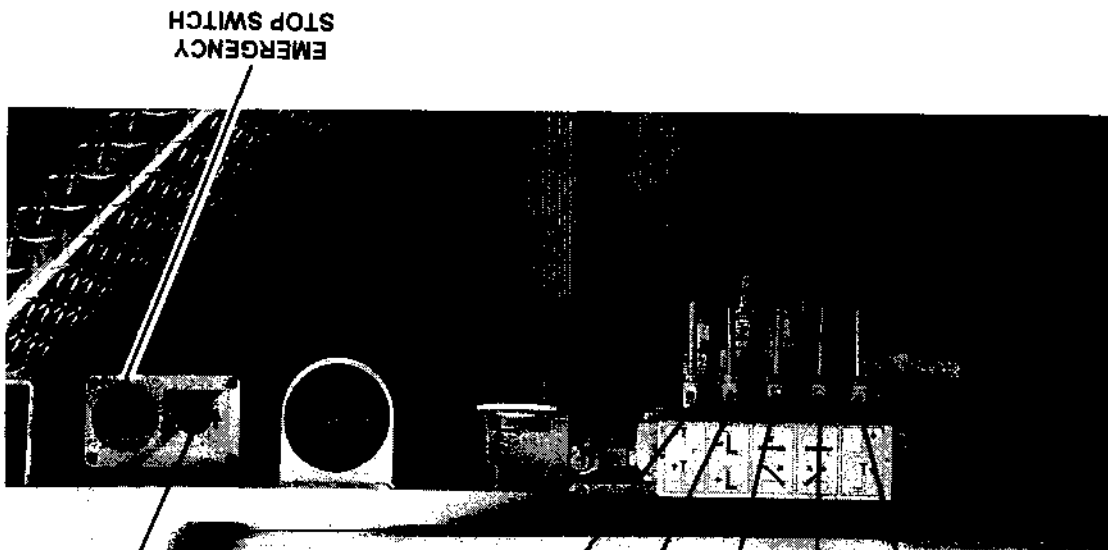
As previously indicated, it is important from a SAFE operational standpoint that you, the OPERATOR, know your machine. This means the function of each control as to what happens when it is activated, how it might interact with other functions and any limitations, which might exist. A GOOD UNDERSTANDING of the controls and capabilities will enhance operation and assure maximum operating and efficiency and SAFETY.

GETTING ACQUAINTED
(UNIT FAMILIARIZATION)



XXT42 TRUCK - MOUNTED
CONCRETE BOOM PUMP

R. H. (PASSENGER) SIDE CONTROL



SAFETY INTERLOCK/CONTROL

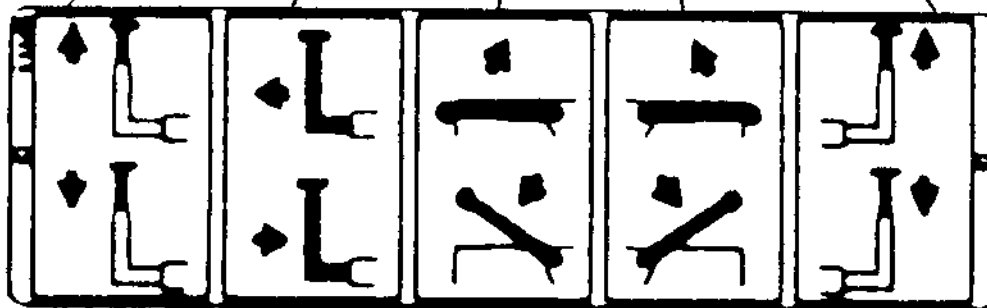
RIGHT FRONT OUTRIGGER JACK

RIGHT FRONT SWING LEG

RIGHT REAR OUTRIGGER JACK

RIGHT FRONT TELESCOPIC LEG

RIGHT REAR SWING LEG



The MODEL XXT 42 is equipped with two (2) sets of outriggers. One set, referred to as 'FRONT', is located adjacent to the pedestal. This set consists of a swing out leg equipped with a telescopic leg that extends on a diagonal direction out toward the cab.

OUTRIGGER - JACK CONTROL

XXT42 TRUCK - MOUNTED
CONCRETE BOOM PUMP



- **RIGHT FRONT SWING LEG** - This control is used to swing out front leg. Actuate **SAFETY INTERLOCK** switch and hold while moving lever **TOWARD** you to swing out leg. To swing in leg, depress **SAFETY INTERLOCK** and move control lever **AWAY**.
- **SAFETY INTERLOCK/CONTROL** - This is a spring return to off push button switch. It is used as a **SAFETY INTERLOCK**, meaning the switch must be held in appropriate position while a particular outrigger control is actuated. If the switch is released even if outrigger control lever is **ON**, operation will cease to function.
- **EMERGENCY STOP SWITCH** - Located in the box on both the right and left side outrigger controls is an **EMERGENCY STOP** switch. Its purpose is to shut down the complete operation in an emergency. **PUSH** red knob to **STOP** operation. **PULL** knob to **RELEASE** or re-activate system.

Stability during operation of boom is based on outrigger legs being fully extended. Overturning will occur if extension is less than maximum spread.

▲WARNING

The telescopic leg is equipped with a hydraulic leveling vertical jack. The other set, referred to as **REAR**, has its pivot near the pedestal. It is a single beam that hydraulically swings out away from the chassis to a diagonal position. It too, is equipped with a leveling jack.

For operation of these outriggers, two (2) sets of controls are provided and are located one each side in the vicinity of the swing out pivot. The right side (curb side) controls operate the right side legs and jacks, front and rear. The left side (street side) controls operate the left side legs and jacks, front and rear. These valves are of the hydraulic directional type and are activated by an electric signal. The levers are returned to center type. The outrigger controls are energized or de-energized by the toggle switch located on the main control panel installed on chassis deck.

**XXT42 TRUCK - MOUNTED
CONCRETE BOOM PUMP**



The LEFT side FRONT and REAR outrigger legs and jacks controls operate in the same manner as the right side except for controlling the left side.

NOTE

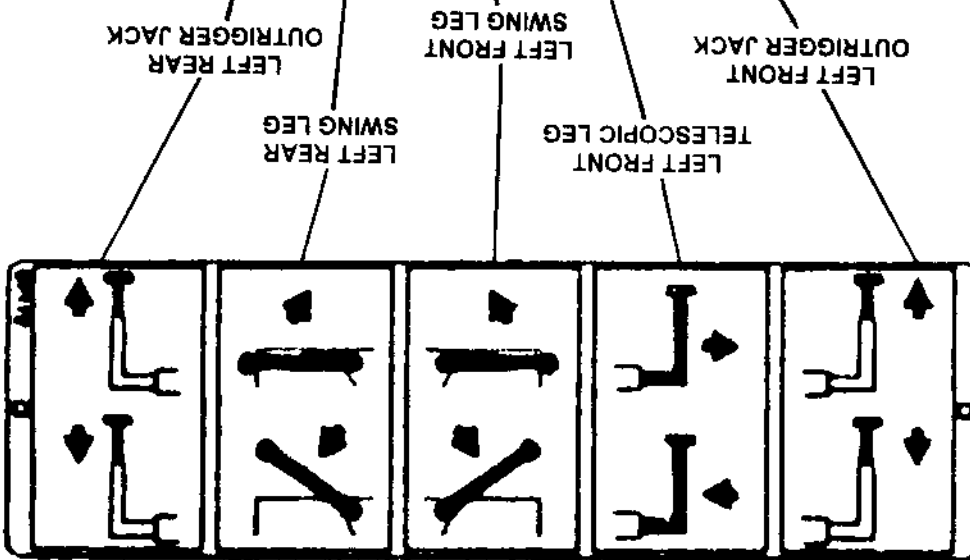
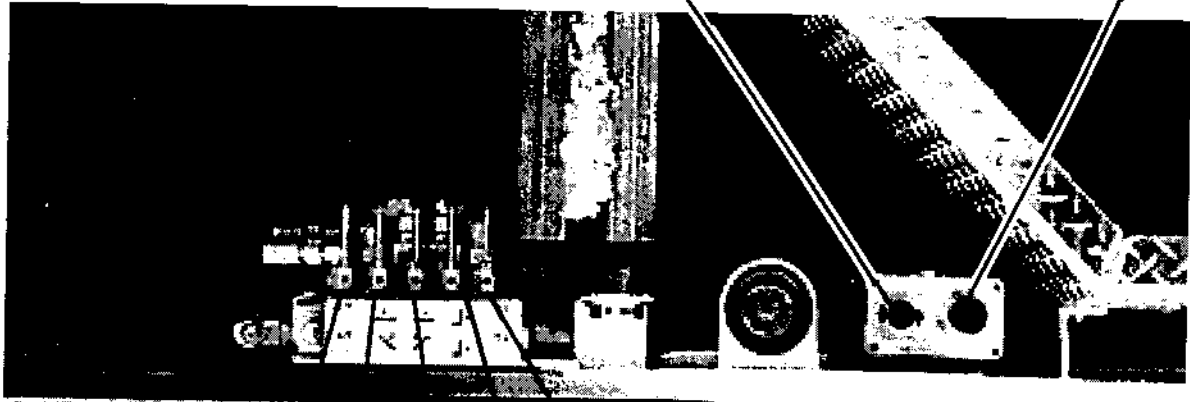
- **RIGHT REAR OUTRIGGER JACK** - To operate jack depress SAFETY INTERLOCK switch and move JACK control lever TOWARD you to EXTEND jack. RETRACT by depressing SAFETY INTERLOCK switch and moving jack leg lever AWAY from you.
- **RIGHT REAR OUTRIGGER LEG** - This leg is of the swing out type however unlike the front there is no telescopic section. To swing out leg actuate SAFETY INTERLOCK switch and hold while moving appropriate control lever TOWARD you. To swing-in leg depress SAFETY INTERLOCK switch and move control lever AWAY.
- **RIGHT FRONT OUTRIGGER JACK** - The outrigger vertical jack is used to assist in leveling the unit for boom operation. The jack is controlled by actuating SAFETY INTERLOCK and holding while moving JACK control lever TOWARD you to EXTEND jack. RETRACT moving lever AWAY from you.
- **RIGHT FRONT TELESCOPIC LEG** - This control is used to extend or retract the telescopic beam of the swing out leg. Depress SAFETY INTERLOCK switch and move control TOWARD you to EXTEND leg. Move lever AWAY to RETRACT leg.

To prevent damage to cab an interlock is incorporated to prevent the leg from swinging in completely until telescopic leg is fully retracted. Likewise, the swing out leg must be swung out approximately 9° before telescopic leg can be extended.

NOTE



L. H. (DRIVER) SIDE CONTROL



**XXT42 TRUCK - MOUNTED
CONCRETE BOOM PUMP**

Located on the right deck side (curb side) of the unit near the turntable is a bank of valves with levered knobs. These valves are used to control the function of each boom when remote controls are not used. The control valves are 3 position hydraulic directional type valves, which can be operated manually or electrically when using the remote control. The levers are a spring return to center, meaning they must be held in the actuated position.

A) MANUAL BOOM CONTROL FAMILIARIZATION

- LETTER "A" - This is used to denote the main or first boom section which has one end attached to the turntable.
- LETTER "B" - Denotes the second boom section which has one end attached to the first section.
- LETTER "C" - Denotes the third boom section which has one end attached to the second boom section.
- LETTER "D" - This is the last section and has one end attached to the third section.

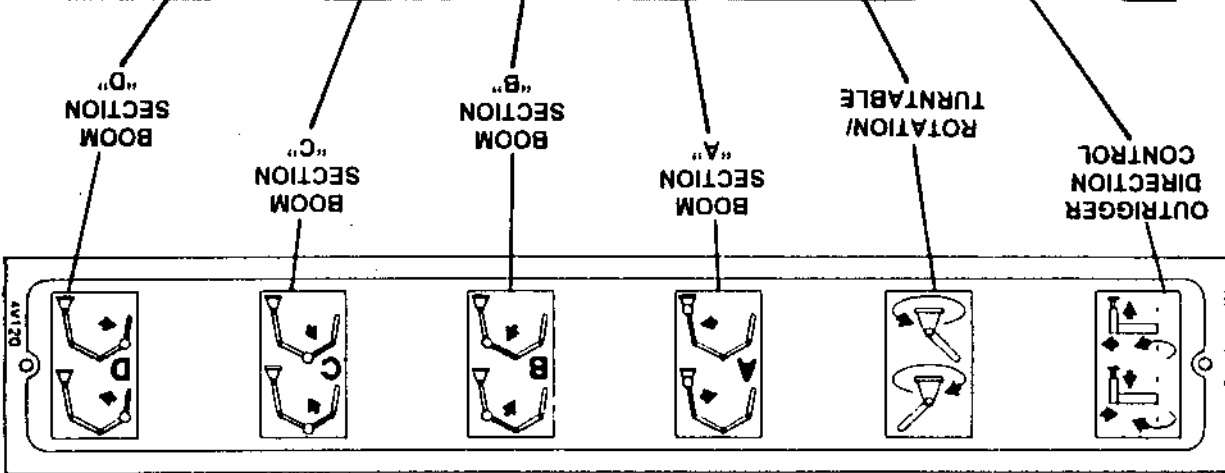
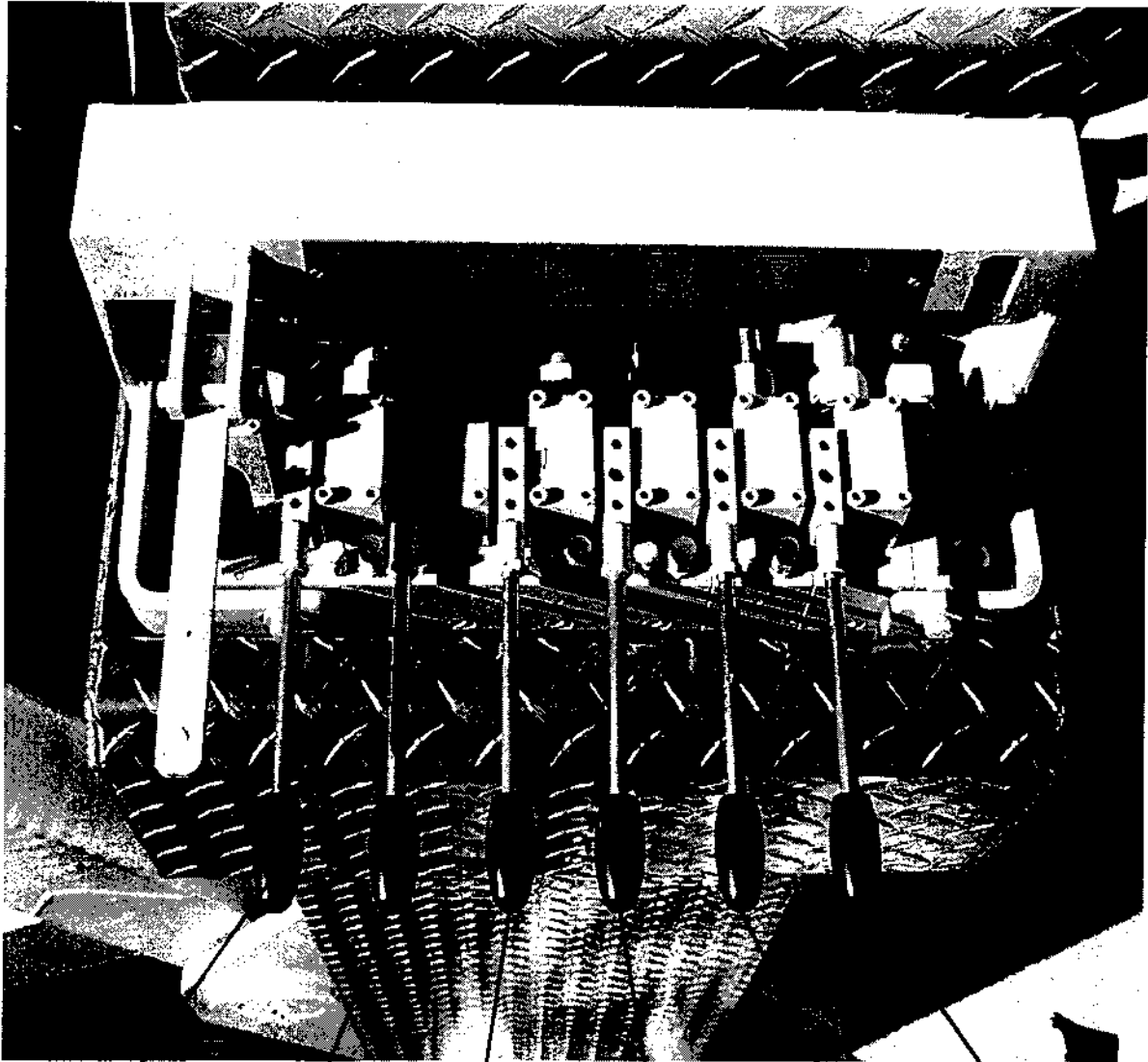
The boom functions can be controlled either by using the manual levers on the valve bank located on right side of unit on the deck near the turntable; or at the remote control console or using the radio control remote. Regardless of which control panel is used the controls are all labeled the same and the functions are alike. The unit consists of four (4) booms and each of its movements are independently controlled. A control is also provided for the rotation of the complete structure. The boom sections are identified by letters, which appear on both sides of the boom and are labeled accordingly on the control panel decals. In addition the panel decal indicates the specific boom section by a solid red color.

BOOM FUNCTION CONTROLS



**XXT42 TRUCK - MOUNTED
CONCRETE BOOM PUMP**

The function of each control is as follows:



**XXT42 TRUCK - MOUNTED
CONCRETE BOOM PUMP**

Moving **ROTATION** lever **DOWN** will cause the boom to rotate **COUNTER-CLOCKWISE**. Moving lever **UP** will cause boom to rotate **CLOCKWISE**. When lever is in **CENTER** position, the rotation circuit is **OFF**.

The working range of the placement boom is out over the chassis cab. If boom is first rotated toward right side, (**CLOCKWISE**), the left side can only be reached by continuing to rotate out over the cab. The left side cannot be reached by rotating back over the rear of the truck.

NOTE

Left and right rotation is determined with operator standing at the hopper and facing front of unit. This may also be determined that in rotating over street side of chassis toward cab is left; over curb side of chassis is right. **LEFT** rotation is **CLOCKWISE**; **RIGHT** rotation is **COUNTERCLOCKWISE**.

▲ CAUTION

Manual lever used to control the rotation of the boom structure. The boom structure can be rotated 37° non-continuously. This means that with the boom in normal stowed position, extending out over the rear of truck, the boom once raised to 60° can be rotated left (clockwise) or right (counterclockwise) toward front of cab.

2. ROTATION - TURNABLE

The function of this control is a duplication of the Safety Interlock control previously explained in the Outrigger Control Familiarization paragraph. It is basically used only in an emergency situation when there is a failure in the electrical circuit or switch of the Safety Interlock.

Whenever it becomes necessary to use the control, moving control lever **DOWN** will direct the flow of oil to **EXTEND** outriggers and jacks. Pull lever **UP** to direct oil for **RETRACTION** of outriggers and jacks. Keep in mind lever must be held in position or it will return to neutral.

1. OUTRIGGER DIRECTION CONTROL



**XXT42 TRUCK - MOUNTED
CONCRETE BOOM PUMP**

5.

BOOM SECTION "C"

This section is the third section of the boom assembly and is attached to the end of the second section and folds along side the second section. It has an articulation range of 180° total. This is based on having the ability to travel from the folded position along side of the second section to a full open position, which allows this section to be in a straight line with the second and main boom.

MOVE SECTION C control lever DOWN to RAISE boom. Move lever UP to LOWER boom section.

4.

BOOM SECTION "B"

This section is the second section of the boom assembly and is attached to the end of the main boom and folds down to the underside of the main boom. It has an articulation travel range of 180° total. This is based on having the ability to travel from the folded position under main boom to a full open position, which allows this section to be in a straight line with the main boom.

Move lever DOWN to RAISE boom section. Move lever UP to LOWER boom.

3.

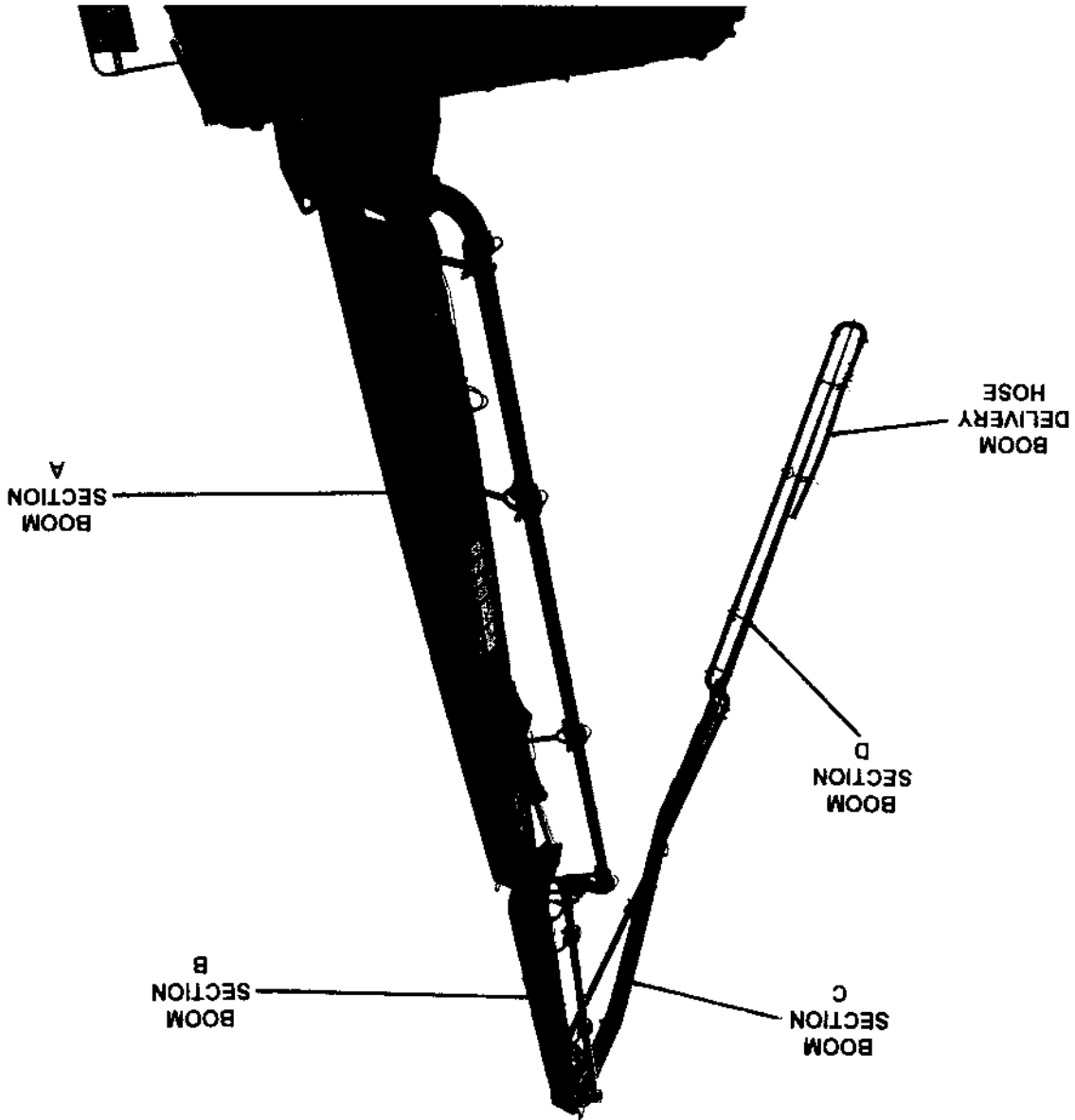
BOOM SECTION "A"

This section is the main or first section of the boom assembly and it is directly attached to the pedestal turret. It has an articulation travel range of 100° total. This is based on having the ability to travel 5° below horizontal through 90° to vertical then 5° beyond vertical.

Before SECTION B can be unfolded the main boom SECTION A must be raised to a height of 32 feet (9.85m).

NOTE





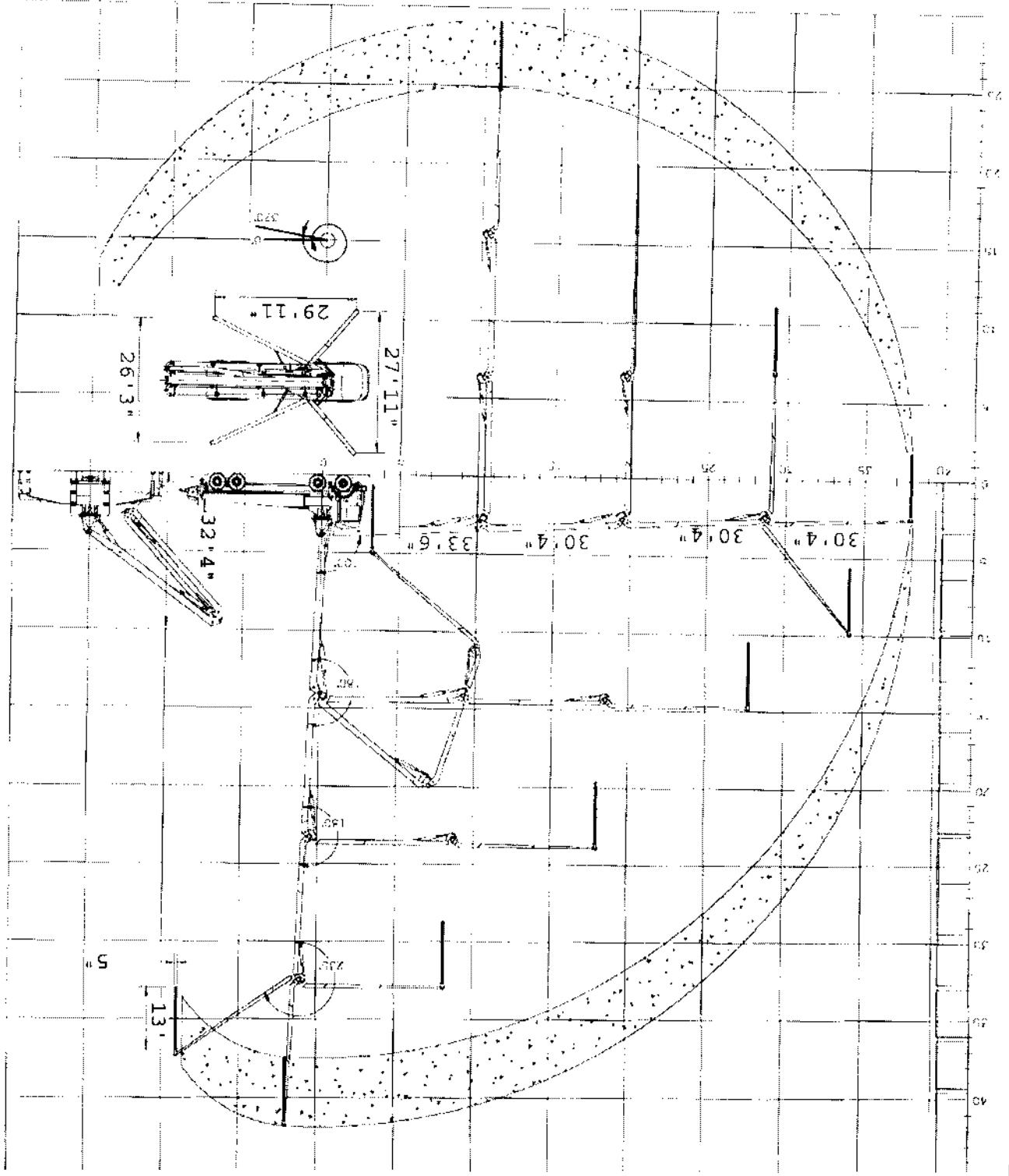
This section is the end or fly section of the boom assembly. It is attached to the third section and folds down to the underside of the third section. It has an articulation travel range of 235° total. This is based on having the ability to travel from the folded position under the third boom to vertical with the other booms then 70° beyond vertical or over center.

Move **SECTION D** control lever **DOWN** to **RAISE** boom. Move lever **UP** to lower boom section.

6. BOOM SECTION "D"



**XXT42 TRUCK - MOUNTED
CONCRETE BOOM PUMP**



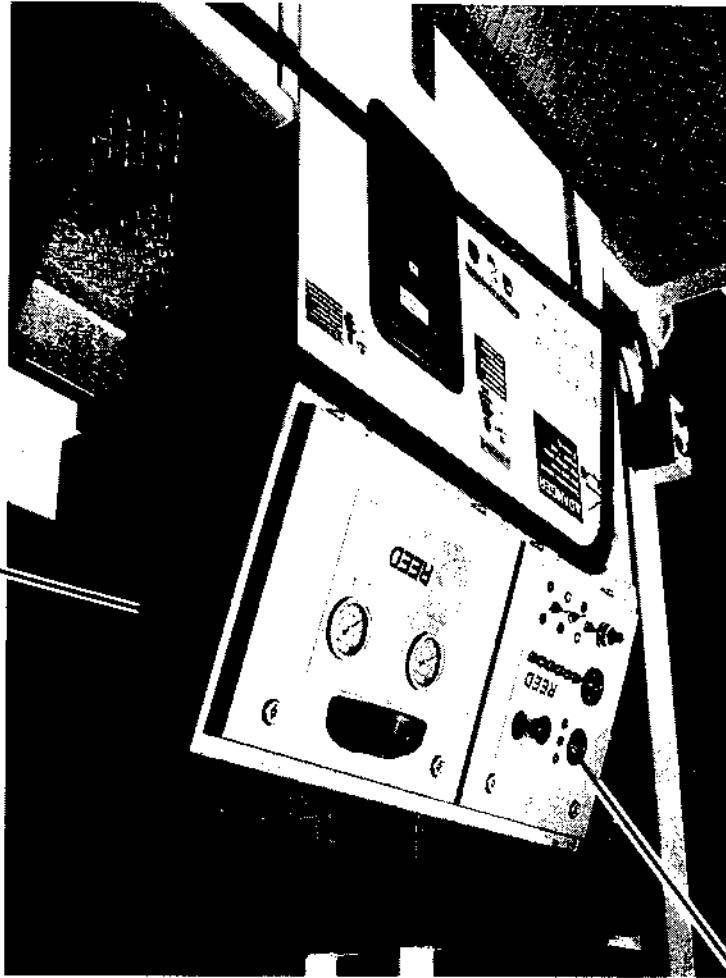
BOOM ARTICULATION DIAGRAM

**XXT42 TRUCK - MOUNTED
CONCRETE BOOM PUMP**



This control panel is located on the right (curb) side of the chassis, up on the chassis deck near the rear. This panel enables complete operational control of the concrete pump as well as having the abilities to monitor the system.

STATIONARY PUMP CONTROL PANEL



SEE NEXT PAGE
FOR MORE DETAILS

In the previous pages you were introduced and familiarized with the outrigger and boom controls. Now we would like to acquaint you with the concrete pump controls. The boom and pump circuits are separate systems. One can be operated without the other. Like the boom functions, the concrete pump can be controlled at a stationary panel on the chassis or from the remote control console or by the radio control unit. The next few pages are offered to familiarize you with these controls, their purpose, function and what happens.

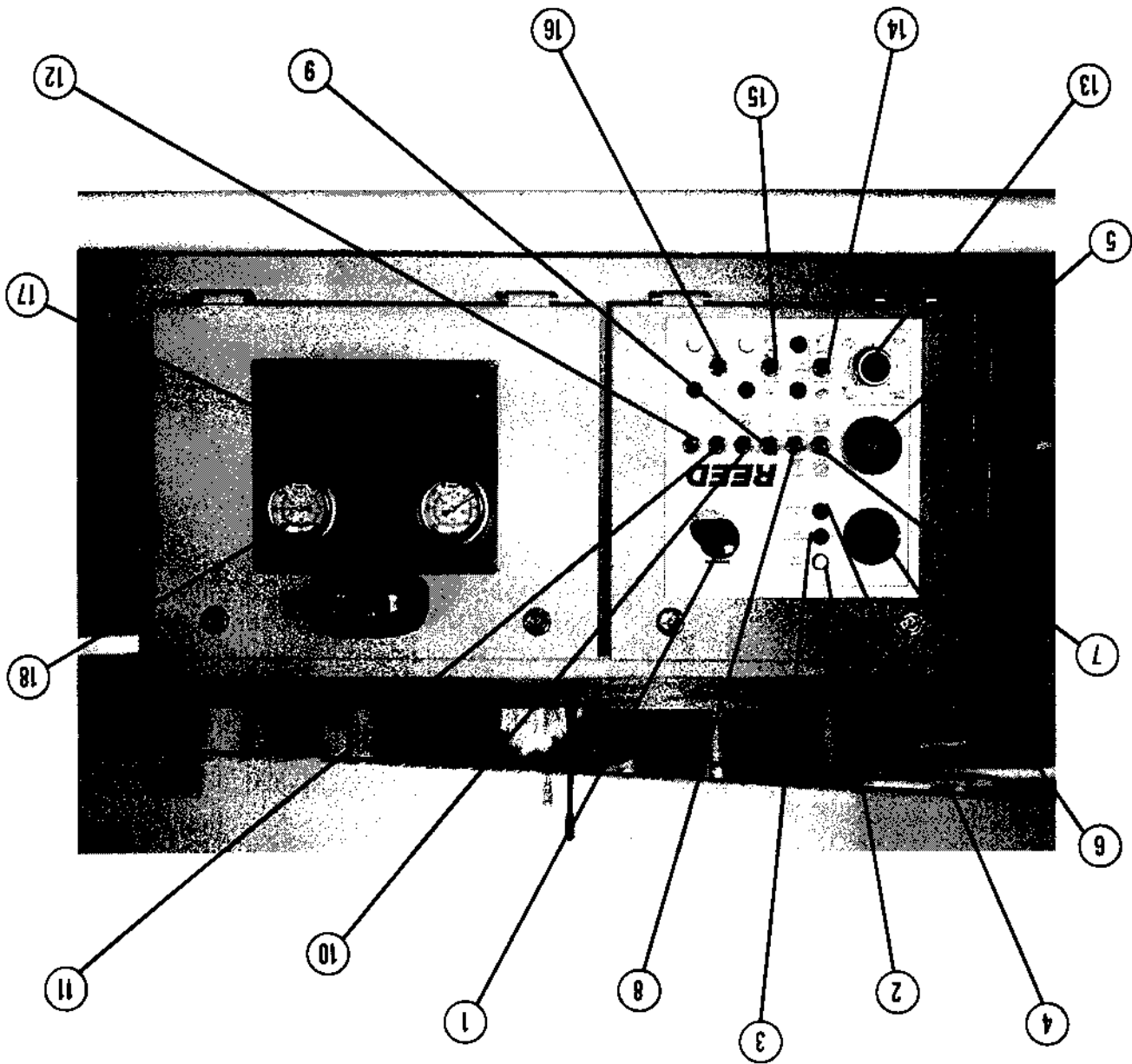
CONCRETE PUMP CONTROL FAMILIARIZATION

XXT42 TRUCK - MOUNTED CONCRETE BOOM PUMP



An indicator light used to denote that the PTO (Power Take-Off) is properly engaged and concrete pump system is **READY** for operation.

2. GREEN LIGHT - READY



This switch is used to shut down the complete operation of the concrete pump and boom in an emergency. **PUSH** red knob to **STOP** operation. **PULL** knob out to **RELEASE** or re-activate system.

1. EMERGENCY STOP SWITCH

XXT42 TRUCK - MOUNTED CONCRETE BOOM PUMP



This is a 2 position toggle switch used to turn on or off the work light located above hopper as well as the panel light. Switch in **DOWN** position light is **ON**. Place in **UP** position to turn light **OFF**.

9. LIGHT SWITCH

This is a two position toggle switch used to control the hopper grate vibrator unit. Place toggle in **UP-MANUAL** position for continuous operation of vibrator. With toggle in **DOWN-AUTO** position, vibrator will operate intermittently on a timing cycle.

8. VIBRATOR SWITCH

This is a 3 position momentary return to center position toggle switch. It is used to control and set the **THROTTLE** or **ENGINE** speed. Activate the toggle switch **UP** (+) and hold to **INCREASE** RPM; move toggle to **DOWN** (-) position and hold to **DECREASE** RPM. Speed of engine will be retained as set until reset. Center position of switch is neutral.

7. ENGINE RPM SWITCH

This instrument is used to indicate the hydraulic oil temperature.

6. OIL TEMPERATURE

This instrument is used to record the number of hours the concrete pump has cycled. It is only operable when the pump is cycling.

5. HOURMETER

This indicator light when lit, denotes the hydraulic fluid is overheated.

4. HYDRAULIC OVERHEAT LIGHT

This light when lit, is used to denote that one of the **E-STOP** switches has been depressed.

3. E-STOP INDICATOR



**XXT42 TRUCK - MOUNTED
CONCRETE BOOM PUMP**

This is a 2 position toggle switch used to control the cycle direction of the concrete pump. With toggle in **DOWN** position, the pump will operate in a **FORWARD** cycle. This will be indicated by a **LIT** light. Place toggle in **UP** position to operate pump in a **REVERSE** cycle. This will be indicated by **LIT** light.

15. PUMP DIRECTION SWITCH

This is 3 position toggle switch use to turn the concrete pump on-off or energizing the remote. With toggle in **CENTER** position, pump is **OFF** or not cycling. Place toggle in **DOWN** position to turn pump **ON** - cycling, which will be indicated by the **LIT** light. Place toggle in **UP** position - **REMOTE** to activate the remote system. In so doing, it will be indicated by a **LIT** light.

14. PUMP SWITCH

This is a potentiometer type control and is used to adjust and set the **OUTPUT** discharge volume of the concrete pump or the **SPEED** in which the pump is cycling. Note there are eight (8) position ranges indicated on the control decal. Position 1 is **LOW** speed; position 8 is **HIGH** speed.

13. PUMP VOLUME SWITCH

This is a 2 position momentary toggle switch control with the purpose of energizing or de-energizing (lockout) the outrigger circuit.

12. OUTRIGGER POWER CONTROL SWITCH

This is a 2 position momentary toggle switch used to activate the chassis horn for reactivation of system after **E-STOP** switch has been depressed.

11. HORN SWITCH

This is a 2 position momentary toggle switch used to interrupt the preset timing cycle of the lubrication system. The lubrication cycle is preset and will automatically start and stop as set. However, by moving toggle to **GREASE** position this will activate the system to pump when in between preset cycle.

10. GREASE SWITCH



The following controls are located on the right (curb) side of the chassis at the end right before the hopper.

NOTE

This switch is a three (3) position momentary switch used to test the operation of the material hydraulic cylinder labeled A or B. Turn switch to "A" position and hold. Cylinder will bottom out enabling pressure to be read on CYL gauge. The switch can also be used to JOG cylinders a little at a time for maintenance/repair operation.

19. TEST SWITCH

This hydraulic pressure gauge is a 3000 PSI gauge and is used to indicate the hydraulic operating pressure of the S-tube shifting circuit.

18. PRESSURE GAUGE - S-TUBE

This is a 6000 PSI hydraulic gauge and is used to indicate the pressure being applied to the hydraulic cylinder piston of CYL A or CYL B on the forward stroke.

17. PRESSURE GAUGE - CYLINDER "A" OR CYLINDER "B"

This is a 2 position toggle switch with a momentary position. The purpose of this switch is to manually shift the S-Tube from one cylinder to the other. In normal operation of the concrete pump, the S-tube is always shifted to the material cylinder which has been fully retracted. This action allows, on the pistons forward stroke, to push the material out through the discharge. However, in certain pumping situations, you may choose to change over from one cylinder to the other for maintenance and/or clean out purposes to expose the cylinder piston. When released, switch will return to NORMAL position causing S-tube to shift back.

16. S-TUBE SWITCH



These are controlled by a manually operated 2 spool hydraulic directional control valve. One section of the valve bank is used to control the agitator/remixer and the other is used to control the water pump.

- **AGITATOR** - This lever controls the rotation direction of the hydraulic drive motors used on the agitator, sometimes called remixer. With lever in the **VERTICAL** position valve is **OFF**. **PUSH** lever in direction of chassis bed to rotate agitator in a **CLOCKWISE** direction. **PULL** lever toward hopper to rotate agitator **COUNTERCLOCKWISE**.
- **WATER PUMP** - This lever is used to control the operation of the water pump, which draws water from water tank to hose. With lever in the **VERTICAL** position the water pump is **OFF**. Push lever in direction of chassis bed to **START** pump.

20. AGITATOR & WATER PUMP



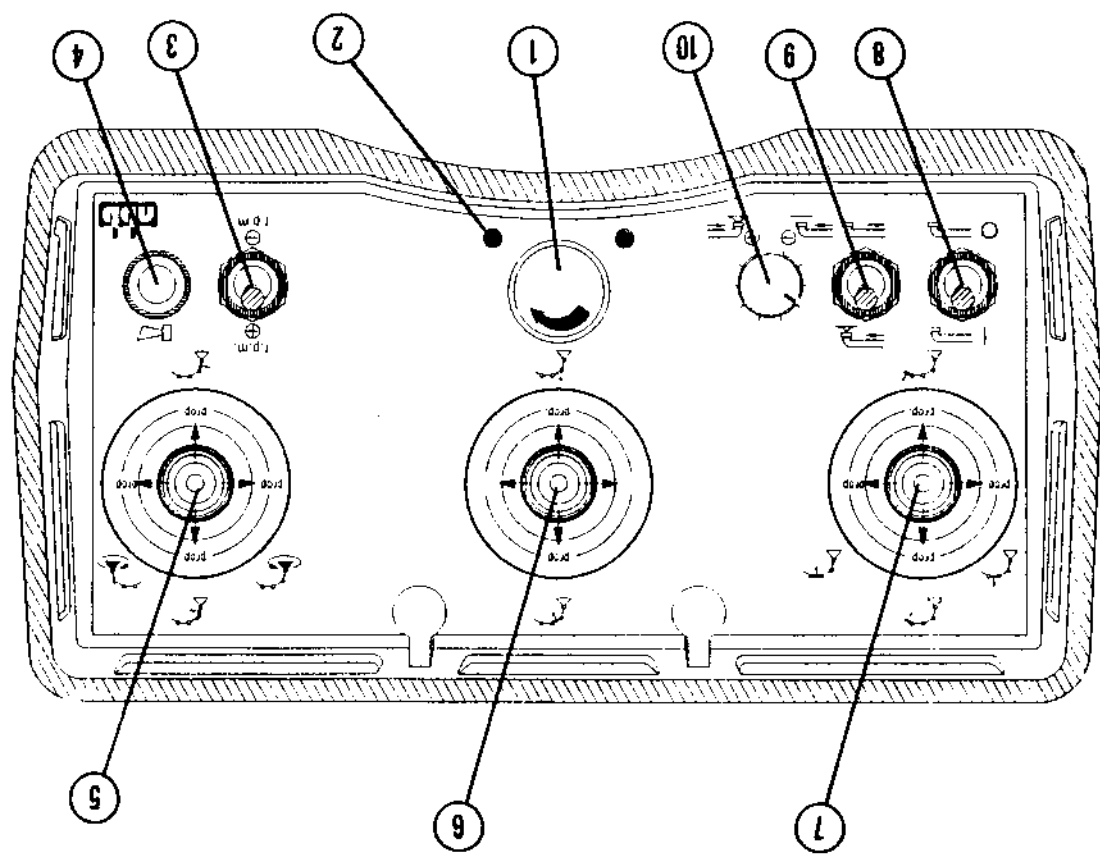
AGITATOR CONTROL LEVER

WATER PUMP CONTROL LEVER



This is a red colored knob switch and serves two (2) purposes. The primary purpose is to shut down the machine in an emergency situation. Depressing **PUSH** knob in will **STOP** operation of the unit. The switch is also keyed, with the key being part of the removable red knob. Once emergency switch has been depressed, it can only be released by **PUSHING IN** on knob and turning knob with key **CLOCKWISE**.

1. KEYED - EMERGENCY STOP SWITCH



A remote control console is provided and used to enable the operation of the boom functions and concrete pump operation away from the immediate vicinity of the chassis. The remote unit is easily portable in a lightweight console. A behind the neck carry strap is provided to facilitate the use of the remote control console with both hands. The console is connected to the chassis by a 25M (82 ft) umbilical electric cord with connector plugs at each end. A portable reel is provided to enable the cable to be stored during or after use.

REMOTE CONTROL FAMILIARIZATION (CABLE TYPE)



XXT42 TRUCK - MOUNTED CONCRETE BOOM PUMP

This lever is used to control the **MAIN (A) BOOM** and **ROTATION** of turret or turntable. The "A" boom lever movement is in a vertical up-down direction. Move lever back, **TOWARD** operator, to **RAISE** boom and forward, **AWAY** from operator, to **LOWER** boom.

The **ROTATION** lever movement is a side to side direction. Move lever to the **LEFT** for **COUNTERCLOCKWISE** rotation. Move lever to the **RIGHT** for **CLOCKWISE**.

5. BOOM "A" AND ROTATION

The following three (3) controls are used for operation of the boom functions. They are of the five (5) position momentary joystick type switch, meaning the lever must be held in position to keep the particular function activated and operational. Lever will automatically return to **CENTER** position when released and function will **CEASE** to operate.

NOTE

This is a momentary push button switch and is used to activate and sound the chassis horn for reactivating system after **E-STOP** has been depressed. **DEPRESS** button to sound horn, **RELEASE** to silence horn.

4. HORN

This is a three (3) position momentary return to center position toggle switch. It is used to control and set the **THROTTLE** or **ENGINE RPM**. Activate the toggle to **UP(+)** and hold to **INCREASE RPM**; move toggle **DOWN** to **DECREASE RPM**. Engine RPM will remain as set until once again reset. Center position of switch is neutral.

3. ENGINE RPM SWITCH

Two (2) small lights, one each side of emergency stop switch, are installed and used to indicate status of control. The **RED** light indicates **NON-OPERATIONAL** and **GREEN** light indicates **OPERATIONAL**.

2. INDICATOR LIGHTS

**XXT42 TRUCK - MOUNTED
CONCRETE BOOM PUMP**



6. BOOM "B"

This lever is used to control the function of the "B" or second boom. The direction of lever movement is vertical up-down. Move lever FORWARD, AWAY from operator, to LOWER, fold boom and BACK, TOWARD operator, to RAISE boom.

7. BOOM "C" AND BOOM "D"

This lever is used to control the operational functions of the "C" or third boom and "D" or fourth boom. The "C" boom lever is in a side to side direction. Move lever to the LEFT to RAISE boom and move to the RIGHT to LOWER boom.

The "D" boom lever movement is in a vertical direction. Move lever FORWARD, AWAY from operator, to LOWER boom and BACK, TOWARD operator, to RAISE boom.

8. PUMP SWITCH

This is a two (2) position toggle switch used to activate the concrete pump circuit. Move the toggle to UP position to START-UP pump and place toggle in DOWN position to SHUT-OFF pump.

9. PUMP DIRECTION SWITCH

This is a two (2) position toggle switch used to select the pumping direction of the concrete pump. Move toggle to UP position pump FORWARD, out of hopper and into delivery line. Move toggle in DOWN position to pump in REVERSE, drawing material in from the delivery line.

10. PUMP VOLUME CONTROL

This is a rotary type control and is used to adjust and set the OUTPUT discharge volume of the concrete pump or the speed in which the pump is cycling. Rotate knob CLOCKWISE to INCREASE output.



Your transmitter and receiver are a matched set and should not be mixed with other components without first consulting **REED**.

One of the features of the **NBB-REED** radio remote is the ability to program the output signals of the analog channels. This in turn presets the maximum operating speed of those functions that are based on speed. This is accomplished by using the "TEACH" battery and the 50%/100% switch.

The receiver unit is located on the chassis deck in a protected area under the pump control console. It's purpose is to receive the radio signal from the transmitter and turn this signal, using its electronics, into the means to operate the controlling valves and components of the boom and concrete pump.

The power for operation of the transmitter is provided by a 7.2-volt rechargeable battery that is stored in a compartment located on the transmitter. A full charged battery is of sufficient capacity to enable the transmitter to operate continuously for a period of approximately eight (8) hours. Indicator lights are provided to alert the operator that the battery is nearing exhaustion. The battery charger is mounted in the chassis cab and operates on the 12-volt chassis system.

The transmitter of the radio control contains the individual controls for operation of the boom movements and concrete pump operation. As a specific control is energized, a radio signal is generated and sent on a preset frequency to the receiver. The receiver is cable connected to the main junction box. This junction box contains the connections for the boom and pump operational functions.

PRODUCT DESCRIPTION

- Portable transmitter complete with halter, waist straps and two (2) rechargeable/replaceable batteries
- A receiver with multi-pole connecting cable
- Automatic battery charger

A radio control system is provided and used to enable the operation of the boom functions and concrete pump operation away from the immediate vicinity of the truck. The radio control system consists of a:

RADIO CONTROL FAMILIARIZATION

**XXT42 TRUCK - MOUNTED
CONCRETE BOOM PUMP**

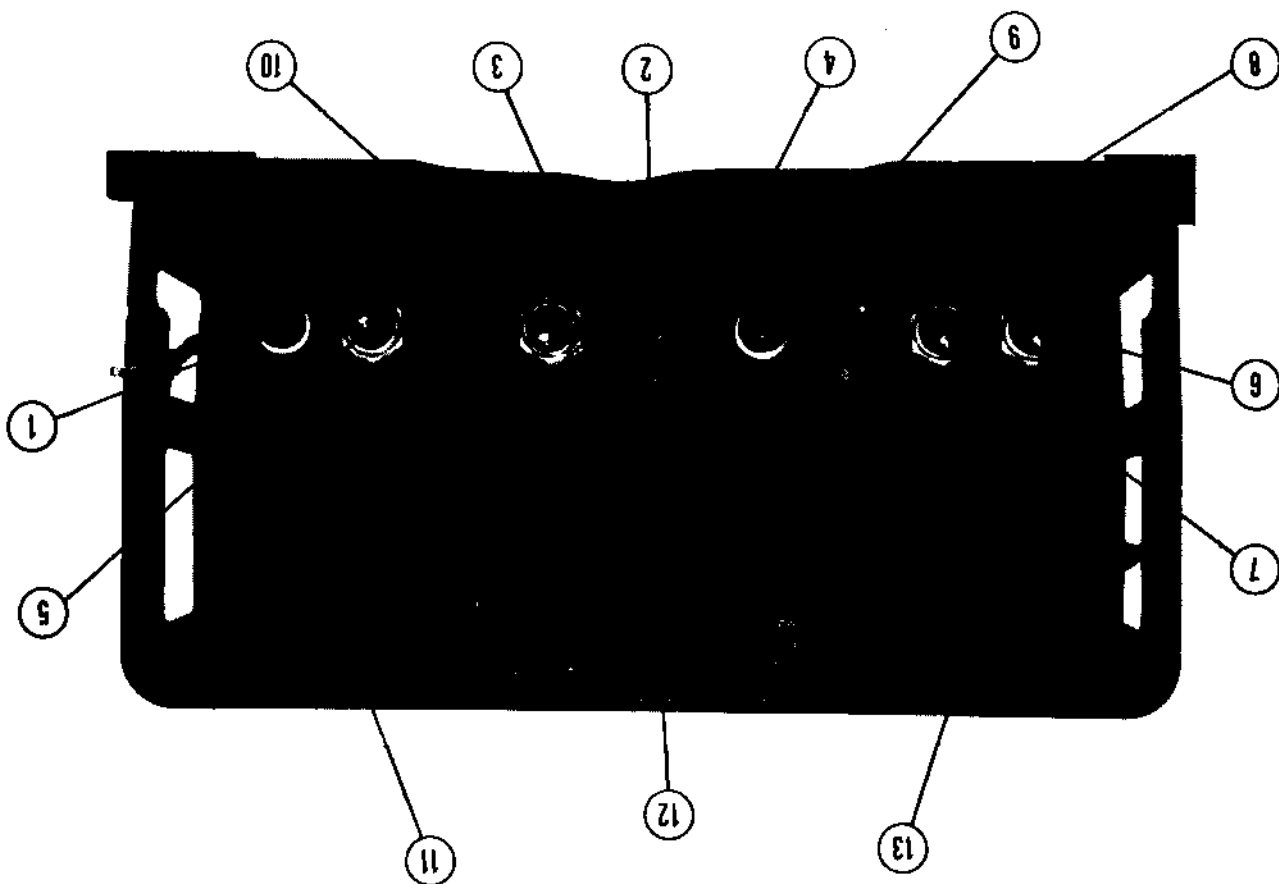


This is a red colored knob switch and serves two (2) purposes. The primary purpose is to shut down the machine in an emergency situation as well as de-energizing the radio control transmitter. Depressing **PUSH** knob **IN** will stop operation of the unit.

2. KEYED EMERGENCY STOP SWITCH

This is a push button switch and is used to turn "ON" the units main power system. After this function has taken place, then the button is used to activate the chassis horn as required for safety at work regulations.

1. ON/HORN (MASTER SWITCH)



It is important that you, the operator, know your machine and have a good understanding of the controls and the capabilities. The following will assist you in **GETTING ACQUAINTED** with the radio remote:

CONTROL FUNCTIONS

**XXT42 TRUCK - MOUNTED
CONCRETE BOOM PUMP**

