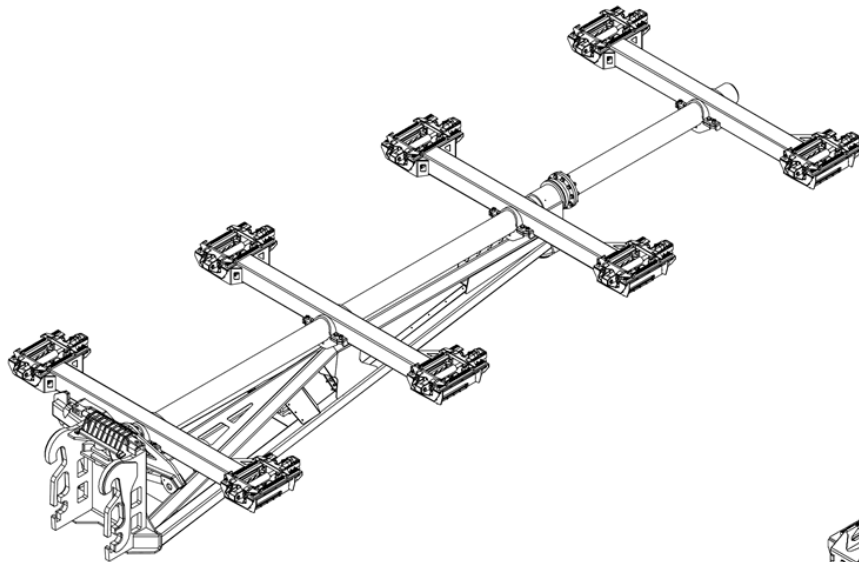
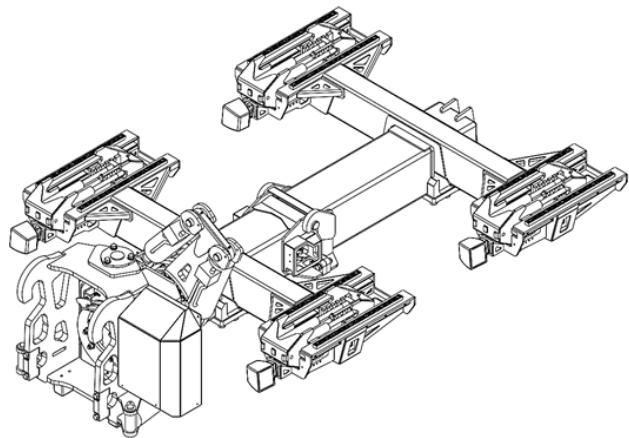


InnovaTech MezzMaster Series

EQUIPMENT SAFETY, OPERATION, AND MAINTENANCE



MZM-100



MZM-150

INNOVATECH
ENGINEERED TO DO MORE.

Mezzmaster | 100, 150, 110 Upfit

INNOVATECH, LLC | HC 65 PO BOX 218 | KANARRAVILLE, UT 84742

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InnovaTech Panelization System

Overview

The InnovaTech Panelization System is an industrial equipment solution designed to work in conjunction with other common construction equipment to create a safe and efficient workplace for employees involved in the erection of steel structures.

A key piece of equipment involved in the InnovaTech Panelization System is the InnovaTech MezzMaster. This equipment is paired with standard material handling equipment such as telescopic boom forklift handlers, and cranes, as well as welding equipment strategically positioned to streamline the assembly of panelized building modules. So, utilizing assembly line principles, worker safety and efficiency is vastly improved.

The telescopic handler fitted with the MEZZMASTER is best utilized by working in conjunction with the InnovaTech Panelization Table for templating and constructing the mezzanine floor modules and roof modules. Once a module is assembled on the Panelization Table (PT-100 or newer), the telescopic handler positions the MezzMaster underneath the module to lock onto the crossbeams or joists which are temporarily being supported by the Panelization Table. Paired with the standard movements of the telehandler, the navigation of the boom forklift to the location of installation is eased by the MezzMaster being able to position the roof or floor module at an angle sideways to maneuver between columns, as well as raising the module up between columns to the point of installation. The MezzMaster attachment is designed to firmly lock onto each cross beam or truss and act as support while module is raised to its mounting position within the pair of girders. In addition to the standard boom rotation, the MezzMaster is designed with an additional pivot motion that is used to further enhance the ability to position the module for final alignment and bolting.



InnovaTech MezzMaster

The MezzMaster is a jib attachment for a telescopic handler, which provides additional capability to lock onto and handle a beam(s) or joists that are pre-constructed to form a module. The module is typically composed of two or more I-beams arranged at a set spacing with corrugated steel deck sheets attached to the top flanges. The jib is adjusted to match the spacing and number of the beams composing the module. It is especially designed to lock onto the module at the lower flanges of each I-beam and raise by means of the tele-handler boom, navigate to position, and fine-tune its position for bolting and to the building columns and girders.

By traditional erection methods, a crane or telescopic handler must raise or hoist individual joist cross beams into position where a worker must install structural fasteners to each end of the joist cross beam, attaching them to girders supported by the building columns. After a sufficient number of joist cross beams are installed, a decking crew would then receive a load of corrugated decking material via crane or boom forklift and spread and fasten the decking material over the cross beams. It is apparent that this method is a dangerous and laborious task. Great physical labor is required in climbing to position, and bolting cross beams, as well as shifting and attaching the decking. Both tasks expose a number of workers to a serious fall risk.

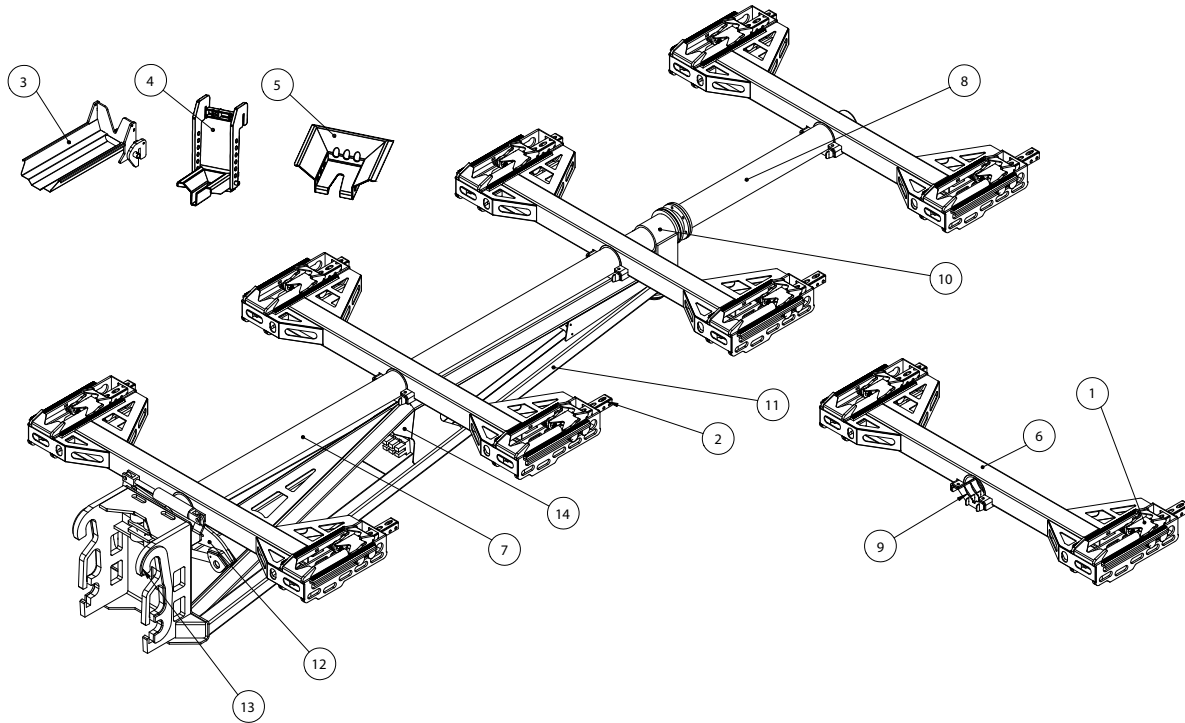
The MezzMaster is designed to enable the performance of the most of this operation with crew and materials at ground level, which reduces the number of workers to fall risks, increases efficiency, and lowers the labor requirements.

Safety Features

The main aspect of safety centers around the ability of the MezzMaster to lock onto the I-beam sets that it will be handling.

- The hydraulic circuit controls will not allow deactivation of the clamp action if the MezzMaster is not level.
- Each hydraulic cylinder has a pressure switch monitor which ensures a tightly engaged clamp position.
- An LED light indicates to the operator when the clamp is engaged or disengaged.

Nomenclature MZM-100



1. **Beam Clamp** - The adjustable clamping mechanism for attaching to, and handling an I-beam or Open-web Roof Joist of the roof or mezzanine panel.
2. **Beam Clamp Adjustment** - A weldment with adjustment points that set the jaw opening length of the Beam Clamp (1).
3. **Beam Pocket** - The spring loaded I-beam cradle bracket that attaches in pairs to the Panelization Table equipment.
4. **Clamp Arm** - The weldment that attaches anywhere along the Clamp Arm Axle (7) to which Beam Clamps (1) are attached.
5. **Clamp Arm Axle** - A large tube with a keyway that swivels and rotates the array of Clamp Arms (6).
6. **Clamp Arm Axle Extension** - An accessory that extends the number of Clamp Arms (6) that can be installed and total reach of the jib.
7. **Clamp Arm Axle Clamp** - The saddle clamp that fastens the Clamp Arm (7) to the axle and aligns the arm to the keyway of the Clamp Arm Axle.
8. **Clamp Arm Axle Pivot Assembly** - The load-bearing and pivot point for the lateral motion of the panel being handled.
9. **Axle Torque Arm** - The mechanical lever that attaches to the hydraulic cylinder to power the rotary motion of the Clamp Arm Axle (5).
10. **Quick Connect Coupler** - The attachment point of the MezzMaster that connects to the telehandler.
11. **Jib Frame** - The structural frame that supports the load of the panel.
12. **Hydraulic Valve Bank** - The electrically controlled hydraulic valve assembly powering the cylinders.

Specifications MZM-100

Dimensions, weights, and capacities are listed below.

Description	Base	Extended
Transport Weight	3'725 lbs.	4'225 lbs.
Hydraulic System	Auxiliary Hydraulic (Power Source from Telehandler)	*
Lift Capacity	15'000 lbs.	10'000 lbs.
Overall Length	16 ft. 8 in	18 ft.
Overall Width	8 ft. 4 in	8 ft. 4 in
Overall Height	2 ft. 11 in	2 ft. 11 in
Clamp Arm Axle Rotation Angle	-7deg / 45deg	*
Clamp Arm Pivot Angle	4.75° (9.5 in L/R stroke @ quick connect)	*
Beam Clamp Assembly Weight	400 lbs.	*
Clamp Arm Axle Extension Weight	150 lbs.	*
Beam Clamp Jaw Capacity	4.5 in (adjustable 2 in increments from 4,6,8,10,12, and 14-inch flange sizes) (8 in stroke)	23 in
Quick Connect Type	Xtreme MFG. Telescopic Handler XR-3034, XR-2450	*

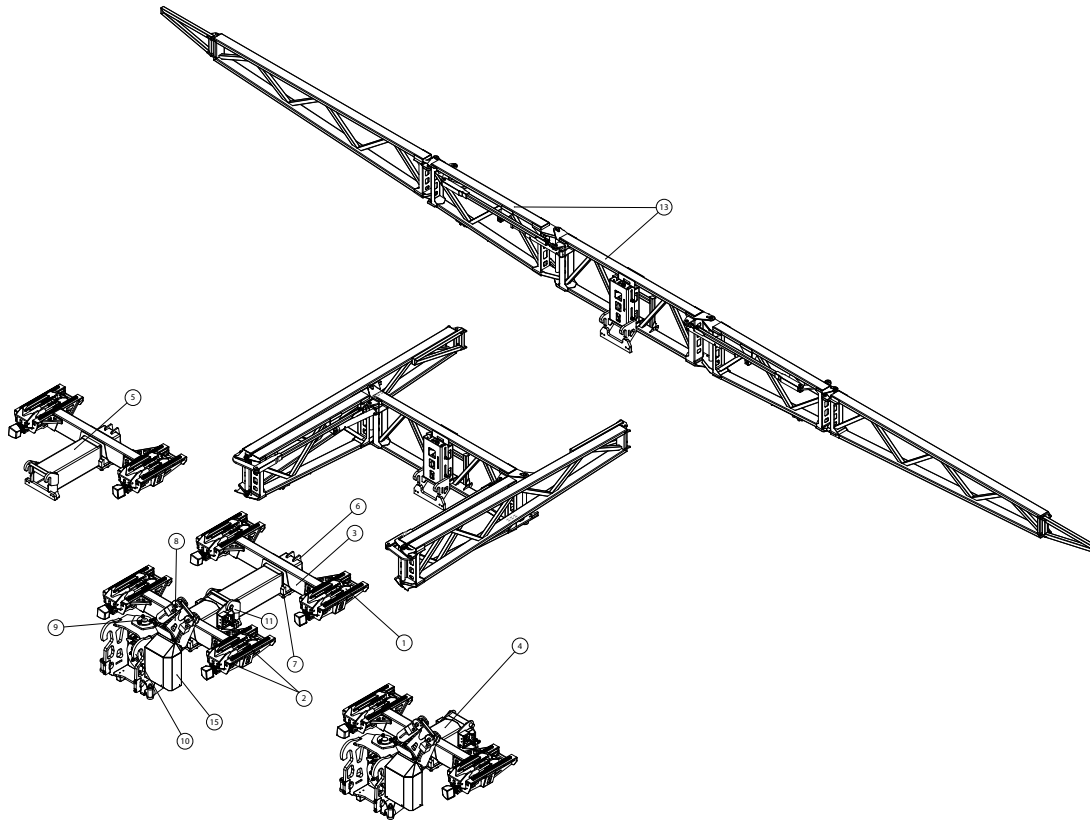
*not applicable to configuration

Mezzmaster Upfit 110

Differences of Upfit 110 in dimensions, weights, and capacities are listed below.

Description	Base	Extended
Transport Weight	4'100 lbs.	4'650 lbs.

Nomenclature MZM-150



1. **Beam Clamp** - The adjustable clamping mechanism for attaching to, and handling an I-beam or Open-web Roof Joist of the roof or mezzanine panel (Item 1 MZM-100).
2. **Beam Clamp Adjustment** - A weldment with adjustment points that set the jaw opening of the Beam Clamp (1).
3. **Clamp Arm** - The weldment that attaches anywhere along the Clamp Arm Axle (4) to which Beam Clamps (1) are attached.
4. **Clamp Arm Axle** - A large tube with a keyway that swivels and rotates the array of Clamp Arms (3).
5. **Clamp Arm Axle Extension** - An accessory that extends the number of Clamp Arms (3) that can be installed and total reach of the jib.
6. **Clamp Arm Axle Clamp** - The saddle clamp that fastens the Clamp Arm (7) to the axle and aligns the arm to the keyway of the Clamp Arm Axle.
7. **Clamp Arm Axle Shaft Extension Pick Point** - A feature for raising materials or other items utilizing rigging.
8. **Clamp Arm Axle Pivot Assembly** - The load-bearing and pivot point for the lateral motion of the panel being handled.
9. **Axle Torque Arm** - The mechanical lever that attaches to the hydraulic cylinder to power the rotary motion of the Clamp Arm Axle (5).
10. **Quick Connect Coupler** - The attachment point of the MezzMaster that connects to the telehandler.
11. **Jib Arm Axle Shaft Extension Quick Connect** - Quickly change coupler for changing between accessories.
12. **Deck Support Quick Connect** - Quickly change coupler for changing between accessories.
13. **Deck Support Arms** - Surface supporting mezzanine decking attached to a single beam module configuration.
14. **Deck Support Assembly** - Accessory designed to support decking of single beam module configurations.
15. **Automation Control Box** - Contains automation hardware for activating various functions controlling the Mezzmaster.

Specifications MZM-150

Dimensions, weights, and capacities are listed below.

Description	Base	Extended	Deck Support
Net Weight	4'100 lbs.	4'650 lbs.	5000 lbs.
Hydraulic System	Auxiliary Hydraulic (Power Source from Telehandler)	*	*
Lift Capacity	12'500 lbs.	*	*
Overall Length	6 ft 3 in	11 ft 2 in	7 ft 6 in
Overall Width	3ft 10 in	7 ft 6 in	Folded - 10 ft 6 in Extended - 55 ft 4 in
Overall Height	4 ft	*	*
Clamp Arm Axle Rotation Angle	-10deg / +60deg	*	*
Clamp Arm Pivot Angle	25deg Overall Motion	*	*
Beam Clamp Assembly Weight	750 lbs.	*	*
Clamp Arm Axle Extension Weight	365 lbs.	*	*
Clamp Arm Axle Extension Pick Point Lift Capacity	*	Limited 5000 lbs.	*
Deck Support	1800 lbs.	*	*
Beam Clamp Jaw Capacity	Adjustable 1.5-inch increments from 8-inch through 18-inch flange sizes (8 in stroke)	*	*
Quick Connect Type	Xtreme MFG. Telescopic Handler XR-3034, XR-2450	*	*

*not applicable to configuration

MZM-150 Deck Support Assembly

This assembly is to mounted and operated for single I-beam panel configurations which requires decking to be supported during delivery procedures.

Safety

This equipment was specifically designed to enhance safety in the steel construction work environment. InnovaTech endeavors to maintain a positive reputation in the industry by preventing accidents and creating a safe, efficient, and productive work environment.

Pre-Task Safety Analysis

Although the MezzMaster is designed to enhance safety, it remains important for workers to carefully analyze the work to be performed. Identifying work methods, planning actions, communicating clearly, maintaining a positive attitude, teamwork, and compliance to worksite authority, all contribute to a safe worksite.

Use of the MezzMaster should be included in a steel erection pre-task safety analysis at the beginning of each shift. Some topics to consider during pre-task safety analysis may include weather conditions, worksite surface conditions, underground features, site specific plans, and restricted access zones. This Equipment Operation and Maintenance Manual provides information needed to safely operate the MezzMaster. This manual should be considered an appurtenant part of the MezzMaster, and kept in the protective enclosure located with the MezzMaster.

Notice

This Safety, Equipment Operation and Maintenance Manual provides information needed to safely operate the MezzMaster. This manual should be considered an appurtenant part of the MezzMaster, and kept in the protective enclosure located on the attachment.

Before operating the MezzMaster, read this operators manual completely and carefully to understand the safety instructions and the operation of controls and safety equipment. You must comply with all DANGER, WARNING, and CAUTION notices. Refer to the Safety Markers section for detailed information on safety marker definitions.

Safety information provided in this manual is a basic guide to help improve safety and prevent accidents. InnovaTech Products cannot foresee every circumstance that might involve a potential hazard. Warnings in this manual and on the MezzMaster do not encompass all potential safety hazards. You are responsible for safe operation of the Panelization System and all attachments. You must satisfy yourself that the techniques, operating procedures, work methods, and systems are safe and will work for your situation.

The safety of everyone around the for MezzMaster depends significantly on your knowledge and understanding of all correct and safe operating practices and procedures. You can help prevent accidents by remaining alert and recognizing potentially hazardous situations.

Follow State and Federal health and safety rules and/or local regulations for operating and maintaining the MezzMaster. This manual does not replace any laws and regulations. The operator is required to comply with all applicable laws and regulations.

Safety Markers

Safety Markers are provided to remind the operator of hazardous situations. InnovaTech Products provides these symbols to help inform all operators, regardless of reading and language skills, of as many potential hazards as possible. These symbols cover many, but not all, potential dangers and hazards associated with operating the MezzMaster.

Make safety the priority while operating the MezzMaster. Learn and follow all safety messages in this manual and on MezzMaster labels to prevent death, serious injury, or equipment damage.

The following pages include a list of some of the safety symbols that may be used on this MezzMaster.



THIS IS THE SAFETY ALERT SYMBOL. IT IS USED TO ALERT YOU TO THE POTENTIAL PERSONAL INJURY HAZARDS. OBEY ALL SAFETY MESSAGES THAT FOLLOW THIS SYMBOL TO AVOID POSSIBLE INJURY OR DEATH.

CAUTION

INDICATES A POTENTIALLY HAZARDOUS SITUATION. IF NOT AVOIDED, MAY RESULT IN MINOR OR MODERATE INJURY. IT MAY ALSO ALERT AGAINST UNSAFE PRACTICES. THIS DECAL WILL HAVE A YELLOW BACKGROUND.

WARNING

INDICATES A POTENTIALLY HAZARDOUS SITUATION. IF NOT AVOIDED COULD RESULT IN SERIOUS INJURY OR DEATH. THIS DECAL WILL HAVE AN ORANGE BACKGROUND.

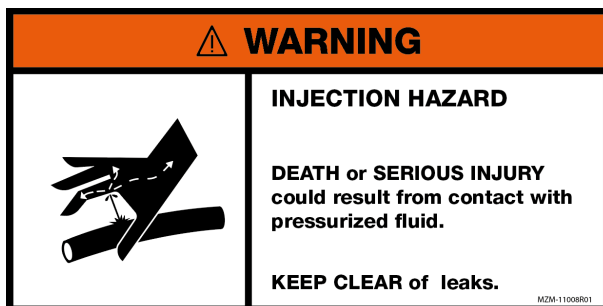
DANGER

INDICATES AN IMMINENTLY HAZARDOUS SITUATION. IF NOT AVOIDED, WILL RESULT IN SERIOUS INJURY OR DEATH. THIS DECAL WILL HAVE A RED BACKGROUND.

Hazards

Here is a list of potential hazards to consider. Listed hereafter are various warning decals that may be affixed to the MezzMaster:

- Hydraulic Leak Injection. Pressurized fluid streams are dangerous and potentially lethal.
- Overhead/Suspended Loads. Avoid bringing loads above where people are standing or working.
- Unbalanced Load. Before handling a load, follow procedures to best determine the center of gravity of the load.
- Beam Clamps not connected, adjusted improperly, or jammed/inactive.
- Collision Hazards. Avoid sudden changes of direction and keep within established travel zones.
- Pinch Points. Moving components can pose a hazard to yourself and others.



Operator Qualifications

All operators must be trained before operating the MezzMaster. Training standards must be approved by InnovaTech. Operators must use the MezzMaster according to ALL appropriate safety regulations. Operator trainees must remain under constant observation and supervision of an experienced operator. Operators must be in good physical and mental condition, with appropriate reflexes, reaction time, vision, depth perception, and hearing.

Operators must read this manual completely and carefully to understand the safety instructions and the operation of controls. A brief description of controls, indicators, and instruments are provided as a convenience for the operator. These descriptions DO NOT provide complete operation instructions, and should not be substituted for proper operator training.

Operators must have the required training, skills, and tools to perform installation, operation, maintenance, or repair procedures properly and safely. The operator is responsible to operate and maintain the MezzMaster (and attachments) according to manufacturer's instructions.

If any doubt or question arises about the correct or safe methods for operating the MezzMaster, operators must not proceed until obtaining expert assistance from a qualified person.

Operators must understand and comply with all DANGER, WARNING, and CAUTION notices. (Refer to the Safety Markers section for detailed information on safety marker definitions.)

WARNING



The Panelization System is potentially dangerous if proper safety procedures are not followed. Workers who operate, maintain, or work near the MezzMaster can be at risk of run over incidents or can be crushed or caught by the MezzMaster or its parts which could result in death or serious injury if the MezzMaster is not properly operated or maintained.

Read the Operation and Safety Manual BEFORE operating the MezzMaster. Follow all safety instructions and labels. Only operate the MezzMaster if you understand the safety instructions and warnings in all applicable manuals and technical publications. Always follow all State and Federal health and safety laws and/or local regulations. You must have the required training, skills, and tools to perform installation, operation, maintenance, or repair procedures properly and safely. Make sure the MezzMaster and attachments will not be damaged or made unsafe by any procedures you choose.

BEFORE operating the MezzMaster, do the following:

- Read the Operation and Safety Manual
- Read all the Safety Labels on the MezzMaster
- Clear all people out of the way of any moving parts
- Establish an erection path and restricted access zone

Educate yourself and practice safe use of the MezzMaster controls in a safe, clear area, BEFORE you operate this MezzMaster on a worksite.

It is your responsibility to observe applicable laws and regulations and to follow the manufacturer's instructions on the MezzMaster operation and maintenance.

Personal Protection Equipment (PPE)

PPE should be utilized according to the type of work and environmental conditions a worker is exposed to. These items may include reflective vests, gloves, helmets, eyewear, face shields, hearing protection, respiratory protection, and fall protection.

Pre-Operation Inspection Checklist

Perform a pre-operation inspection and functional tests at the beginning of each work shift. Perform the Visual Inspection first. Visual Inspection must be performed while Mezzmaster is disconnected from telehandler. **DO NOT** perform the pre-operation inspection with the engine running or hot. Contact with moving or heated parts could cause death or serious injury.

- Perform the pre-operation inspection and functional tests in an open area and away from any other obstacles or equipment. Inspections and functional tests may require assistance. Keep the assistant visible and a safe distance from the MezzMaster to prevent death or serious injury.
- Become familiar with all safety and hazard labels, regulations, and procedures. Make sure all proper safety and hazard labels are attached to the MezzMaster and remain legible.
- A brief description of controls, indicators, and instruments is provided as a convenience for the operator. These descriptions **DO NOT** provide complete operation instructions.
- Read and understand the entire manual to prevent death, serious injury, or equipment damage.
- Keep fingers and feet away from moving parts or pinch points to prevent pinching or crushing. **DO NOT** allow anyone between the tires and the MezzMaster frame while operating the MezzMaster. Doing so can result in death or serious injury.

Visual Inspection

Walk around the **ENTIRE** MezzMaster while visually performing the pre-operation inspection.

- Verify "Do Not Operate" tags (lock-out, tag-out) have not been placed on the MezzMaster.
- Verify Operation and Safety Manual is in the protective case and legible.
- Check for loose or missing bolts and nuts.
- Check hydraulic reservoir sight gauge on the tele-handler for proper fluid level. Add hydraulic fluid, if necessary.
- Check for fluid leaks.
- Check electrical wires and connectors.
- Check that all labels are present and legible. Replace any damaged or illegible labels.
- Check for cracks or bent members
 - Main frame
 - Clamp arms
 - Torque arms and cylinder connect points
- Inspect cabling and hoses for snags and kinks

Functional Test

- Unclamp and tilt (verify safe clamp)
- Test clamp, tilt, and swivel actions (observe full motion)

Modifications

WARNING

Modifications to the MezzMaster or attachments could affect capacity and/or stability which could result in death or serious injury. **DO NOT** make modifications to the MezzMaster or attachments without prior written approval from InnovaTech, LLC. Where such authorization is granted, capacity, operation, and maintenance instruction plates, tags, or labels shall be changed accordingly.

- Unauthorized modifications or alterations will void the warranty.
- **DO NOT** modify, disable, or bypass any safety devices.
- **DO NOT** burn or drill holes in attachments.

Connecting/Disconnecting

WARNING

Failure to use proper safety procedures when connecting and disconnecting the MezzMaster could result in death or serious injury.

- Keep connections clear of dirt, mud, snow, ice, debris, and other hazards.
- **DO NOT** climb beneath equipment without proper support columns in place.
- **DO NOT** use the controls as hand holds or steps. Avoid accidentally engaging or disengaging a control.
- **DO NOT** jump from the MezzMaster. Clothing can get caught. Landing on uneven surfaces could result in death or serious injury.

Worksite Safety

WARNING

Use proper safety procedures and avoid hazardous situations while operating the MezzMaster to prevent death, serious injury, or property damage.

- Keep the work site clear of any hazards while operating the MezzMaster.
- Check the work area for debris, drop-offs, loose soil conditions, and overhead power lines, and temporary bracing.
- Follow load charts to ensure stability.
- Know about underground hazards.
- **DO NOT** allow bystanders in the work area.
- Follow established site-specific safety plans for erection paths on the work site.
- Follow work site signs and signals.
- Stop for poor visibility conditions, such as dust, smoke, fog, etc. Wait until visibility improves before continuing.
- Operate the MezzMaster in an enclosed area only if there is a ventilation system capable of routing hazardous fumes outside. Engine exhaust contains products of combustion that could cause death or serious injury.

- **DO NOT** operate the MezzMaster if you are using drugs, alcohol, or any medication that might impair your judgment or ability.
- You must be 18 years of age or older to operate the MezzMaster.

WARNING

Check warning indicators and gauges frequently during operation. If a warning indicator is illuminated or a gauge shows abnormal readings, stop use of the MezzMaster, follow proper shut down procedures. Have a qualified mechanic service or repair the MezzMaster before placing it into service again. Ignoring warning indicators can result in death, serious injury, or property damage.

Maintenance

Follow the manufacturer's instructions for proper maintenance to make sure the MezzMaster continues to meet manufacturer's specifications. Failure to properly maintain the MezzMaster can result in improper performance, which could cause death, serious injury, or property damage.

- Before performing any maintenance or repair, **completely disconnect Mezzmaster from telehandler.**
- **DO NOT** operate the MezzMaster attachment if it requires repair.
- Make sure basic maintenance is completed and service problems are corrected.
- Death or serious injury can result from operating the MezzMaster before all repairs have been made and all proper maintenance is completed.

Support Equipment

In conjunction with the Panelization System, workers should adhere to the safety requirements and the proper operation and maintenance of support equipment such as welders, fastening tools, lifting equipment, material handling equipment, etc., as well as maintaining a realistic understanding of your own physical strength and endurance.

Setup

A general overview describing steps to follow before utilizing the MezzMaster Jib attachment.

Connecting/Disconnecting

All hydraulic and electrical communication connections are contained within the cavity of the Jib Attachment Quick Connect. When making connections and attaching the MezzMaster to the telehandler, be sure all cables and hoses are routed properly to avoid damage. Insert all locking pins back into their proper positions.

NOTE: Change-Over 2-Position Switch must be actuated according the accessory attached to the telehandler.
See Auxiliary Controls table.

Beam Clamp Setup MZM-100, MZM-150

Installation of the Beam Clamps should be performed by someone who is trained in this procedure. Care must be given to position the Jib Arms according to the layout of the building module. Carefully set the distance between the proper number of Beam Clamps to match the required layout. The weight of the Beam Clamp Assembly is approximately 400 lbs. Use proper rigging techniques during setup. Be sure all Jib Arm Clamp Saddles are secure. Test all controls and connections before proceeding with material handling. Before raising first panelized module, visually inspect each Beam Clamp to assure that each is securely locked onto the I-beams. Set the size adjustment of the Beam Clamps to match the width of the flange of the I-beam being handled. See decal below for size range.

⚠ Warning: Failure to test connections and verify jaw pin settings could result in Beam Clamps not being connected, adjusted properly, or jammed/inactive, leading to possible equipment damage, severe injury, or death.

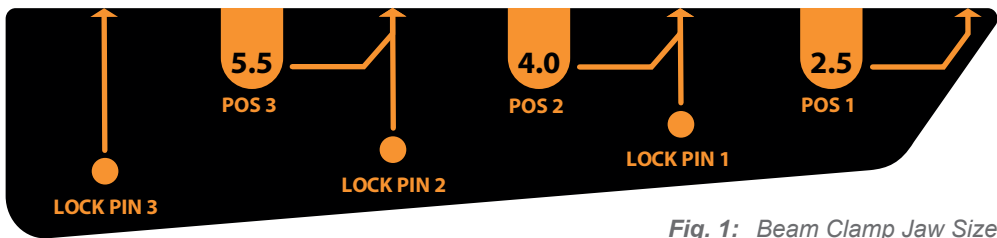


Fig. 1: Beam Clamp Jaw Size Decal

Operation

Auxiliary Switches

MZM-100

There are two switches located within the operator cab of the telehandler. The Beam Clamp Auxiliary Switch is located near the Joystick Controls for convenient and safe activation of the Beam Clamp positions. The Change-Over Auxiliary Switch is located below the driver controls. The Change-Over Switch performs the function of disabling the controls associated with the MezzMaster and routes the controls to the four-way switch of the joystick to operate the Swing Carriage Attachment (see Joystick Controls table).

Description	Action 1	Action 2
Clamp (2 Position Switch)	Position 1: Beam Clamps Engaged (Green LED on Joystick)	Position 2: Beam Clamps Disengaged (Red LED on Joystick)
Change-Over (2-Position Switch)	Position 1: MezzMaster Jib	Position 2: Swing Carriage

MZM-150

Description	Action 1	Action 2
Change-Over (2-Position Switch)	Position 1: MezzMaster Jib	Position 2: Swing Carriage
Clamp (2 Position Switch)	Position 1: Beam Clamps Engaged (Green LED on Joystick)	Position 2: Beam Clamps Disengaged (Red LED on Joystick)
Deck Support	Position 1: Fold for return travel	Position 2: Extend for decking support and delivery
Lighting	Position 1: Up = ON	Position 2: Down = OFF

MZM-100, 150

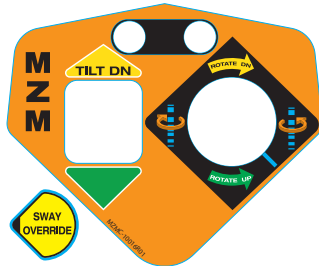


Fig. 2: Joystick Controls Decal



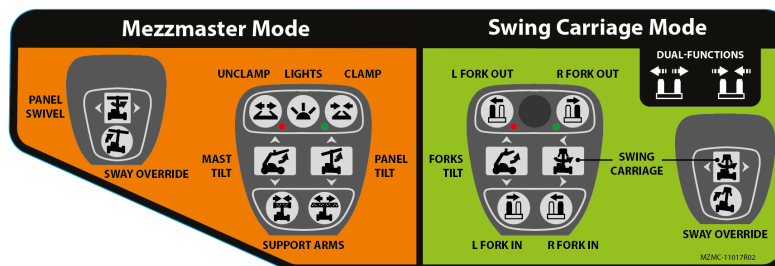
Fig. 3: MZM-100 Needle Indicator Decal (affixed to jib attachment quick connect)

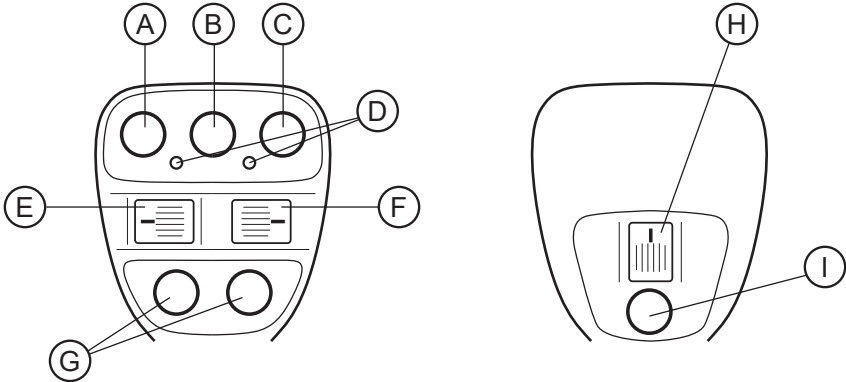
Description	Action	Action 2
2-way Rocker Up	Tilt MezzMaster Jib Down	
2-way Rocker Down	Tilt MezzMaster Jib Up	
4-way Rocker Up	Rotate Panel Down (CW)	
4-way Rocker Down	Rotate Panel Up (CCW)	
4-Way Rocker Left	Swivel Panel Left, (Needle Indicator Left) (CW)	Swing Carriage Attachment, Left
4-Way Rocker Right	Swivel Panel Right, (Needle Indicator Right) (CCW)	Swing Carriage Attachment, Right
Trigger Push-Button	Telehandler Carriage - Sway Override	
Green LED Indicator	Beam Clamps Engaged	
Red LED Indicator	Beam Clamps Disengaged	

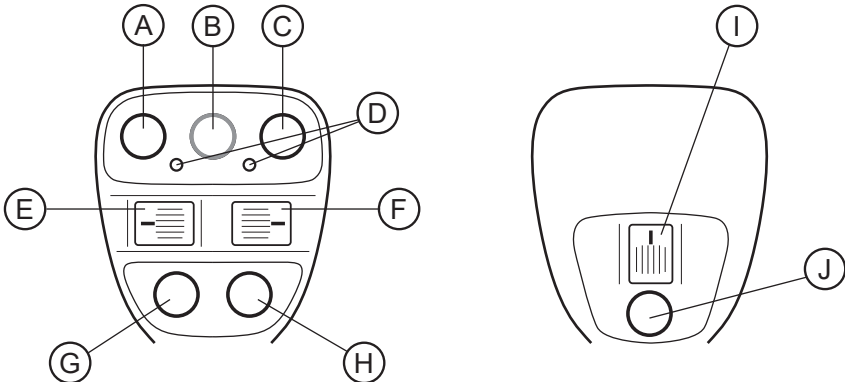
Mezzmaster Upfit 110

The MZM110 joystick control has two modes: Mezzmaster and Swing Carriage. The appropriate mode is automatically engaged when attachment is installed on telehandler.

Note: The MZM110 joystick has capacitive touch sensor in handle that affects the “Unclamp” button, meaning joystick must sense hand on handle for unclamp function to be active. If glove is worn, gently squeeze joystick handle to activate sensor.



Mode	Button Actions
Mezzmaster	
	A. Unclamp (hold for 2 sec)
	B. Mezzmaster lights
	C. Clamp
	D. LED indicators (see LED Light Patterns section below)
	E. Mast Tilt
	F. Panel Tilt
	G. (no action in this mode)
	H. Panel Swivel
	I. Sway Override

Swing Carriage	
	A. Left Fork Slide Right
	B. (no action in this mode)
	C. Right Fork Slide Left
	D. LED indicators (see LED Light Patterns section below)
	E. Forks Tilt
	F. Swing Carriage
	G. Left Fork Slide Left
	H. Right Fork Slide Right
	I. Swing Carriage
	J. Sway Override

LED Light Patterns

Pattern	Definition
Green on solid	Fully clamped
Red on solid	Fully unclamped
Wig-wag (red-green-red-green)	Transition between clamp and unclamp
Red flashing fast, green on solid	Unclamp not allowed
Both red and green flash (1 sec flash cycle)	Unknown clamp condition, typical start-up state

Red flashing (x2/sec)	Unsafe condition Unclamp attempted when panel is tilted beyond 15° (Mezzmaster will not unclamp in this state)
LED lights inactive	Swing Carriage Mode active

Panel Tilt Safety Feature

To ensure the safety of the Panel Tilt function, the Mezzmaster is programmed to stop the operator from handling panels if the proximity sensor has failed.

If you see this: Red LED, Green LED, and main light simultaneous 1/4 sec flash pattern	Do this: Engage and hold Panel Tilt UP for 30 seconds. When safe, unclamp from panel. When unclamped, main lights will stop blinking. If reclamped, main lights will start blinking again. If failed sensor has been replaced, power cycle
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Mezzmaster Upfit 110 Hydraulics

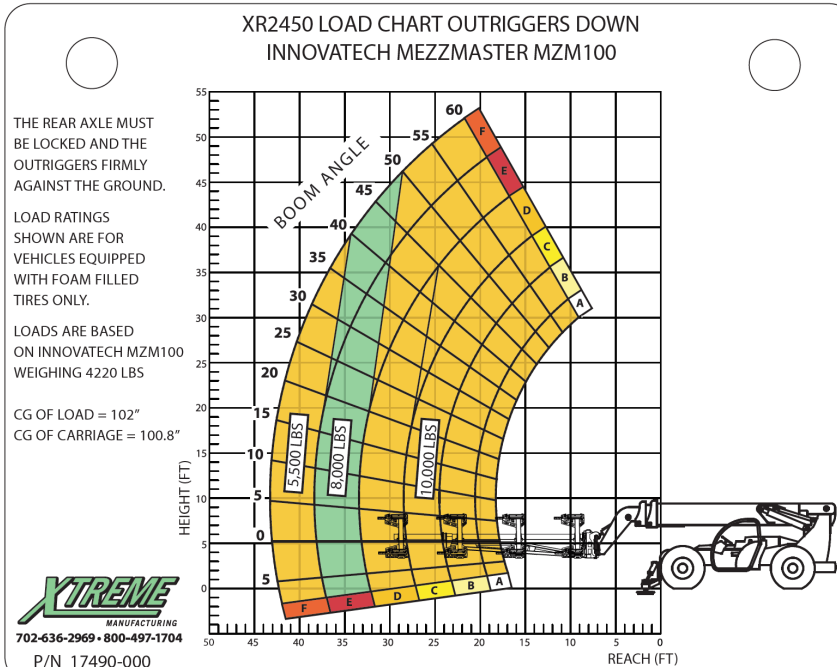
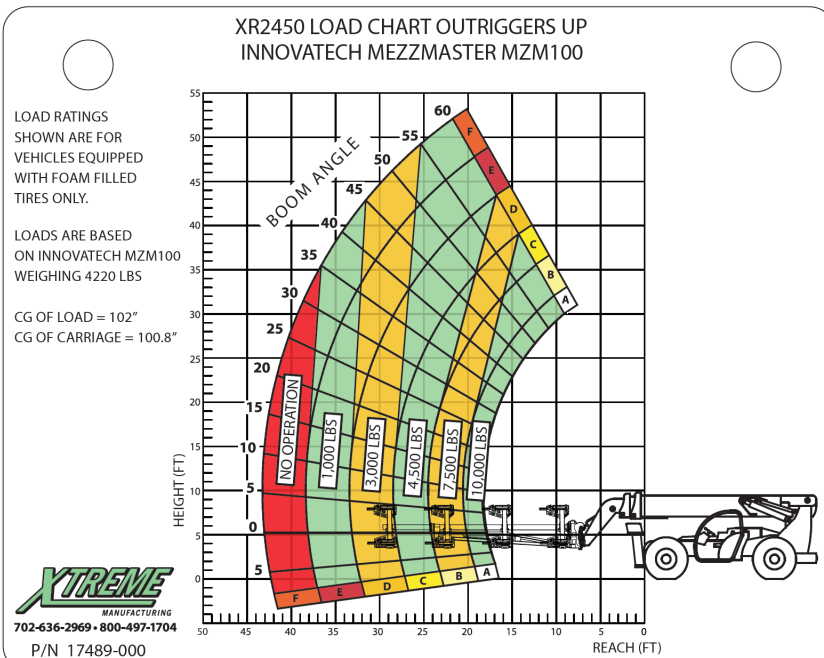
The upfitted Extreme 2450 control system activates Aux B, which shifts the Aux Manual Control Lever away from operator (toward the window) and should pressure right hand aux line (from operator position) at the end of the boom. Should the hydraulics not shift as this describes, they must be switched.

Material Handling

Before operating the MezzMaster, refer to the Load Chart supplied and calculate the load of the panelized module you will be handling. Do not exceed ratings specified in the Load Chart. Failure to adhere to ratings specified could result in equipment damage and/or property damage, severe injury, or death.

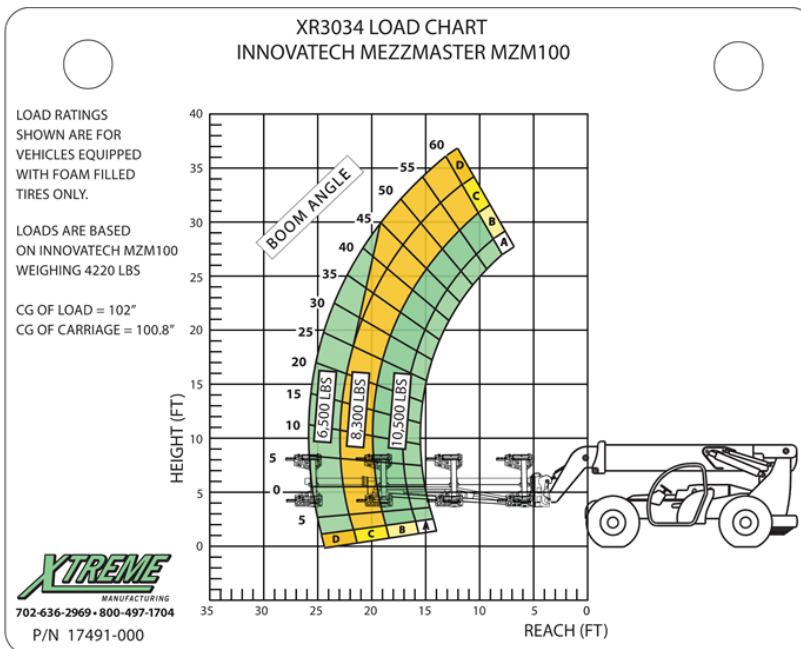
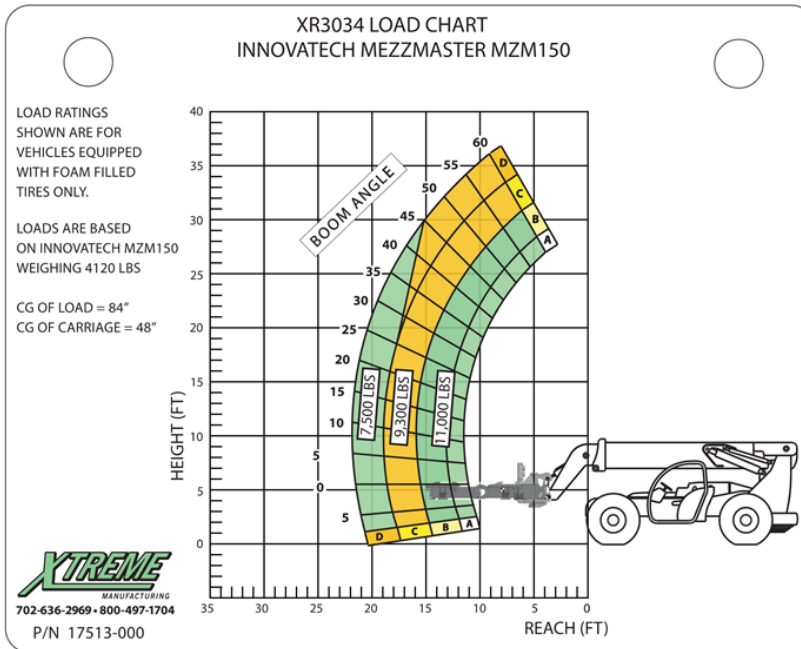
LOAD CHART FOR INNOVATECH MezzMaster ON XTREME TELEHANDLER XR2450

General Reference Only. See published load chart provided with equipment.)



LOAD CHART FOR INNOVATECH MezzMaster ON XTREME TELEHANDLER XR3034

General Reference Only. (See published load chart provided with equipment.)



Maintenance

In order to maintain the highest level of safety and operation efficiency, InnovaTech recommends an established service interval. Contact your service representative for recommendations. See Lubrication chart.

Lubrication

There are seven lubrication points to service at established usage intervals. Refer to the diagram below. Decals affixed to the MezzMaster will indicate the location and the recommended volume/pumps of lubricant per point:

MZM-100	Volume	Interval
1. Main Swivel (1)	10 pumps	weekly
2. Rotate and Tilt Cylinder (1)	2 pumps	weekly
3. Butt End Tilt Cylinder (1)	2 pumps	weekly
4. Tilt Bearings (1)	5 pumps	weekly
5. Swivel Bearings (1)	5 pumps	weekly
6. Swivel Bearings (1)	5 pumps	weekly
7. Swivel Bearings (1)	5 pumps	weekly
(Total of 8 points)		



MZM-150	Volume	Interval
1. Main Tilt Front facing (2)	20 pumps	weekly
2. Main Tilt Rear facing (2)	20 pumps	weekly
3. Tilt Cylinder Rod end (2)	5 pumps	weekly
4. Tilt Cylinder Barrel end (2)	5 pumps	weekly
5. Main Swivel Top (1)	10 pumps	weekly
6. Main Swivel Bottom (1)	10 pumps	weekly
7. Swivel Cylinder Rod end (2)	5 pumps	weekly
8. Swivel Cylinder Barrel end (2)	5 pumps	weekly
9. Wing Extend Cylinder (2) Rod end	3 pumps	weekly
10. Wing Extend Cylinder Barrel end (2)	3 pumps	weekly
(Total of 18 points)		

Hydraulic Pressure Relief

The hydraulic pressure relief valve may be used to release pressure in hydraulic lines when reconnecting hydraulic hoses. The valve is located on the right side of the Mezzmaster, near the telehandler connection. (This feature may not be installed on your model of Mezzmaster.)

Replacement Parts

Contact InnovaTech for information regarding replacement parts. If in the event repairs need to be made during operation, in many instances, parts may be sourced from areas local to the Panelization System's job location. Your InnovaTech service agent will assist in identifying appropriate replacement parts.

Service Life

InnovaTech Products and Services are constantly being improved for serviceability and durability. If any portion of the equipment is deemed unsafe, or in poor repair, appropriate procedures should be initiated for repair or replacement. InnovaTech recommends complete service procedures be performed prior to site deployment. If onsite repairs are

necessary, appropriate Lock-Out/Tag-Out procedures must be initiated. No portion of damaged equipment should be operated for any length of time.

Supplemental Equipment Manuals

The manuals to each of the support equipment specified in this document can be found on our website or from a link to the manufacturers website. Manufacturer documentation may be available for download via these websites. This list may be incomplete. Contact an InnovaTech representative for information on compatible support equipment.

www.xtrememfg.com

Replacement Manuals, Decals

Replacement manuals and decals for the MezzMaster can be obtained by contacting us by phone, mail, email.

Model/Serial

When contacting our service representatives, please have the MezzMaster serial number available. The serial number can be determined by noting the digits represented by the ** following the model number MezzMaster-00-00000000. (For example, MezzMaster-01-18050049)

Contact Us

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Email support@innovatechservice.com