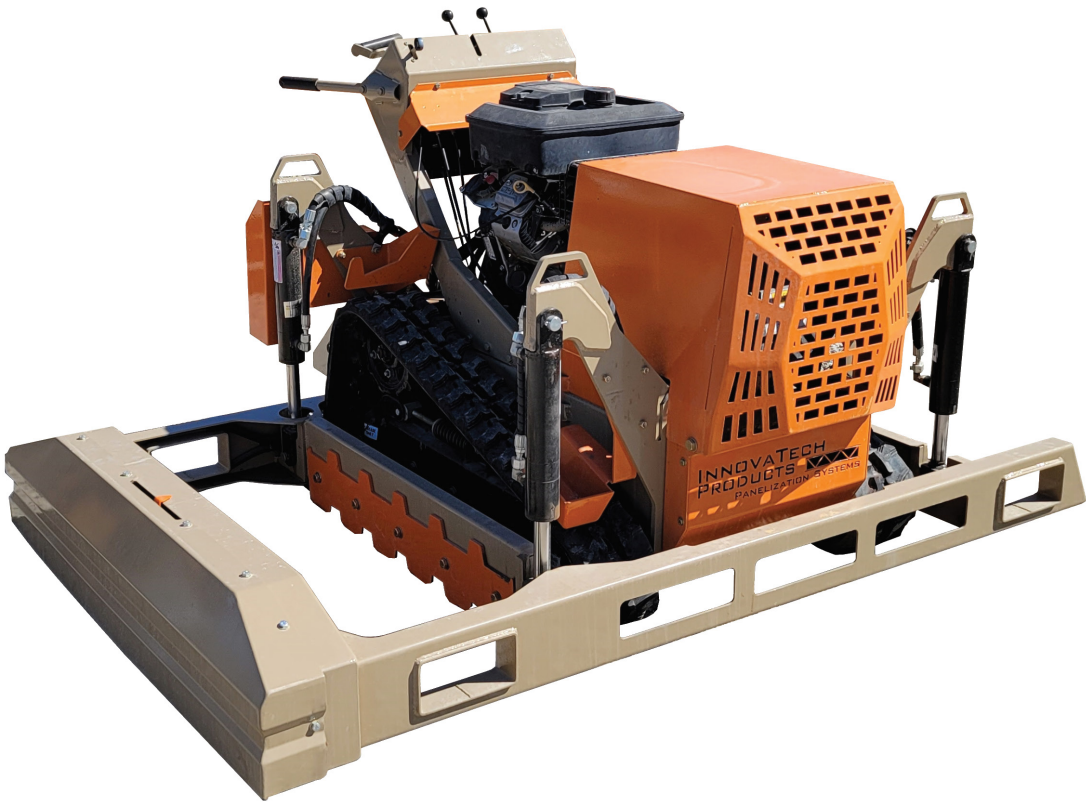


InnovAlign

EQUIPMENT SAFETY, OPERATION, AND MAINTENANCE



InnovAlign | INV-100

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

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Document Info

From time to time, design improvements will be made to the InnovAlign. Photographs, text, and sketches within the body of this manual may not exactly represent your equipment. In general, this manual contains the most up-to-date information available. However, InnovaTech, LLC, cannot accept any responsibility, financial or otherwise, for any consequences arising out of the use of this material. The information contained herein is subject to change, and revisions may be issued to advise of such changes or additions.

InnovaTech, LLC, strives to continually improve their user documentation. If you have any questions or concerns about the content of this service and maintenance guide, we want to hear from you. Please e-mail us at support@innovatechservice.com or contact us by mail at:

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InnovaTech, LLC, is continually improving their equipment to bring you the latest in building system technology. For that reason, your InnovaTech InnovAlign may differ slightly from what is described in this document. If you have any questions, please contact us at support@innovatechservice.com.

The InnovaTech, LLC, InnovAlign is under US PATENT PENDING protection.

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InnovAlign

Overview

The InnovAlign is an industrial equipment solution designed to move misaligned decking without the need to cut pins, to create a safe and efficient workplace for employees involved in the erection of steel structures.

The InnovAlign aligns misaligned deck by driving on secured decking the InnovAlign “arm” extends to the adjacent panel and aligns the corrugations to close gaps and create an aligned sealed joint. The InnovAlign is capable of shearing temporary pins holding the unsecure deck in order to align with the secure deck. This equipment is designed to be paired with standard mezzanine deck fastening procedures to ensure safety of deck panels.



Safety

Operator Qualifications

DO NOT OPERATE the InnovAlign unless you have been trained and qualified to do so. Operator must follow ALL appropriate safety regulations. Operator trainees must remain under 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. InnovAlign operator(s) must be 18 years of age or older.

Operators must read this operators' 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 and common sense.

Operators must understand and comply with all CAUTION, WARNING, and DANGER notices. (Refer to "Safety Markers" on page 3 for detailed information on safety marker definitions.)

If any doubt or question arises about the correct or safe methods for operating the InnovAlign, operators must not proceed until obtaining qualified assistance.

InnovAlign training must be approved by InnovaTech. Training must include reading and understanding this operation and safety manual, safety labels, employer work rules, and applicable government regulations. Consult a supervisor to explain any unclear instructions and warnings. Consult InnovaTech to replace lost manuals.

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, safety glasses, welding PPE, safety-toe footwear, gloves, helmets, goggles, face shields, and hearing protection.

Tagout

In accordance with Occupational Safety and Health Administration (OSHA) regulations, Tagout must be used in any cases where InnovAlign is unsafe to operate or if it is being serviced or repaired. Under no circumstances should operator use the InnovAlign if deemed unsafe.

Tagout Procedures

1. Turn power switch to "OFF" position, remove key.
2. Apply "Do Not Operate" tag near ignition location.

Supplementary Documents

InnovaTech also provides checklist forms for safety, maintenance, and operator certification. If forms are not available to you, contact an InnovaTech representative at support@innovatechservice.com.

Safety Markers



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

Read and understand all CAUTION, WARNING, DANGER, and operating instructions on the machine and in this manual. The InnovAlign should only be used as intended.

⚠ DANGER


InnovAlign must only be driven on SECURE deck.

⚠ WARNING

Avoid these hazards:

- Temporary pins sheared while aligning decking may become airborne while operating InnovAlign. Wear safety goggles and hard hat while operating or observing!
- The InnovAlign does not have a parking brake. Always leave unit parked on a level surface.
- The safety clutch lever on the left handlebar is for operator protection. **DO NOT** tape down or otherwise by-pass this clutch.
- Moving tracks can pose pinch points. Stay clear.
- Exhaust and fuel fumes can cause illness or death. Operate in well-ventilated area and avoid breathing exhaust and fumes.
- Fuel fumes can catch fire or explode. Do not smoke or operate near flames or sparks.
- Hydraulic oil is under extreme pressure and can get under skin and burn or poison. Check for leaks with cardboard.
- Muffler and engine get hot enough to cause serious burns. Do not touch until cool.
- Passengers should not be allowed to ride on InnovAlign.
- Clear people and objects from around InnovAlign before advancing.
- **DO NOT** use InnovAlign for horseplay.
- **DO NOT** use InnovAlign for welder grounding.



⚠ WARNING	
	INJECTION HAZARD DEATH or SERIOUS INJURY could result from contact with pressurized fluid. KEEP CLEAR of leaks. <small>INV-10007R01</small>

⚠ DANGER	
	PINCH POINT HAZARD DEATH or SERIOUS INJURY could occur from contact with pinch points. KEEP CLEAR <small>INV-10008R01</small>

⚠ WARNING	
	FLYING OBJECT HAZARD DEATH or SERIOUS INJURY could occur from contact with flying objects. Wear eye protection. <small>INV-10009R01</small>

Pre-Operation Inspection

Walk around the ENTIRE InnovAlign while visually performing the pre-operation inspection. Pre-operation inspection should be performed in a secure location.

- Check that Operation and Safety Manual is in the protective case and legible.
- Check for loose or missing bolts and nuts.
- Check for cracked or bent members.
- Check hydraulic oil level sight glass.
- Check fuel level.
- Check engine oil.

Modifications

WARNING

Modifications to the InnovAlign or attachments could affect capacity and/or stability which could result in death or serious injury. **DO NOT** make modifications to the InnovAlign or attachments without prior written approval from Innovatech Products. 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 frame or attachments.

Nomenclature

General

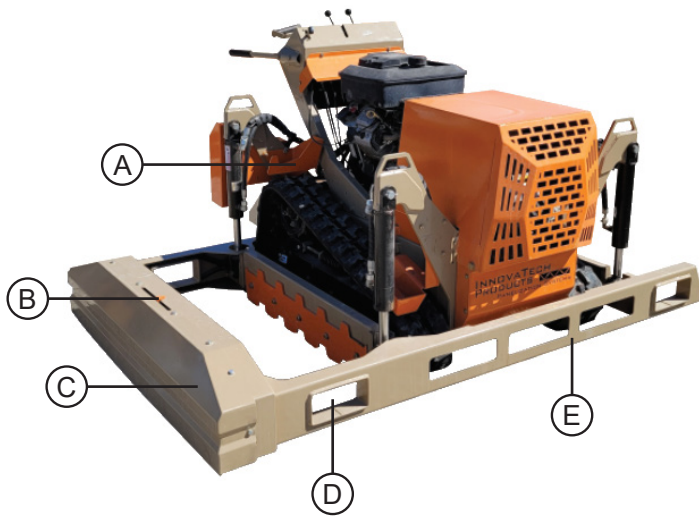


Fig. 1: Front

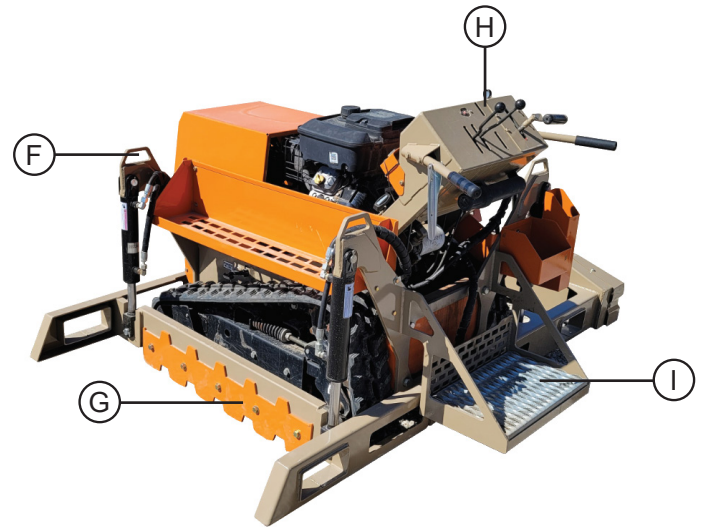


Fig. 2: Back

- A. Hilti DX9 Holster** - Stowage location for DX9
- B. Header Alignment Indicator** - Aligns header with corrugation of unsecured deck
- C. Header** - Enclosed deck corrugation plate grooved to match profile to deck, hydraulically powered to shift unsecured deck
- D. Bottom Fork Pockets** - Pockets for hoisting InnovAlign (one on each corner of unit)
- E. Alignment Frame** - Structure including header, stationary corrugation teeth, and bottom fork pockets, mounted onto InnovAlign body
- F. Lift Point Brackets** - lift points for hoisting InnovAlign (one on each corner of unit)
- G. Stationary Corrugation Teeth** - Plate grooved with opposite profile to deck, which fits into secured deck corrugation profile
- H. Control Panel** - Operator controls (see “Operator Controls” on page 7)
- I. Operator Platform** - Platform for operator while advancing InnovAlign

Operator Controls

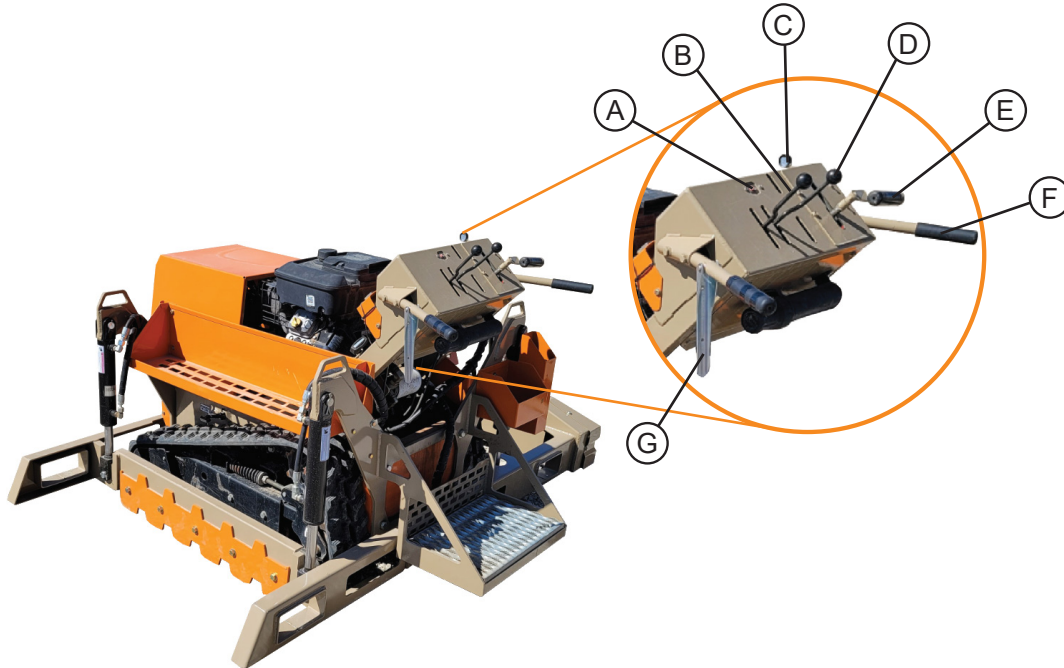
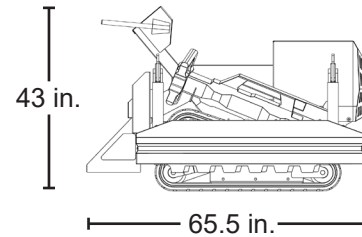
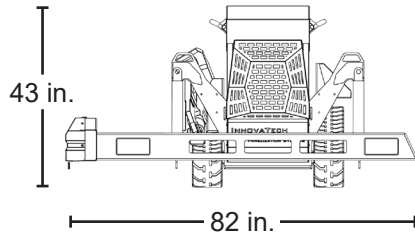


Fig. 3: Control Panel

- A. Keyed Ignition Switch** - Starts and stops engine equipped with an electric starter. Refer to “Engine Start-Up Procedure” on page 8.
- B. Deck Alignment Control** - Controls header to align deck corrugation
- C. Throttle** - Controls engine speed
- D. Frame Vertical Adjustment**
- E. Steering Control** - Controls speed and direction of the track drive
 - Pushing the speed lever forward causes that track to go forward.
 - Pulling the speed lever back causes that track to go in reverse.
 - Moving the speed lever further from neutral increases the speed in that direction.
 - Steer the InnovAlign by turning the steering control handle. This causes the track to rotate at a different speed than the other, allowing the machine to turn.
- F. Handlebar** - Provides stability for operator while advancing the InnovAlign
- G. Safety Clutch** - Controls drive; clutch must be squeezed toward handlebar while operating drive controls

Specifications

Dimensions, Weight and Capacity



Length	62.5 in
Height	43 in
Width	82 in
Net Weight	1,600 lbs
Weight Capacity (per unit)	500 lbs (including one worker with tools)

Setup

Hoisting & Relocating

⚠ WARNING

Only use lift points or fork pockets on InnovAlign for lifting unit. (see “Nomenclature” on page 6)

Use caution when hoisting and relocating a InnovAlign. Follow all safety rules and procedures relevant to movement of machinery. Only use hoisting equipment rated to lift at least 1,600 lbs.

Operation

Engine Start-Up Procedure

Only operate InnovAlign in well-ventilated area.

⚠ WARNING

Engine exhaust contains carbon monoxide gas that is toxic. Breathing it can cause unconsciousness and death. Avoid any areas or actions that expose you to carbon monoxide.

1. Open the fuel shutoff valve.
2. If the engine is cold, close the choke. Turn choke off (open) after engine warms up enough. To restart a warm engine, leave the choke in the open position.
3. Move the engine throttle to about 1/3 of the way forward.

Open the choke (turn choke off) after the engine warms up enough.

Cold Weather Operations

Before operating in cold weather, refer to the Engine Owner's Manual for recommended engine oil. Do not spray starting fluid into the air cleaner as engine damage could result. If the machine is operated at temperatures below +32°F (0°C) then changing the hydraulic fluid to ISO 46 is recommended. If you do not want to change the hydraulic fluid but want to operate the machine at temperatures below +32°F (0°C), then do the following:

- Warm up engine at a low speed.
- Gradually increase engine speed, allowing 30 minutes for the hydraulic fluid to warm up.

Reduce the engine speed if the hydraulic pump whines. Pump noise may indicate a lack of hydraulic fluid flow that could damage the pump.

For frequent starts below 18°F consult your Barreto Manufacturing, Inc. dealer. (see "Subsystem Equipment Manuals" on page 12)

Shut-Down Procedure

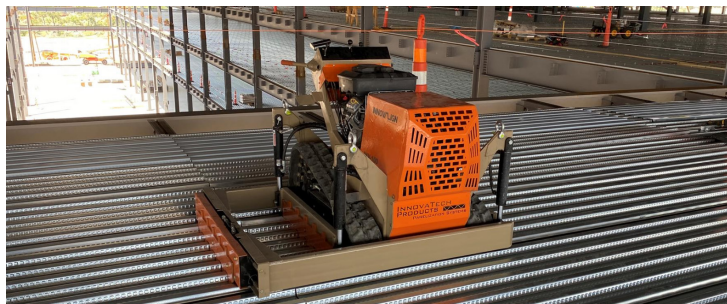
1. Always leave InnovAlign parked on a level surface.
2. Reduce the engine throttle to idle.
3. Move the ignition keyed switch to the OFF position to stop the engine, and remove the key.
4. Close the fuel shutoff valve. Failure to close this valve could cause fuel to leak down into the cylinder and crankcase. Damage resulting from this would not be covered by your engine warranty!

Engine may be hot. Shut off engine and allow it to cool before refueling. Failure to allow engine to cool may cause fire and/or burns. Do not touch the engine, muffler, or any of the hydraulic components until cool.

⚠ WARNING

Failure to allow engine to cool may cause fire and/or burns.

Deck Alignment Procedure



1. Advance InnovAlign near edge of secured decking, such that header extends onto unaligned deck sheet and stationary corrugation teeth "fit" into secure deck corrugation.

⚠ DANGER

DO NOT drive InnovAlign onto unsecured decking. Unsecured decking is not capable of holding the weight and may fail.

2. Use header adjustment control to align header teeth with corrugation of unsecured deck.
3. Lower frame onto corrugation, adjusting header as necessary.
4. Once teeth are fitted into corrugation, use header control to align misaligned deck.

⚠ WARNING

Pins may shear in this process of aligning deck. Wear appropriate PPE, and clear bystanders from nearby area.

5. Follow proper fastening procedures to secure aligned decking.

⚠ DANGER

DO NOT leave unsecured deck unattended. If for any reason operator must leave site, these procedures MUST be followed:

- Notify safety officer of hazard
- Barricade hazard area with Caution/Do Not Enter tape

Jump-Starting Engine

Shield entire face, especially your eyes, and wear rubber gloves to avoid acid burns whenever doing anything with the battery. Battery caps must be tightly in place if the battery has removable caps.

⚠ WARNING

The battery contains sulfuric acid that can cause blindness and severe burns. Avoid contact with eyes, skin, and clothing. If acid contacts eyes, call 911 immediately and flush eyes with water for 15 minutes or until emergency medical help arrives. If acid contacts skin, flush area with plenty of water. If acid is ingested, drink large quantities of water or milk then follow with milk of magnesia, beaten egg, or vegetable oil, and get medical attention immediately.

Avoid contact with battery components. Wear rubber gloves and wash hands after handling any battery components.

⚠ WARNING

Battery posts, terminals, and related accessories contain lead and lead compounds, chemicals known to cause cancer and reproductive harm. Acid can cause blindness and severe burns if leaked from the battery.

Do not jump start the battery near flames or sparks, or while smoking.

⚠ WARNING

Battery fumes are flammable and explosive. Avoid explosion hazard that could blind and burn. Tools and jumper cable clamps can make sparks, so use them with care. Shield eyes and face, and wear rubber gloves.

Do not jump-start or charge a battery that is frozen or low on electrolyte.

IMPORTANT: Use only a 12-volt system for jump-starting. Never allow the vehicle used to jump-start to contact the disabled machine. If the vehicles contact, a spark may occur when the positive jumper cable is connected or disconnected. If equipped with battery caps, they must be in place and tight to reduce risk of battery explosion.

JUMP STARTING PROCEDURE:

1. Turn ignition switch to OFF.
2. Connect jumper cables in the following order:
 - a) Clamp one RED cable end to the discharged battery POSITIVE (+) terminal.
 - b) Clamp the other end of the RED cable to the booster battery POSITIVE (+) terminal.

- c) Clamp one BLACK cable end to the booster battery NEGATIVE (-) terminal.
 - d) Clamp the other end of the BLACK cable to the frame of machine with the discharged battery, away from battery.
3. Start the engine.
 4. Disconnect the cables in reverse order of connection and cover each jumper cable terminal. To avoid sparks near the battery, never disconnect the red jumper cable without first disconnecting the black jumper cable.

Maintenance

⚠ WARNING

Always follow tagout procedures when performing maintenance or repairing equipment. See “Tagout” on page 2.

Hydraulic

The InnovAlign is completely hydraulic driven.

⚠ WARNING

If service requires opening hydraulic system, other than for changing the oil filter, drain oil first.

⚠ WARNING

DO NOT service hydraulic system unless pressure has been released.

Procedure	Interval
Check hydraulic oil level	Daily
Hydraulic oil filter replacement (#P551763)	yearly or every 1000 hrs
Hydraulic oil change	every 3 yrs or 3000 hrs

Maintenance Service

Service should be performed every 100 hrs. Service procedures should include:

- Engine oil replacement
- Engine air filter replacement

Replacement Parts

Contact InnovaTech for information regarding 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. If onsite repairs are necessary, appropriate Tag-Out procedures must be initiated. InnovAlign should not be operated for any length of time if deemed unsafe.

Replacement Manuals, Decals

Replacement manuals and decals for the InnovAlign can be obtained by contacting us by phone, mail, or email. Please note the manual part number located on the bottom of each page, or decal number located on the decal, when making requests.

Subsystem Equipment Manuals

The manuals to each of the subsystem 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 subsystem equipment.

www.barretomfg.com

Model/Serial

When contacting our service representatives, please have the InnovAlign serial number available. The serial label is located XXXXXX.

Contact Us

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