

RIDING TROWEL

HDX705



SAFETY & OPERATIONS MANUAL

Manual Part #: 081137 | Revision: B
Language: English | Original Instructions



RIDING TROWEL

SAFETY & OPERATIONS MANUAL

This manual covers the products listed below:

<u>Part No.</u>	<u>Description</u>
078550	HDX705 Riding Trowel, 6-Boss, Gasoline Ford Engine

NOTICE

This manual, or a copy of it, must be kept with the machine at all times.
There is a manual storage container located on the machine for your convenience.

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Allen Products are covered under one or more of the following patent numbers:
10,100,537; 9,068,301; 9,068,300; 8,360,680; 7,690,864; 7,114,876B1; 6,857,815B2; 6,582,153
With other Patents Pending.

Table of Contents

GENERAL INFORMATION

Sect No.	Title	Page
	Table of Contents	3
	Limited Warranty & Limitation of Liability	4
	Information Contained in this Manual	5
	CE Declaration	6
	Sound & Vibration Testing	7
	Dealer Information & Ordering Parts	8
	Model & Serial Number / Unit Identification	9
	Technical Specifications	10
	Machine Dimensions	11
	Engine Specifications	12
1	SAFETY	13
	Federal / State Warning Regulations	14
	Manual Tag Safety Detail	15
	Spark Arrestor Notice / Safety Symbols	16
	Operating Safety	17
	Engine Safety	18
	Service Safety	19
	Lifting Safety	20
	Lifting Points	21
	Transportation Safety	22
	Pan Installation Safety - Lifting Bridle	24
	Pan Installation Safety - Lifting Jacks	25
2	OPERATION	26
	Introduction to HDX705	27
	Machine Components	28
	Machine Functions	30
	Figure: Control Switches	30
	Start-up Procedure	31
	Trowel Operation	32
	Engine Display Module	35
3	SERVICE	36
	Maintenance Schedule	37
	Oil, & Air Filter Replacement	38
	Grease Points	40
	Hydraulic Filter Service	42
	Battery Jump Start Procedure	44
	Lift Lever Adjustment	45
	Troubleshooting	46
	Cleaning Procedure	48
4	ACCESSORIES	49
	Popular Accessories	50
	Parts Manual	51
	Revision Detail	52

GENERAL INFORMATION

Limited Warranty & Limitation of Liability

I. LIMITED WARRANTY & LIMITATION OF LIABILITY

Allen Engineering Corporation ("Allen") warrants its products to be free of defects in material or workmanship for:

TWO YEARS FROM END USER'S DATE OF PURCHASE, SUBJECT TO THE EXCEPTIONS AND SHORTER WARRANTY PERIODS DESCRIBED HEREIN.

The warranty period begins on the date of purchase by the End User of the product. All warranty is based on the following limited warranty terms and conditions, including the disclaimer of all implied warranties of any type and the disclaimer of consequential damages.



1. Allen's obligation and liability under this warranty are limited to repairing or replacing parts if, after Allen's inspection, there is determined to be a defect in material or workmanship. Allen reserves the choice to repair or replace.
2. All warranty-related parts must be purchased in advance through an Allen dealer. The parts will be made available to the Allen Distributor, Dealer, or Rental Center from whom the End User purchased the product.
For machines being prepared, a warranty request form and/ or RGA request form must be submitted to AEC after the repairs are completed.
3. Replacement warranty parts, installed in the product, are warranted only for the remainder of the warranty period of the product as though they were the original parts.
4. BATTERY POWERED PRODUCTS ARE WARRANTED FOR ONE YEAR FROM END USER'S DATE OF PURCHASE.
5. Allen does not warranty engines or batteries. Engine warranty claims should be made directly to an authorized factory service center for the particular engine manufacturer. Batteries are not warranted due to unknown treatment during transport, etc., and any battery claims should be directed to the battery manufacturer.
6. Allen's warranty does not cover the normal maintenance of products or their components (such as engine tune-ups and oil & filter changes). The warranty also does not cover normal wear and tear items (such as belts, tires, blades, pans and other consumables).
7. Hydraulic Component's are required to be maintained per Allen's mandatory service intervals in each machine's owners manual. OEM Allen hydraulic filters and consumables are required to service machines during the warranty period. Failure to use OEM Allen hydraulic filters will result in denied warranty.
8. Allen's warranty will be void if it is determined that the defect resulted from operator abuse, failure to perform normal maintenance on the product, modification to product, alterations, or repairs made to the product without the written approval of Allen. Allen specifically excludes from warranty any damage to any trowels resulting from a drop or impact to the rotors.
9. Impact damage to gearboxes is not covered under the Allen warranty and is deemed customer abuse.
10. Impact damage to trowels in any way is not covered under the Allen Warranty and is deemed customer abuse. (Example: Dropping a machine)
11. Allen will pay shop labor on warranty items at the Allen Shop Labor Rate in existence on the date of the warranty claim. An Allen labor chart will determine the time allowed to complete a repair and will govern the shop labor hours that will be allowed.
12. Allen will credit the cost of ground freight on warranty replacement parts after approval of the warranty claim. No warranty replacement parts will be shipped air-freight at the expense of Allen. Allen does not pay any inbound freight.
13. ALLEN ENGINEERING CORPORATION'S WARRANTY POLICY WILL NOT COVER THE FOLLOWING: TAXES; SHOP SUPPLIES; ENVIRONMENTAL SURCHARGES; AIR FREIGHT; TRAVEL TIME; LOSS OF TIME; INCONVENIENCE; LOSS OF RENTAL REVENUE; RENTAL COSTS OF EQUIPMENT USED TO REPLACE THE PRODUCT BEING REPAIRED; LOSS OF USE OF THE PRODUCT; COMMERCIAL LOSS; OR ANY OTHER CHARGES WHATSOEVER OR ANY LIABILITIES FOR DIRECT, INCIDENTAL, OR CONSEQUENTIAL DAMAGE OR DELAY.
14. ALLEN ENGINEERING CORPORATION MAKES NO OTHER WARRANTY, EXPRESSED OR IMPLIED. THIS LIMITED WARRANTY IS IN LIEU OF THE WARRANTY OF MERCHANTABILITY AND FITNESS. THERE ARE NO OTHER WARRANTIES THAT EXTEND BEYOND THE DESCRIPTION ON THIS DOCUMENT.
15. No Allen employee or representative is authorized to change this warranty in any way or grant any other warranty unless such change is made in writing and signed by an officer of Allen Engineering Corporation.
16. Warranty claims must be submitted within 30 days from the date of failure.
17. Once a warranty claim has been submitted, AEC has up to 90 business days to process the request.
18. Standard service part warranty will not exceed 90 days from the date of purchase. Exceptions to this are:
#1 Gearboxes: 1 year warranty from date of purchase.
#2 Electrical Components: 30 day warranty from date of purchase. This applies to wiring harnesses, transmitters, ECUs, display screens, and toggle switches.
19. All purchased components are subject to the inspection and warranty of the respective manufacturer. This inspection may extend beyond 90 days.
20. If warranty is suspected do not disassemble any hydraulic or electrical components. Failure to comply with this instruction will lead to denial of a warranty claim.



This manual provides information and procedures to safely operate and maintain the Allen Machine.

For your own safety and protection from personal injury, carefully read, understand, and observe the safety instructions described in this manual. Keep this manual or a copy of it with the machine at all times.

Always operate this machine in accordance with the instructions described in this manual. A well maintained piece of equipment will provide many years of trouble free operation.

This manual is divided into the following sections:

SECTION 1 SAFETY

SECTION 2 OPERATIONS

SECTION 3 SERVICE

SECTION 4 ACCESSORIES

Complete any warranty requirements as specified by the engine manufacturer in their instructions found inside the manual box located on the back of the riding trowel operator's seat.

Your engine and clutch is not manufactured by Allen Engineering Corporation, Inc, and therefore is not covered under Allen Engineering Corporation, Inc warranty.

Your engine manufacturer should be contacted if you wish to purchase a parts manual or a repair manual for your engine.

Refer to enclosed owners engine manual for complete O&M instructions. See your battery manufacturer for battery warranty.

**GENERAL
INFORMATION**

CE Declaration

PENDING INFORMATION



Sound Pressure Level (SPL) Information:

Sound pressure is “A” weighted . Measured at the operators ear position while the ride-on trowel is operating at full throttle on concrete in a manner most often experienced in “normal ” circumstances. Sound pressure may vary depending upon the condition of the concrete. Hearing protection is always recommended.



Vibration Level Information:

The vibration level indicated is the maximum RMS (Root Mean Square) velocity value obtained at the handle grip while operating the ride-on trowel on curing concrete in a manner most often experienced in “normal ” circumstances. Values were obtained from all three axes of motion. The values shown represent the maximum RMS value from these measurements.

Summary Data Of Sound And Vibration Testing for CE Marking			
Operator Ear SPL	Seat Vibration Average	Left Hand Vibration Average	Right Hand Vibration Average
-	-	-	-
This information was acquired from sound and vibration analysis tests conducted at Allen Engineering Corporation test facilities.			

Pending Information

GENERAL INFORMATION

Dealer Information & Ordering Parts

Your Dealer has Allen Engineering Corporation trained mechanics and original Allen replacement parts. Always contact the Allen Dealer who sold you this machine for Allen Certified repairs and replacement parts.

Place Allen Dealer information below for future reference:

Dealer Name: _____		
Phone #: () - - _____		
Address: _____		
City: _____	State: _____	Zip: _____
Salesman: _____	Mobile Phone: _____	
Additional Comments: _____		



**ALL INFORMATION, SPECIFICATIONS, AND ILLUSTRATIONS IN THIS
MANUAL ARE SUBJECT TO CHANGE WITHOUT NOTICE AND ARE
BASED ON THE LATEST INFORMATION AT THE TIME OF PUBLICATION.**

The “PARTS & DECALS MANUAL” contain illustrated parts lists for help in ordering replacement parts for your machine. Follow the instructions below when ordering parts to insure prompt and accurate delivery:

1. All orders for service parts - include the serial number for the machine. Shipment will be delayed if this information is not available.
2. Include correct description and part number from the “PARTS & DECALS MANUAL”
3. Specify exact shipping instructions, including the preferred routing and complete destination address.
4. **DO NOT** return parts to AEC without receiving written authorization from AEC. All authorized returns must be shipped pre-paid.
5. When placing an order, please contact the AEC dealer nearest you.

Model & Serial Number / Unit Identification

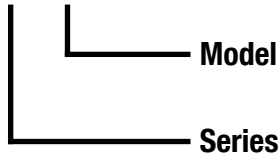
GENERAL INFORMATION

Manufacturer's Codes:

When ordering parts or requesting service information, you will always be asked to specify the model and serial numbers of the machine. The legends below specifically defines each significant character or group of characters of the Model Number and Serial Number codes.

Model Number

HDX 705

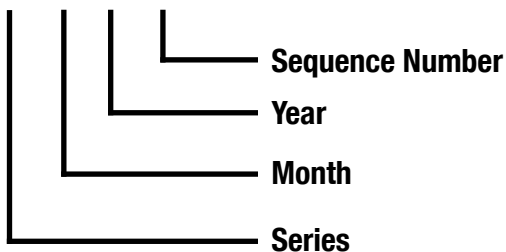


Serial Number

The serial number found on the identification plate is a ten digit format. The model number identifies your machine and will ensure that you receive the correct replacement parts.

Serial Number Example

705 01 19 001



Unit Identification Plate Location:

An identification plate listing the model number and the serial number is attached to each unit and is located on the rear lower left side of mainframe. Refer below for serial number and model number location. This plate should not be removed at any time.

Please record the information found on this plate below so it will be available should the identification plate become lost or damaged. When ordering parts or requesting service information, you will always be asked to specify the model and serial numbers of the machine.

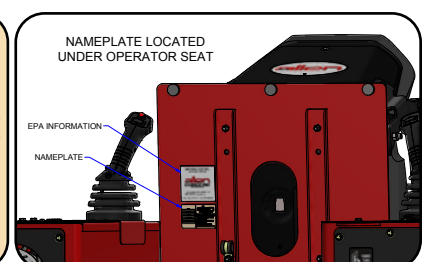
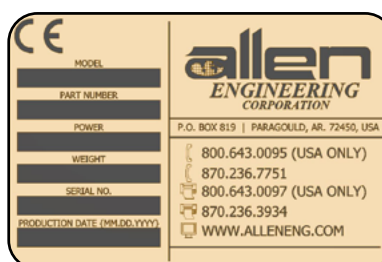
FILL IN FOR FUTURE REFERENCE

Model Number: _____

Serial Number: _____

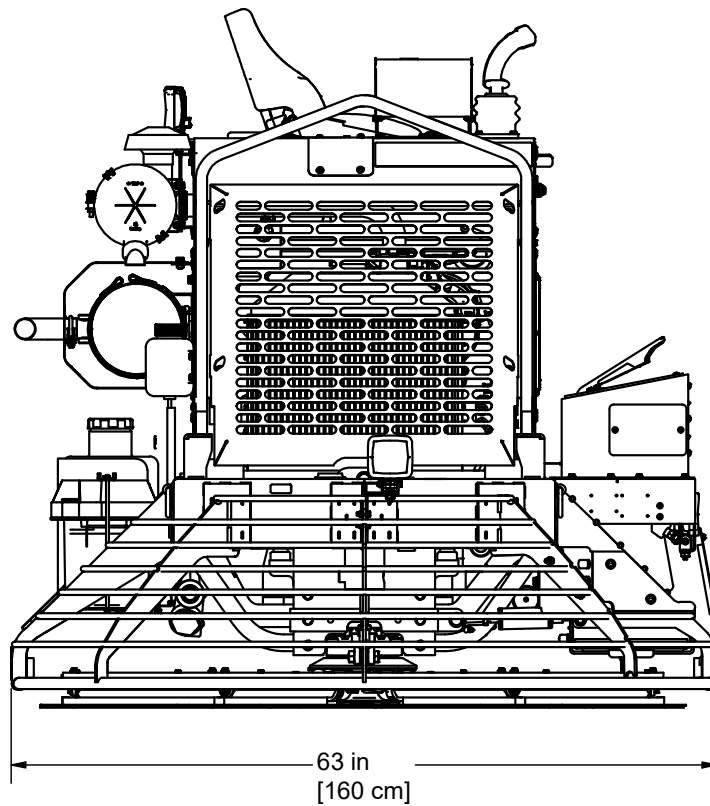
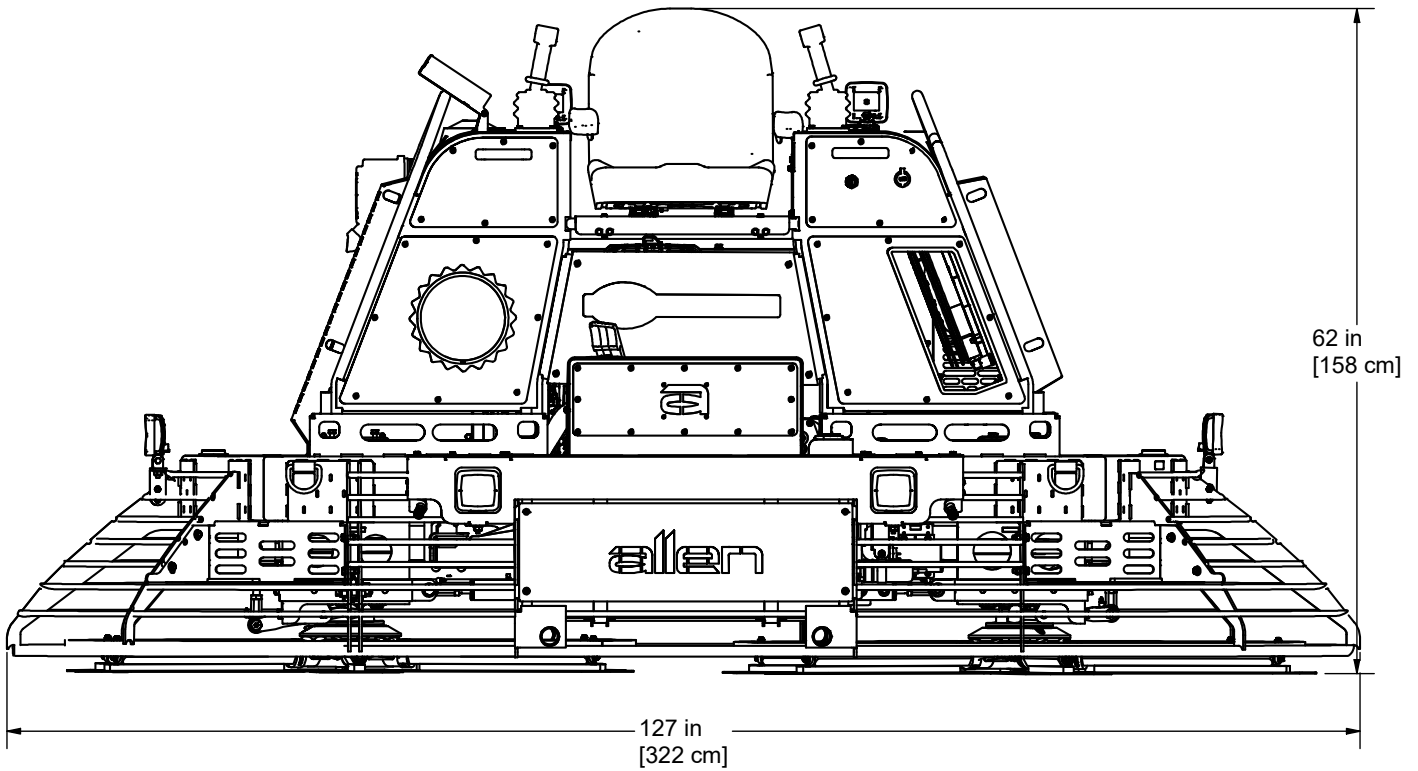
Date Purchased: _____

Purchased From: _____



Machine Specifications

- Horse Power:84 hp [62 kW]
- Fuel Capacity:..... 18 gal [68 L]
- Retardant Capacity:7 gal [26.5 L]
- Steering System:Hydraulic Power
- Hydraulic Fluid Capacity (Approx.):..... 13.5 gal [51.1 L]
- Number of Operating Lights:.....6
- Length: 127" [322 cm]
- Width: 63" [160 cm]
- Height: 62" [158 cm]
- Dry Weight:2,750 lb [1,247 kg]
- Panning Width: 117.6" [299 cm]
- Rotor Diameter: 57.6" [146 cm]
- Lifting:..... 2-point, Top-Mounted



Engine Specifications Ford Gasoline 2.5L

Engine Type:	I-4 cylinder 4 stroke spark ignition
Displacement:	2.5L
Compression Ratio:	9.7:1
Bore:	89 mm (3.50 in)
Stroke:	100 mm (3.94 in)
Firing Order:	1-3-4-2
Oil Capacity:	6.0 Qts (5.7 L)
Oil Capacity with Filter:	6.7 Qts (6.4 L)
Fuel Type:	Gasoline, Unleaded 87 or 89 Octane

Information taken directly from manufactures product literature. For further information regarding mechanical or electrical operation please reference the included engine manufactures Operator's Manual.

SECTION 1: SAFETY

SECTION 1 SAFETY

Federal / State Warning Regulations



RESPIRATORY HAZARDS

Grinding/cutting/drilling of masonry, concrete, metal and other materials can generate dust, mists and fumes containing chemicals known to cause serious or fatal injury or illness, such as respiratory disease, cancer, birth defects or other reproductive harm.

SILICOSIS WARNING

Grinding/cutting/drilling of masonry, concrete, metal and other materials with silica in their composition may give off dust or mists containing crystalline silica.



CALIFORNIA PROPOSITION 65 WARNING

Gasoline engine exhaust from this product contains chemicals known to the State of California to cause cancer, birth defects and other reproductive harm.

Safety-Alert Signs

This manual contains Safety-Alert Signs, as defined below, which must be followed to reduce the possibility of improper service damage to the equipment or personal injury. Read and follow all Safety-Alert Signs included in this manual.



NOTE defines an operating procedure, condition, etc. which is essential to highlight that contains useful or important information.



EMERGENCY is used for the identification of safety equipment, first aid, or emergency egress locations.



NOTICE used to convey safety information on labels and signs.



CAUTION is indicative of a potentially hazardous situation which, if not avoided, may result in minor or moderate injury.



WARNING Indicative of a potentially hazardous situations that could result in death or serious injury



DANGER indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury

SECTION 1 SAFETY

Spark Arrestor Notice / Safety Symbols

⚠ WARNING ⚠ ADVERTENCIA



Operation of this equipment may create sparks that can start fires around dry vegetation. A spark arrestor may be required. The operator should contact local fire agencies for laws or regulations relating to fire prevention requirements.

El funcionamiento de este equipo puede producir chispas que pueden iniciar incendios en vegetación seca. Un supresor de chispas puede ser necesario. El operador debe comunicarse con las agencias locales de bomberos para las leyes o reglamentos relativos a los requisitos de prevención de incendios.

Some states require that in certain locations arrestors be used on internal combustion engines. A spark arrestor is a device designed to prevent the discharge of spark or flames from the engine exhaust. It is often required when operating equipment on forested land to prevent the risk of fires. Consult the engine distributor or local authorities and make sure that you comply with regulations regarding spark arrestors.

Symbol	Safety Hazard
	Lethal exhaust gas hazards
	Explosive fuel hazards
	Burn hazards
 	Rotating parts/crush hazards
	Pressurized fluid hazards
	Hydraulic fluid hazards

Potential hazards associated with the operation of this equipment will be referenced with hazard symbols which may appear throughout this manual in conjunction with safety notes.

WARNING

Familiarity and proper training are required for the safe operation of this equipment! Equipment operated improperly or by untrained personnel can be dangerous! Read the operating instructions contained in both this manual and the engine manual and familiarize yourself with the location and proper use of all controls.

- **ALWAYS** read, understand, and follow procedures in the Operator's Manual before attempting to operate the equipment.



- **NEVER** operate this equipment without proper protective clothing, shatterproof glasses, respiratory protection, hearing protection, steel-toed boots and other protective devices required by the job or city and state regulations.



- **NEVER** operate this machine while under the influence of drugs or alcohol.



- **NEVER** allow anyone to operate this equipment without proper training. People operating this equipment must be familiar with the risks and hazards associated with it.

- **NEVER** touch the engine or muffler while the engine is on or immediately after it has been turned off. These areas get hot and may cause burns.



- **NEVER** use accessories or attachments that are not recommended by AEC. Damage to equipment and injury to the user may result.

- **NEVER** operate the machine with the belt guard missing. Exposed drive belt and pulleys create potentially dangerous hazards that can cause serious injuries.



- **NEVER** leave machine running unattended.

- **DO NOT** run the machine indoors or in an enclosed area such as a deep trench unless adequate ventilation, through such items as exhaust fans or hoses, is provided. Exhaust gas from the engine contains poisonous carbon monoxide gas; exposure to carbon monoxide can cause loss of consciousness and may lead to death.



- **ALWAYS** remain aware of moving parts and keep hands, feet, and loose clothing away from the moving parts of the equipment.



- **ALWAYS** close fuel valve on equipped engines when machine is not being operated.

- **ALWAYS** store the equipment properly when it is not being used. Equipment should be stored in a clean, dry location out of the reach of children.

SECTION 1 SAFETY

Engine Safety



Internal combustion engines present special hazards during operation and fueling. Read and follow the warning instructions in the engine owner's manual and the safety guidelines below. Failure to follow the warnings and safety guidelines could result in severe injury or death.

- **DO NOT** run the machine indoors or in an enclosed area such as a deep trench unless adequate ventilation, through such items as exhaust fans or hoses, is provided. Exhaust gas from the engine contains poisonous carbon monoxide gas; exposure to carbon monoxide can cause loss of consciousness and may lead to death.
- **DO NOT** smoke while operating the machine.
- **DO NOT** smoke when refueling the engine.
- **DO NOT** refuel a hot or running engine.
- **DO NOT** refuel the engine near an open flame.
- **DO NOT** spill fuel when refueling the engine.
- **DO NOT** run the engine near open flames.
- **ALWAYS** refill the fuel tank in a well-ventilated area.
- **ALWAYS** replace the fuel tank cap after refueling.
- **ALWAYS** keep the area around the muffler free of debris such as leaves, paper, cartons, etc. A hot muffler could ignite the debris and start a fire.





Poorly maintained equipment can become a safety hazard! In order for the equipment to operate safely and properly over a long period of time, periodic maintenance and occasional repairs are necessary.

- **ALWAYS** disconnect the battery before servicing the equipment. 
- **DO NOT** attempt to clean or service the machine while it is running. Rotating parts can cause severe injury. 
- **DO NOT** crank a flooded engine with the spark plug removed on gasoline-powered engines. Fuel trapped in the cylinder will squirt out the spark plug opening. 
- **DO NOT** test for spark on gasoline-powered engines if the engine is flooded or the smell of gasoline is present. A stray spark could ignite the fumes. 
- **DO NOT** use gasoline or other types of fuels or flammable solvents to clean parts, especially in enclosed areas. Fumes from fuels and solvents can become explosive. 
- **ALWAYS** turn engine off and remove key from machine before performing maintenance or making repairs.
- **ALWAYS** handle blades carefully. The blades can develop sharp edges which can cause serious cuts.
- **ALWAYS** keep the area around the muffler free of debris such as leaves, paper, cartons, etc. A hot muffler could ignite the debris and start a fire.
- **ALWAYS** replace worn or damaged components with spare parts designed and recommended by AEC Corporation.
- **ALWAYS** disconnect the spark plug on machines equipped with gasoline engines, before servicing, to avoid accidental start-up.
- **ALWAYS** relieve all pressure in the air, oil and cooling systems before disconnecting any lines, fittings or related items. Escaping fluid under pressure has sufficient force to penetrate skin causing serious personal injury, DO NOT check for leaks with your hands. 
- **ALWAYS** switch off the power supply at the battery disconnect before adjusting or maintaining the electrical equipment.
- **ALWAYS** keep the machine clean and labels legible. Replace all missing and hard-to read labels. Labels provide important operating instructions and warn of dangers and hazards.
- **ALWAYS** wear rubber gloves to avoid personal injury, when you treat fluids used in machine. In case of contact with skin, immediately wash off. 

SECTION 1 SAFETY

Lifting Safety

**ALWAYS DO A THOROUGH INSPECTION OF THE SLINGS, CHAINS, AND HOOKS
BEFORE ATTEMPTING TO LIFT THE MACHINE!**

OSHA has set forth guidelines which detail the use of Rigging Equipment for Material handling. This guideline is found under

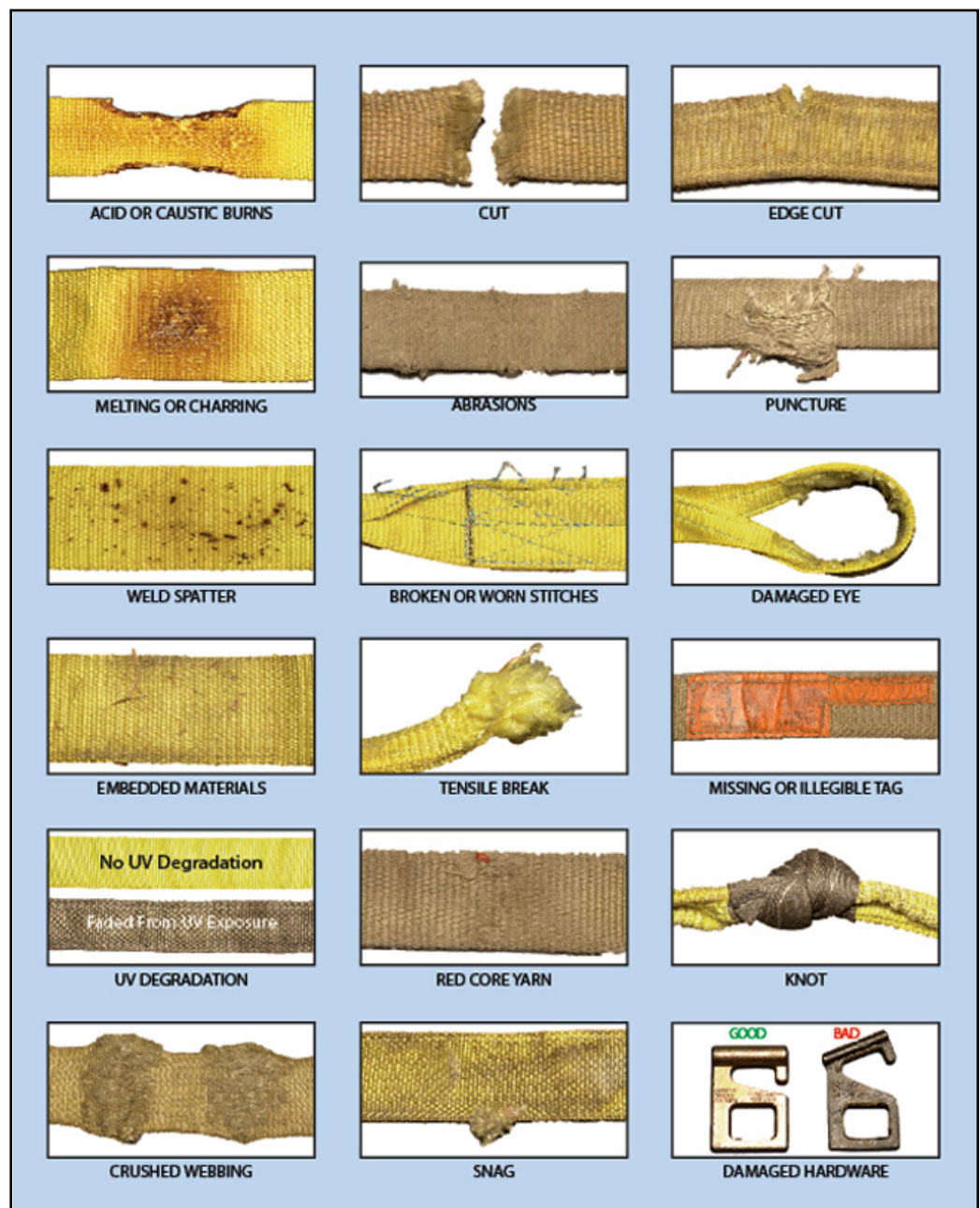
OSHA Standard Number: 1926.251

Please read and follow all guidelines found in this standard.

Removal from service.

Synthetic web slings shall be immediately removed from service if any of the following conditions are present:

OSHA 1926.251(e)(8)



- When lifting the machine, all personnel must be clear of the machine.
- **DO NOT** stand near or under the machine while it is being lifted.

Lifting instructions using a hoist:

- An optional lifting harness is available for purchase. Part number **064798**
- Place slings, chains or hooks through each lifting point on the machine. Use a sling or chains connected to a central lifting device. Ensure that all lifting devices have sufficient weight-bearing capacity. **HDX705 dry weight 2,750 lb [1,247 kg]**.
- **ALWAYS** shutdown engine before transporting.

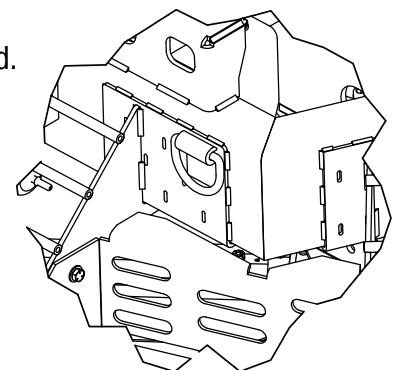
Lifting Points



SECTION 1 SAFETY

Transportation Safety

- Make sure the hitch and coupling of the towing vehicle are rated equal to, or greater than the trailer “gross vehicle weight rating.”
- **ALWAYS** inspect the hitch and coupling for wear. Never tow a trailer with defective hitches, couplings, chains, etc.
- Check the tire air pressure on both towing vehicle and trailer. Trailer tires should be inflated to 50 psi cold. Also check the tire tread wear on both vehicles.
- **ALWAYS** make sure the trailer is equipped with a safety chain.
- **ALWAYS** properly attach trailer’s safety chains to towing vehicle.
- **ALWAYS** make sure the vehicle and trailer directional, backup, brake and trailer lights are connected and working properly.
- DOT Requirements include the following:
 - Connect and test electric brake operation.
 - Secure portable power cables in cable tray with tie wraps.
- The maximum speed for highway towing is 55 MPH unless posted otherwise. Recommended off-road towing is not to exceed 15 MPH or less depending on type of terrain.
- Avoid sudden stops and starts. This can cause skidding, or jack-knifing. Smooth, gradual starts and stops will improve towing.
- Avoid sharp turns to prevent rolling.
- Trailer should be adjusted to a level position at all times when towing.
- Raise and lock trailer wheel stand in up position when towing.
- Place chock blocks underneath wheel to prevent rolling while parked.
- Place support blocks underneath the trailer’s bumper to prevent tipping while parked.
- Use the trailer’s swivel jack to adjust the trailer height to a level position while parked.
- Use tie downs to ensure machine does not move during transportation.



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SECTION 1 SAFETY

Pan Installation Safety - Lifting Bridle

This section details the proper technique to utilize the lifting bridle system in a safe manner to install concrete finishing pans.

(NOTE: Images are for illustration purposes only)



Use a lifting sling (bridle) with a capacity of at least 2:1 weight ratio for the equipment being hoisted.

[See section "ACCESSORIES" for appropriate lifting harness part number]

1. Verify the machine blades are at a 0° pitch.
1. Attach the lifting bridle to the machine shown in section "Lifting Safety"
2. Slowly lift the machine in a safe manner to a height that is required to safely install the pans. This is typically 6"-8" above floor level.
3. Carefully slide the pans under the machine making sure that you are aware of the corners on the blades as they are sharp. As a precaution wear cut resistant gloves.
4. Align the pans so that the clips will not be crushed when the machine is lowered back down.
5. Slowly lower the machine down onto the pans. Make sure the blades are going into the proper gaps. (Typically the pans can only be installed one way)
6. Once the machine is on securely on the ground with the pans underneath, remove the lifting bridle from the machine.
7. Start the machine and slowly increase the throttle until the blades begin turning and engaging the pans. The machine is now ready to finish the concrete utilizing the pans.



NOTE: Utilizing the lifting sling(bridle) and the dolly jacks are intended only for site transportation and the installation of pans and blades. DO NOT use them for regular maintenance without the additional use of jack stands to insure stability of the machine.

Pan Installation Safety - Lifting Jacks

SECTION 1 SAFETY

This section details the proper technique to utilize the Dolly Jack system in a safe manner to install concrete finishing pans.

(NOTE: Images are for illustration purposes only)

Use the appropriate set of lifting jacks that are designed for the machine you are lifting.
[See section "ACCESORIES" for appropriate dolly jack part number]



1. Verify that the machine blades are at a 0° pitch.
2. Attach the front and rear dolly jacks into the machine at the receiving tube locations.
3. Slowly lift the machine in a safe manner to a height that is required to safely install the pans. This is typically 6"-8" above floor level.
4. Carefully slide the pans under the machine, making sure that you are aware of the corners of the blades as they are sharp. As a precaution wear cut resistant gloves.
5. Align the pans so that the clips will not be crushed when the machine is lowered back down.
6. Slowly lower the machine down onto the pans. Make sure the blades are going into the proper gaps. (Typically the pans can only be installed one way)
7. Remove the dolly jacks from the machine
8. Start the machine and slowly increase the throttle until the blades begin turning and engaging the pans. The machine is now ready to finish the concrete utilizing the pans.



NOTE: Utilizing the lifting sling (bridle) and the dolly jacks are intended only for site transportation and the installation of pans and blades. DO NOT use them for regular maintenance without the additional use of jack stands to insure stability of the machine.

SECTION 2: OPERATION



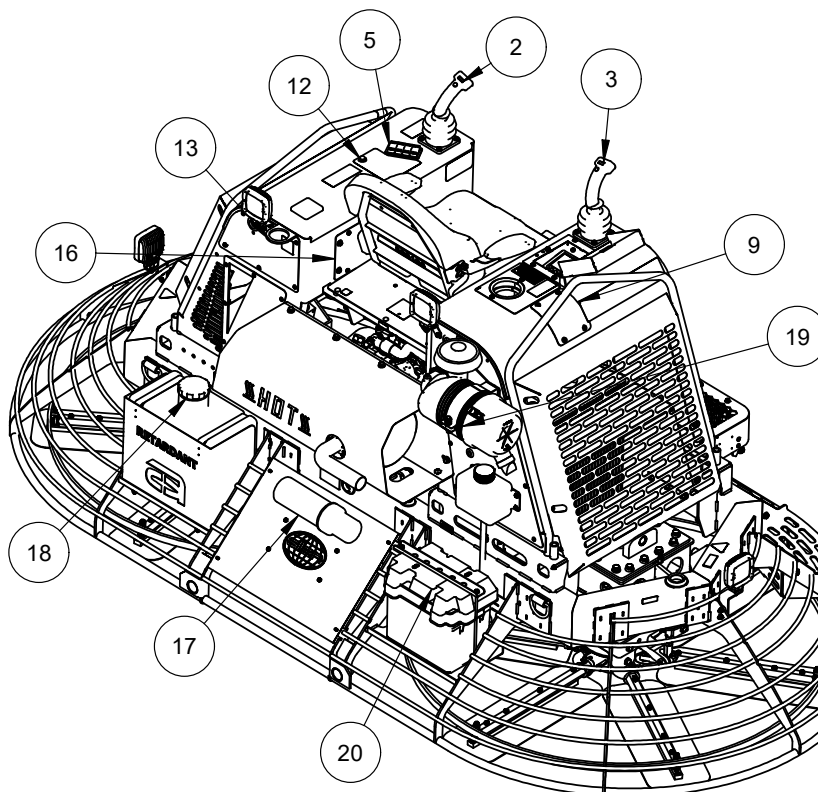
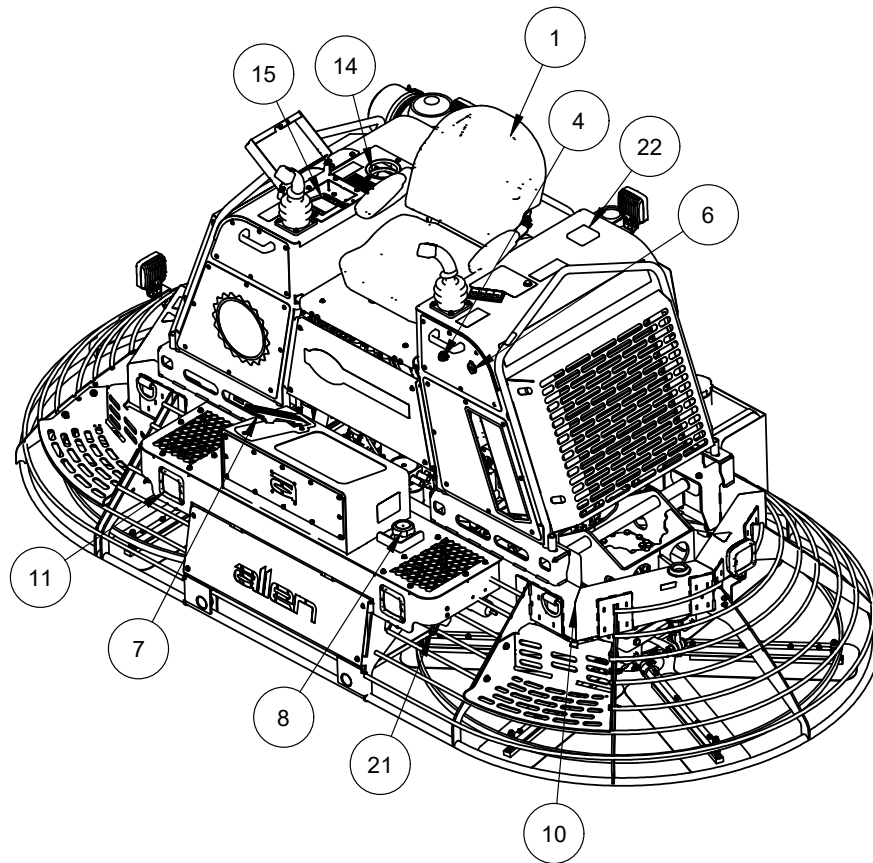
This machine is built with user safety in mind. However, it can present hazards if improperly operated and serviced. Follow operating instructions carefully.

If you have any questions about operating or servicing this equipment, please contact your Allen Engineering Dealer or AEC Customer Service at 800-643-0095 or 870-236-7751.

The HDX705 riding trowel is a modern high production machine. Finishing rate will vary depending on the operators skill and job conditions. This riding trowel has twelve finishing blades.

All Allen Engineering HDX705 Riders are equipped with a safety shutdown switch. And an LED indicator for hydraulic filter clogged status. Operating time between fuel refills is approximately 2-1/2 to 3 hours depending on rotor speeds.

Machine Components



1. Operator Seat - Rotors will not spin unless operator is seated. Seat is adjustable.
2. Left Joystick - Used to move the rider forward and backward.
 - Water Spray Button - (located on the left joystick) used to spray water on the work surface.
 - Left Blade Pitch - switch used to change the pitch of the left blades.
3. Right Joystick - Used to move the rider forward, backward, left & right.
 - Right Blade Pitch - switch used to change the pitch of the right blades.
4. Key Switch - Used to start that machine.
5. Control Switches
 - Cruise Control Switch - Turns the machine cruise control on/off.
 - Light Switch - Turns the machine LED lights on or off.
 - Pitch Control Switch - Dual blade pitch control.
 - Idle/Full Throttle Switch - Controls engine RPM.
6. USB - USB plugs. 2.1A @ 5VDC MAX.
7. Foot Control - Used to control rotor speed.
8. Fuel Tank - Holds 13 gal [49.2 L] of gasoline.
9. Engine Coolant Access - Used to access the engine coolant.
10. Hydraulic Fluid Reservoir - Where the hydraulic fluid is stored.
11. Machine Lights - Used to illuminate the surrounding work area.
12. Warning Light - Red, LED, Change hydraulic filter.
13. Tool Holder - Store hand tools here.
14. Cup Holder - Holds your favorite beverage.
15. Engine Display Module - Controls/monitors multiple other features.
16. Fuse Box - Holds electrical fuses and relays.
17. Manual Tube - Holds the machine safety and operations manual.
18. Retardant Reservoir - Holds the retardant fluid.
19. Air Filter - Filters the engine air.
20. Battery - 12VDC, 800 Cold Crank Amperes (CCA).
21. Spray Nozzle - Used to spray retardant on concrete.
22. Telematics Antenna - Part of AEC Intelli-Power telematics system.

SECTION 2 OPERATIONS

Machine Functions

FUNCTIONS:

- Cruise Control - Depress the throttle pedal to the desired speed and then push the left most toggle switch UP to enable cruise control, push the switch DOWN to disable cruise control.
- Light Switch - Use the rocker switch to turn the lights on and off. Push the toggle switch UP to turn the lights on, push the switch DOWN to turn the lights off.
- Pitch Control - Use the rocker switch to adjust the pitch of both the left and right blades together. Push the toggle switch UP to decrease the blades pitch, push the switch DOWN to increase the blades pitch.
- Throttle Up/Throttle Down- The rocker switch to the left of the operator will toggle the machine between RUN RPM and IDLE RPM after the Hydraulic oil has reached operating temperature. Push the toggle switch UP to change to Full RPM, push the switch DOWN to change to Idle RPM.
- Seat Switch - The machine cannot be in RUN RPM unless the seat switch is made. If the operator stands up while in run RPM, the machine will return to IDLE RPM.
- Hydraulic Filter Status - An Red LED will light up if the hydraulic filter becomes clogged and needs to be changed. Located on the left hand seat frame.

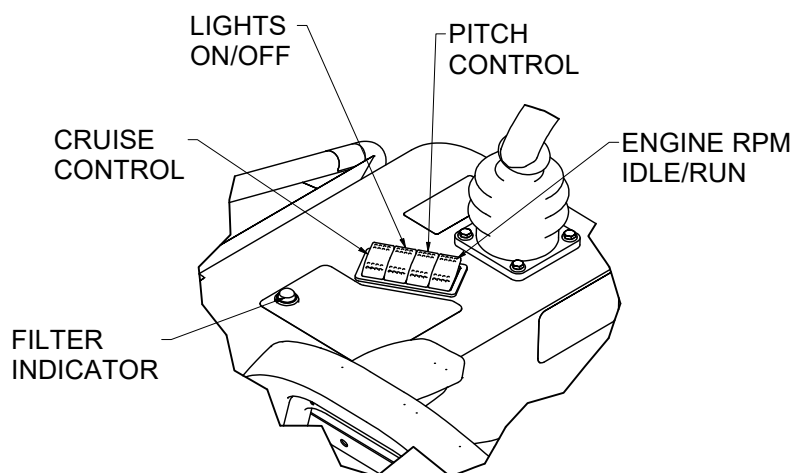


Figure: Control Switches

Note: UP refers towards the front of the machine, and DOWN refers towards the rear of the machine.

Before Starting Procedures

Before operation each day check for the following:

1. All guards, side screens and panels are in place
2. All safety and information signs are in place and legible
3. Engine and Hydraulic Oil levels are correct.
4. Fuel level in fuel tanks.
5. The battery level
6. Condition of air filter on engine.
7. Condition of riding trowel arms and blades.
8. That the daily grease points have been performed.
9. Operating controls for proper operation and adjustment
10. Speed control operation before and after starting engine for proper operation
11. The steering left and right, for proper operation
12. For any hydraulic leaks
13. Remove any loose objects that could interfere with the operation of the trowel

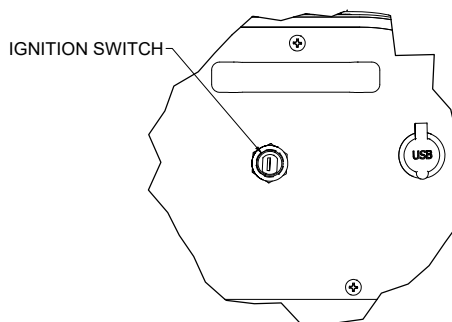
Note: If there is any indication that faulty equipment exists, shutdown safely, inform the proper authority and **DO NOT** operate the riding trowel until the problem has been fixed.

Starting Procedures

Turn ignition switch key to the start-position (located on the front left hand panel [Sitting On Machine position]), immediately release key when engine starts. Allow engine to warm up for 5 minutes before operating riding trowel.



Operating the starter for more than 5 seconds can damage the starter or engine. If engine fails to start release the switch and wait 60 seconds before operating starter again.



SECTION 2 OPERATIONS

Trowel Operation

Operating The Riding Trowel

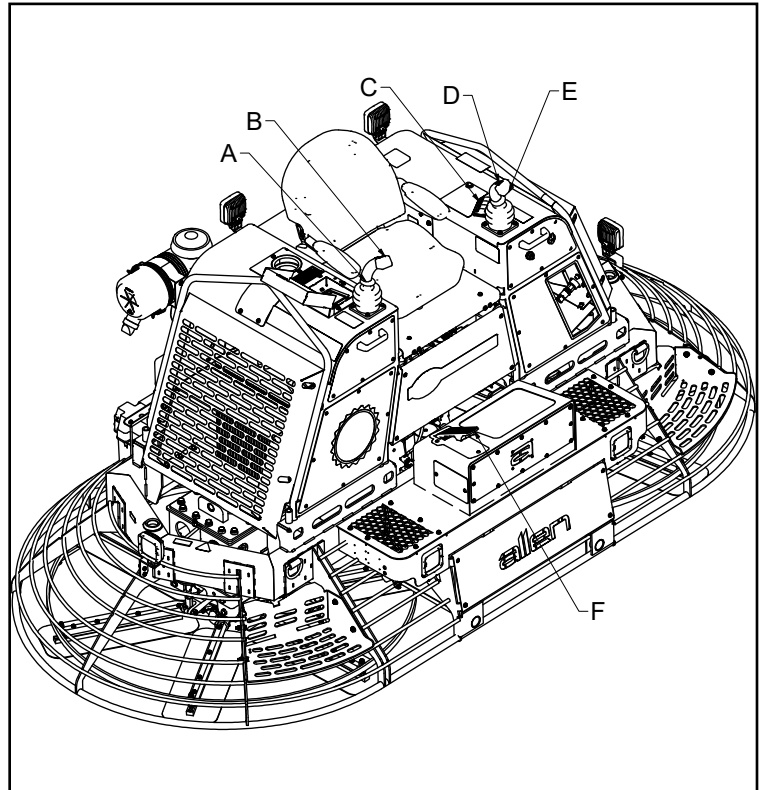
To utilize your Allen Engineering **HDX705** rider to its fullest capacity the machine should be driven in the direction the operator is facing. This will finish the widest possible area while giving the operator an excellent view of the slab surface about to be troweled. When the machine reaches the end of the slab make a 180 degree turn and repeat the straight line of direction to the other end of the slab. To familiarize a new operator with the riding trowel the following steps should be taken.

! NOTE

All items in this manual are described from the operator “Sitting On Machine” position or **SOM** for short

Location of all Operating Controls

- A. Right Joystick (Left & Right, Forward & Reverse)
- B. Right Pitch Control
- C. Control Switches, see page 30
- D. Left Pitch Control & Retardant Spray Push button
- E. Left Joystick (Forward & Reverse)
- F. Throttle Foot Pedal



Engine Speed

The engine has two primary speed settings: Idle & Full RPM

The engine will start at idle speed. This machine is equipped with a **Cold Weather Start** circuit, meaning that the engine RPM will not increase above idle speed until the hydraulic oil has reached an optimum temperature. The operator can activate the Throttle switch to **FULL** during this period, however the RPM will not increase until that optimum temperature is achieved.

There is a seat sensor on the machine that will not allow the engine RPM to go above idle speed if the operator is not seated. Therefore, the operator must be seated **AND** the Cold Weather Start circuit must be disengaged in order for to achieve full RPM speed.

Starting & Stopping the Trowel

Allow the engine to run at idle speed for a few minutes to warm up, then use the throttle switch to throttle up. Increase the RPMs by pressing the switch towards the front of the machine and decrease by pressing the switch towards the rear.

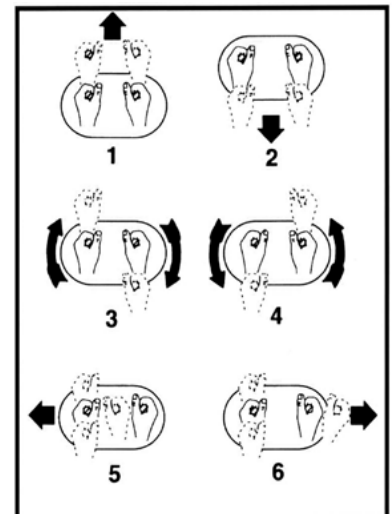
The machine trowel blades are enabled by the foot pedal (F). Hold down the pedal to enable the rotors to begin turning. Use both joysticks to move forward and reverse, to move left to right use the right joystick [A], see figure below.

To stop the trowel's movement, return the joysticks [A] and [E] to their neutral position. Also release pressure on the foot pedal [F]. Use the throttle switch to set the engine back to idle speed and allow the machine to run for a few minutes to cool the system before turning it off.

Steering the Riding Trowel

A slight "feathering motion" forward and backward with the left hand joystick may be required to move the machine in a straight path to the left. The same motion is required of the right joystick to move to the right.

Position.....	Action
1	Forward
2	Reverse
3	Rotate Clockwise
4	Rotate Counter-clockwise
5	Sideways - Left
6	Sideways - Right



With the operator in the seat, show him the functions of the joysticks [A] and [E] and how to start the machine.

A hard level concrete slab with water on the surface is an ideal place for an operator to practice with the machine. For practice pitch the blades up approximately 1/4 inch on the trailing edge. Start by making the machine hover in one spot and then practice driving the machine in a straight line and making 180 degree turns. Best control is achieved at full engine RPM.



This machine is equipped with a seat kill switch mechanism. If in need of an emergency stop, simply turning the key off or raising off the seat even while holding the right foot pedal down, will stop the engine from running.



DO NOT use excessive pressure on the joysticks. Excessive pressure does not increase the reaction time of the machine and can damage steering controls.

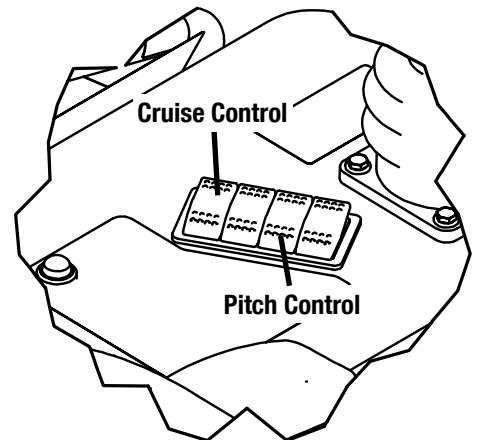
SECTION 2 OPERATIONS

Trowel Operation

Cruise Control

This machine comes standard with a cruise control function. Cruise control will allow the operator to remove their foot off the foot pedal and still maintain rotor function.

To use the cruise control, enable the foot switch so that the rotors engage, then push the cruise control switch up. To release the cruise control, press on the switch down.

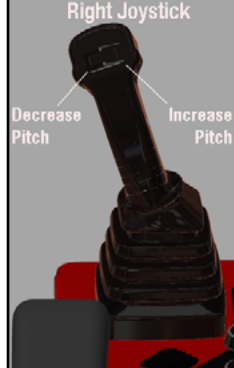


Pitch Adjustment

Different pitch angles are needed as you work the different stages of the concrete. When changing or setting pitch (angle of trowel blades), slow the machine down, set the desired degree of pitch on the left side of the machine and then adjust the right side to match.

To change the pitch, the operator will use the rocker switch located at the top of either joystick. By pressing the rocker switch towards the inside, the pitch will decrease, pressing the switch toward the outside of the joystick will increase the pitch level. (see Figure below).

The pitch can also be adjusting using the toggle switch located on the left seat frame panel, this switch controls both the left and right side blades simultaneously.

	Working Conditions of Concrete	Suggested Working Pitch
	Stage 1: Wet surface working stage	0° 
	Stage 2: Wet plastic working stage	5° 
	Stage 3: Plastic working stage	10° 
	Stage 4: Semi-hard working stage	15° 
	Stage 5: Hard finishing stage (Burnishing)	20° 



The Murphy PowerView 380 features robust, multifunction displays for advanced monitoring of multiple electronic engines.

It's capable of monitoring multiple engines and machine parameters on an easy-to-read 3.8-inch (97mm) QVGA monochrome LCD. The display is capable of handling sophisticated engine diagnostics as well as basic engine alarm/shutdown. Customize the PV380 display using the PowerVision Configuration Studio®, an intuitive tool designed to make customization simple. Using the software tool, users can tailor basic graphics, designate screen layout and define custom parameters. The PV380 is equipped with

five tactile push buttons to quickly access a convenient menu. In addition, a back-lit and heated graphic display with LEDs indicate alarm or shutdown status.

Flat Screen Display

A 3.8" QVGA monochrome LCD screen displays gauges, soft key commands and fault messages as well as menu options for setup and configuration.

Soft Keys and Commands

The five tactile push buttons on the bottom of the display correspond to the options available for the screen being displayed.

Alarms

Red and amber warning LEDs; set point triggered output for external piezo buzzer or shut-down relay.

SECTION 3: SERVICE

Maintenance Schedule

SECTION 3 SERVICE

Periodic Maintenance Schedule

The table below list basic trowel and engine maintenance. Refer to OEM engine manufacturer's Operation Manual for additional information on engine maintenance. A copy of the engine operator's manual was supplied with the machine when it was shipped.

Maintenance Schedule								
Description	Daily	Monthly	200 Hrs	250 Hrs	400 Hrs	500 Hrs	1k Hrs	5k Hrs
INSPECT								
Inspect Engine Oil Level	X							
Inspect Hydraulic Oil Level	X							
Inspect Air Filters		X						
Inspect Radiator Fins	X							
Inspect Radiator Coolant	X							
Inspect for Leaks	X							
Inspect all Hardware						X		
Inspect Belts			X					
Inspect Wiring						X		
Inspect Battery						X		
Inspect Exhaust						X		
Inspect Coolant Hoses						X		
Inspect Hydraulic Hoses						X		
Inspect Catalyst						X		
ACTION								
Control Linkage Lubrications		X						
Change Engine Oil & Filter					X*			
Spark Plugs (Clean, Adjust, or replace)					X**			
Change Hydraulic Oil & Filter			X ⁽¹⁾				X ⁽¹⁾	
Check/Change Fuel Filter			X***					
Change Air Filters					X			
Replace Fan Belt						X		
Change Coolant								X

*After the first 150 hrs of use change the engine oil and oil filter

**Change spark plugs at least every 3,000 hrs - Type: AYFS-32Y-R, gap 1.25-1.35 mm (0.049-0.053 in)

***Check fuel filter every 200hrs and change as necessary

(1) See "Oil, & Air Filter Replacement" on page 38 for detailed hydraulic oil service interval recommendations

SECTION 3 SERVICE

Oil, & Air Filter Replacement

Hydraulic Oil

Replace Hydraulic Fluid with Hydraulic Oil 68 (DTE26) or Equivalent

The hydraulic oil should be filled just above the sight glass, tank capacity is approximately 13.5 gal. Do not overfill the mainframe tank. See “Hydraulic Filter Service” on page 42.

(1) Hydraulic Oil Service Recommendation

- Initial Oil Change (Break-In Period): Perform the first hydraulic oil change between 100–250 hours as best practice to remove wear-in debris and early contamination.
- Standard Operating Conditions: After the initial change, replace hydraulic oil every 1000 hours during normal duty cycles and clean operating environments.
- Severe Conditions (Dust, Heat, Heavy Use): If the machine operates in dusty environments, experiences prolonged high temperatures, or runs extended daily duty cycles, shorten the interval to every 500 hours to maintain optimal system protection.
- Hydraulic Filters: Replace all hydraulic filters at every oil change interval, regardless of operating conditions, to ensure proper contamination control. **Y-Strainer Filter: PN 046472 / Charge Filter: PN 043418**

Refer to OEM engine manufacturer’s Operation Manual for additional information on engine maintenance.

Engine Oil

- Change the type of engine oil according to the ambient temperature.
- When using oil of different brands from the previous one, be sure to drain all the previous oil before adding the new engine oil.

Oil Capacity: 6.0 Qts (5.7 L)

Oil Capacity with Filter: 6.7 Qts (6.4 L)

Recommended Filter: 1S7G-6714-DA Motorcraft: FL-910

Recommended Oil: Ford/Motorcraft Formula E SAE 5W-20

Recommended Oil - All Temperatures	
Weight/Viscosity	API Spec.
5W-20	SH, SJ, SL, SM, SN
5W-30	

NOTICE

Do not allow oil to come into contact with rubber hoses on the engine

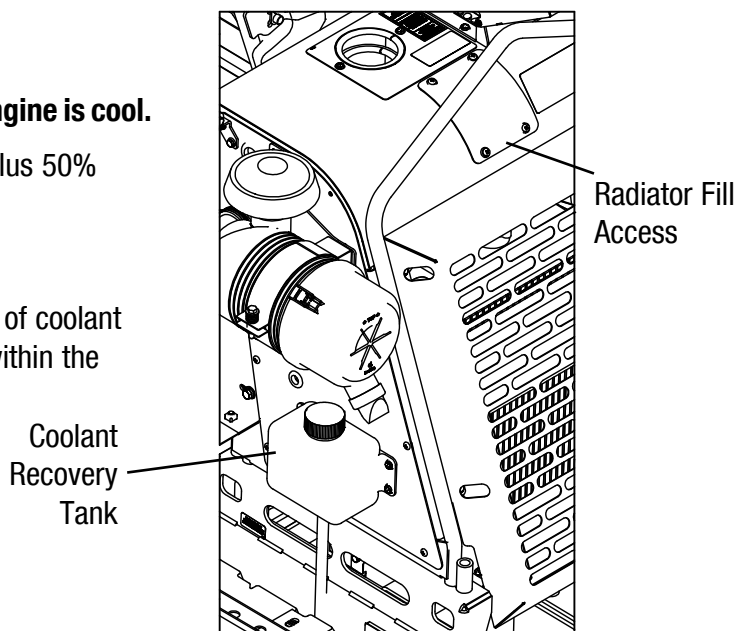
Engine Coolant

CAUTION Only check the coolant level when the engine is cool.

Coolant Type: 50% Motorcraft Premium Gold engine coolant plus 50% clear water

Ford specification: WSS-M97B51-A1

Coolant level: Check the coolant level by referencing the level of coolant in the recovery/expansion tank. Ensure that the fluid level is within the indicated marks.



Air Filter

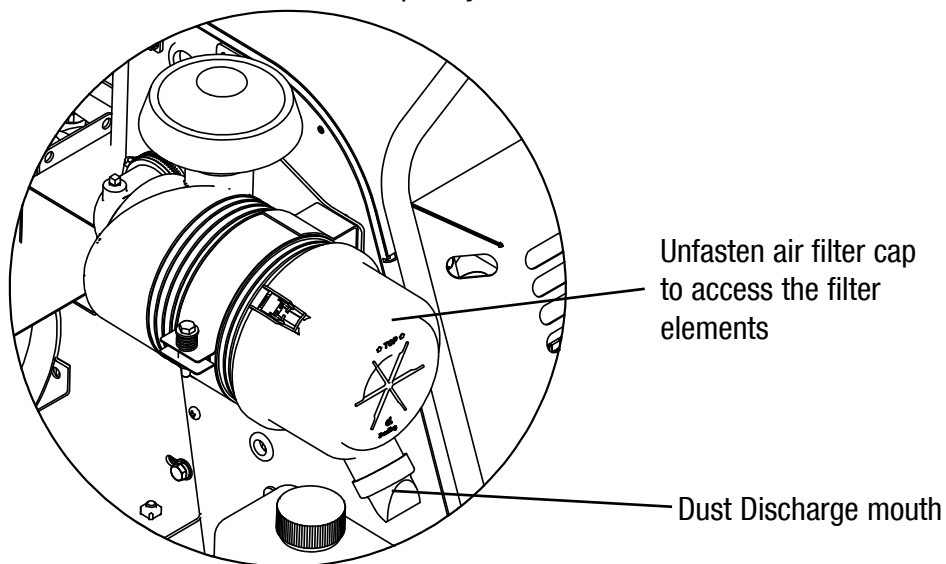
The air filter has a primary filter element and a secondary safety filter element. To service, remove the elements from the air cleaner assembly, inspect the elements and remove all dust and foreign matter or replace them if necessary.

Primary filter element: 081163, Safety filter element: 081164

The air filter also has a dust discharge mouth, periodically check this and remove all dust and foreign matter.

NOTICE

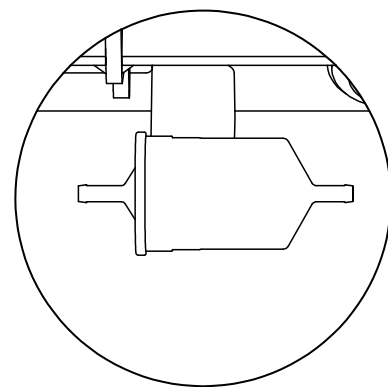
In dusty environments service the air cleaner more frequently



Fuel Filter

The fuel filter is located in the inside of the machine behind the fuel tank. Every 200 hours check the condition of the fuel filter and change if necessary.

Fuel filter part number 081156



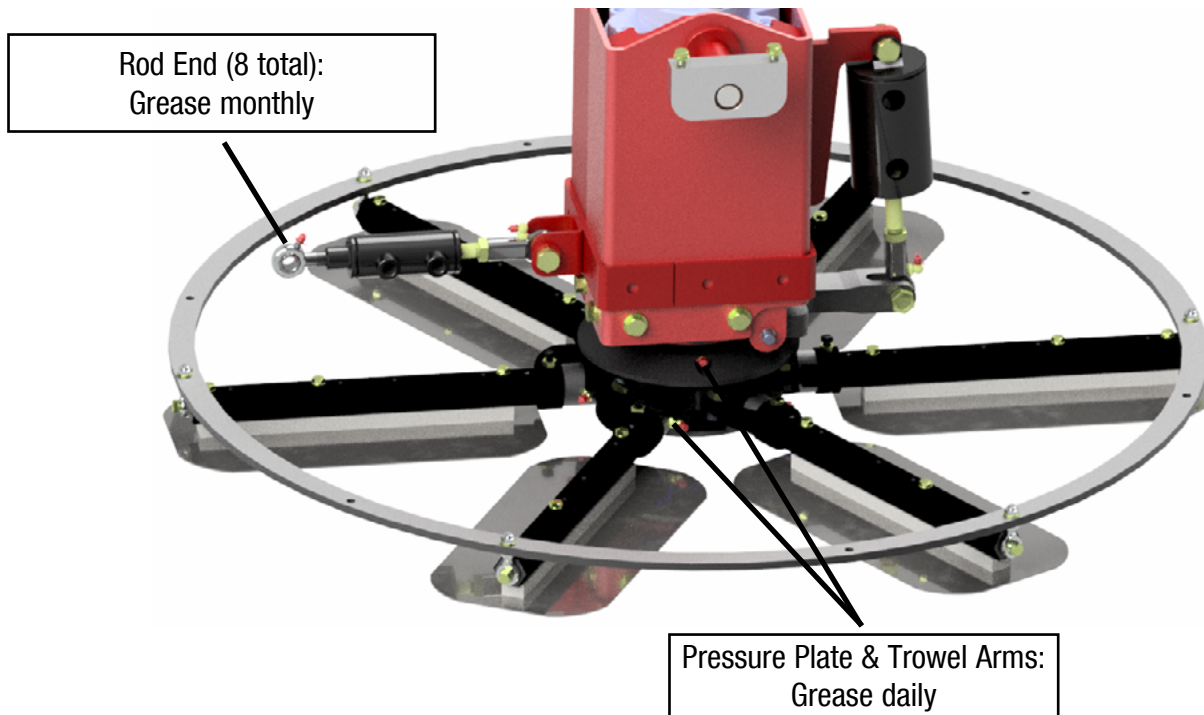
SECTION 3 SERVICE

Grease Points

Grease Points

- Hydraulic cylinder rod end joints
- Pressure plate bearing
- Trowel Arms

Use Mobilith SHC 220 grease or a grease with similar or equivalent properties.



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SECTION 3 SERVICE

Hydraulic Filter Service

DANGER

Hydraulic system service safety:

- **DO NOT** check for leaks with your hands.
- Ensure that the machine is powered off and the hydraulic system is depressurized. (There should be no pressure in the system as long as the machine is turned off.)
- If applicable, **DO NOT** service a hot machine. Allow the machine to cool before servicing hydraulic components.

Note: Illustrations are for reference only

The filter status should be checked weekly or monthly. For the Charge Filter check to see if there is a notification on the display or from the light on the seat frame. Check the pressure gauge on the Y-Strainer filter.

Be sure to use a pan/container to catch any oil that drains when changing the filters, **fluid will drain from the filters**. Either tilt the machine to divert the oil or cap the ports or hoses while servicing the filter. **After changing the filter element make sure that the hydraulic oil is topped off**, the oil should be filled just above the sight glass. Do not overfill the mainframe tank.

Replace Hydraulic Fluid with Hydraulic Oil 68 (DTE26) or Equivalent. The riding trowel is filled with Philips66 Megaflow AW Hydraulic Oil 68 at the factory.

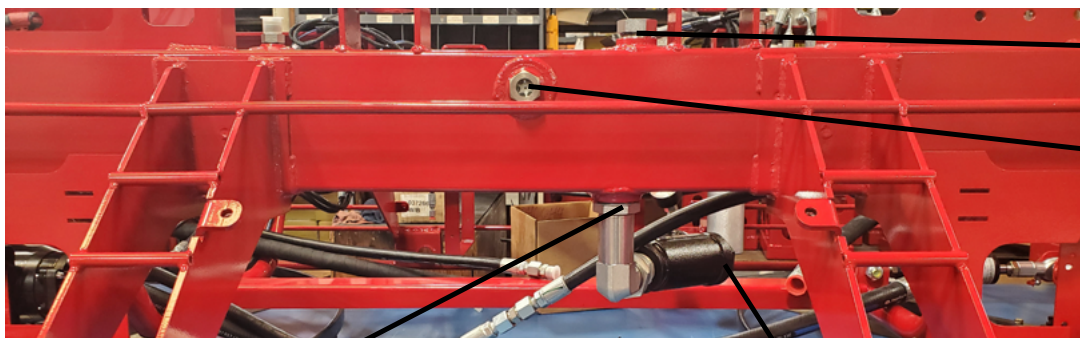
Y-Strainer Filter

- Y-Strainer Filter. This filter is located right at the mainframe tank outlet, and it has a **pressure gauge to indicate how clogged the filter is. Change the Filter Element if the gauge needle is in the red section.**
- To change the filter element on the Y-Strainer filter, unscrew the hexagonal cap, indicated in the second picture.
- After the cap has been removed the filter element should be accessible. Unscrew/detach the filter element and replace it. Reassemble the filter and filter element in opposite order of disassembly. Filter part number 046472. Filter Element part number 046473



Filter Cap

Rear view



Mainframe Tank Inlet

Sight Glass

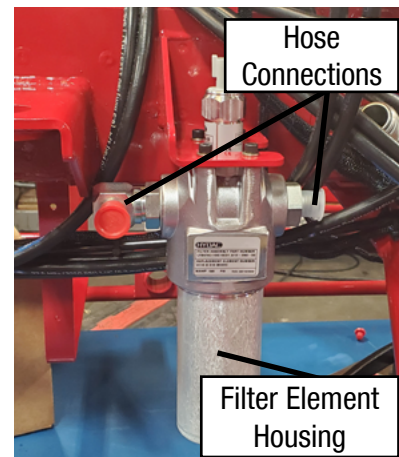
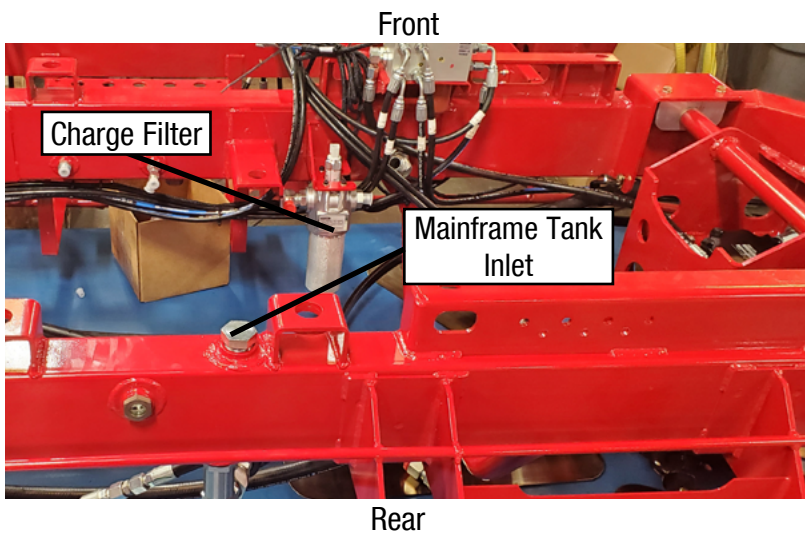
Mainframe Tank Outlet

Y-Strainer Filter

Note: Illustrations are for reference only

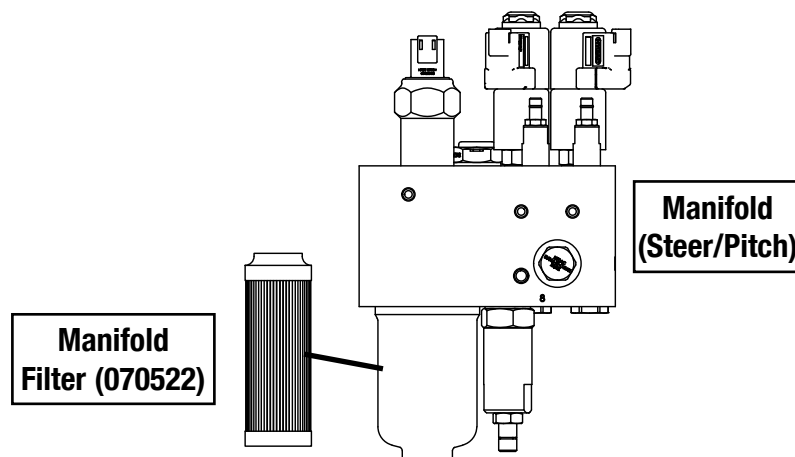
Charge Filter

- Charge Filter. This filter is attached to the mainframe. **If this is clogged there will be a light in the right side of the seat frame and/or a signal from the diagnostics display (or Engine Control Unit display). Change the Filter Element if prompted by the display or the light on the seat frame.**
- To change the filter element on the Charge filter, unfasten the lower cylindrical housing.
- After the lower housing has been removed the filter element should be accessible. Unscrew the filter element and replace it. Reassemble the filter and filter element in opposite order of disassembly. Filter part number 065141. Filter Element part number 043418.



Manifold (Steer & Pitch) Filter

- The Steer/Pitch Manifold is located on the front right side of the machine. This filter is attached to the manifold body. Change the Filter Element during normal service intervals.
- To change the filter element on the manifold, unfasten the lower cylindrical housing.
- After the lower housing has been removed the filter element should be accessible. Unscrew the filter element and replace it. Reassemble the filter and filter element in opposite order of disassembly. Filter part number 070522.



Battery Jump Start Procedure

Occasionally it may be necessary to jump start a weak battery. If jump starting is necessary the following procedure is recommended to prevent starter damage, battery damage, and personal injury.



Jump starting a battery incorrectly can cause the battery to explode resulting in severe personal injury or death. Do not smoke or allow any ignition sources near the battery and do not start a frozen battery.



Electrical arcing can cause severe personal injury.
Do not allow positive and negative cable ends to touch.

1. Use a battery of the same voltage (12V) as is used with your engine.
2. Attach one end of the positive booster cable (red) to the positive (+) terminal of the booster battery. Attach the other end to the terminal of your engine battery.
3. Attach one end of the negative booster cable (black) to the negative (-) terminal on the booster. Attach the other end of the negative cable to your engine battery.
4. Jump starting in any other manner may result in damage to the battery or the electrical system.



Over cranking the engine can cause starter damage.
Allow 5 minutes for starter to cool if engaged for more than 15 seconds.



When using lights or high amperage draw accessories,
idle the engine for a period of 20 minutes to bring the battery to charge state.

Lift Lever Adjustment Procedure

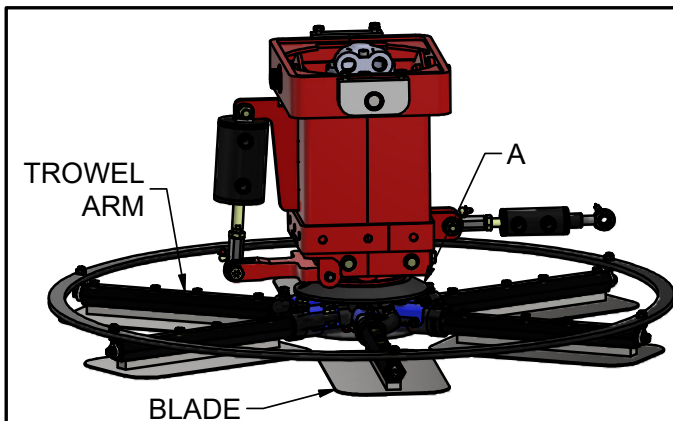
- Damage to and/or replacement of a trowel arm can change the adjustment of the lift lever. This can unbalance the trowel arms and cause the riding trowel to wobble during operation. To operate smoothly the lift lever on all trowel arms must be adjusted the same to ensure that the riding trowel is balanced correctly.
- Adjusting the trowel arms is accomplished by using the optional trowel arm alignment jig AEC PN 016863. The service manual that is included with the alignment jig describes in detail the steps to perform this procedure and to check the flatness and straightness of the trowel arms.

! NOTE

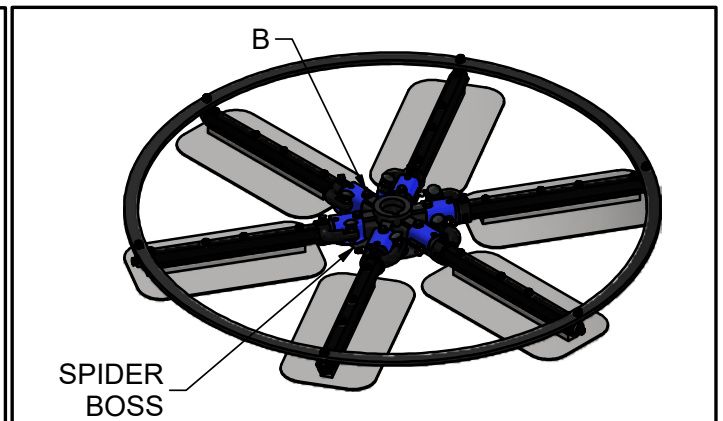
Make sure that there is no pitch in the blades before attempting to remove a trowel arm.

- The steps below described the general procedure to remove the trowel arms to be aligned.
 1. Block up pressure plate **[A]** using a wooden block.
 2. Remove stabilizer ring from spider assembly (only on available models).
 3. Remove blades from trowel arms.
 4. Loosen hex head cap screw **[B]** and remove it and the external star washer from the spider boss.
 5. Remove trowel arms from spider boss with lift levers in place.
 6. Clean flats on trowel arm before placing it in the trowel arm jig (PN 016863).
 7. Perform the alignment procedures as outlined in the alignment jig service manual (PN 047427).
 8. Re-attach trowel arm to spider boss and blades to trowel arms.
 9. Tighten down hex head cap screw to secure trowel arm in place.
 10. Reattach stabilizer ring (only on available models).

PICTURES FOR REFERENCE ONLY



PRESSURE PLATE LOCATION



FASTENER HARDWARE REMOVAL

SECTION 3 SERVICE

Troubleshooting

Area	Malfunction	Possible Cause	Corrective Measure	Ref.
Engine	Engine does not start, or is difficult to start	Battery is discharged	- Add battery fluid - Charge the battery - Replace the battery	
		Battery cable is disconnected	- Connect battery cable	
		Blown fuse	- Replace fuse	
		Bad connection or breakage in the wiring	- Contact your AEC dealer	
		Out of fuel	- Fill fuel	
		Air is in fuel	- Contact your AEC dealer	
		Engine fouled	- Wait a while and try starting again	
		Insufficient or wrong oil	- Fill or change oil	
		Dirty or damaged spark plug	- Clean or replace spark plug	
		Contamination in fuel system	- Contact your AEC dealer	
		Other (other than above)	- Contact your AEC dealer	
	Engine stalls	Out of fuel	- Fill fuel	
		Cold engine	- Warm up the engine	
		Other (other than above)	- Contact your AEC dealer	
	Engine stops abruptly	Out of fuel	- Fill fuel	
		Piston seizure due to insufficient or bad oil	- Contact your AEC dealer	
		Other (other than above)	- Contact your AEC dealer	
	Engine does not stop	Electrical malfunction	- Contact your AEC dealer	
		Other (other than above)	- Contact your AEC dealer	
	Idling is not stable	Insufficient intake air (clogged air cleaner)	- Clean or replace the air cleaner	
		Other (other than above)	- Contact your AEC dealer	
	Poor power or acceleration	Bad fuel	- Change fuel	
		Wrong oil (improper viscosity)	- Change to suitable oil	
		Accelerator (throttle) is not properly adjusted	- Contact your AEC dealer	
		Insufficient intake air (clogged air cleaner)	- Clean or replace the air cleaner	
		Excessive load	- Reduce load	
		Loose drive belt	- Adjust	
		Other (other than above)	- Contact your AEC dealer	
	Irregular noise or vibration from or around the engine		- Contact your AEC dealer	
	Excessive oil consumption		- Contact your AEC dealer	
	Engine overheats	Insufficient amount of engine oil	- Fill oil	
		Cooling fan is clogged or blocked	- Clean	
		Other (other than above)	- Contact your AEC dealer	
	Excessive fuel consumption	Clogged air cleaner	- Clean or replace air cleaner	
		Other (other than above)	- Contact your AEC dealer	

Area	Malfunction	Possible Cause	Corrective Measure	Ref.
Engine	Black smoke comes out of exhaust	Bad fuel	- Change fuel	
		Clogged air cleaner	- Clean or replace the air cleaner	
		Other (other than above)	- Contact your AEC dealer	
	White or blue smoke comes out of exhaust	Engine oil level is too high	- Adjust the oil level	
		Other (other than above)	- Contact your AEC dealer	
Safety Devices	Lamp does not light	Blown bulb	- Replace	
		Blown fuse	- Replace	
		Other (other than above)	- Contact your AEC dealer	
Hydraulic System	Pump does not work	Insufficient or deteriorated hydraulic fluid	- Add or change fluid	
		Other (other than above)	- Contact your AEC dealer	

Machine Cleaning Procedure

When cleaning the machine, please adhere to the following information to ensure proper cleaning and to keep the machine in the best condition possible.

Power Washing Procedure:

NOTICE

- Ensure that the water pressure is below 2000 PSI (14 MPa)
- Always keep the water temperature below 180°F (80°C)
- Use a spray nozzle with at minimum 40° wide spray angle
- Keep the nozzle at least 1 foot (300mm) away from the machine
- Avoid spraying water on the engine and electronic components. Examples include electronic displays, lights, switches, wiring, etc. The electronic components may be damaged if water is sprayed on them.
- Keep a perpendicular angle (90°) when cleaning over a decal.
 - Holding nozzle of a pressure washer at an angle different from 90° may lift the decal from the machine.
- Recommended using a safe cement dissolver, **BACK-SET** or similar, to remove hardened concrete.
- It is **NOT** recommended to use chemicals such as:
 - Muriatic Acid
 - Hydrochloric Acid
 - Hydrofluoric Acid
 - Sulfuric Acid
 - Phosphoric Acid
- To prevent build-up of concrete on the machine, use **BODY GUARD** or similar protection wax.

Filter Cleaning Procedure:

- Remove air filters and blow out with compressed air, **NOT** to exceed 80 PSI.

SECTION 4: ACCESSORIES

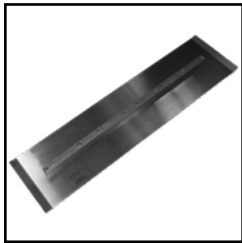
SECTION 4 ACCESSORIES

Popular Accessories



Trowel Blade, Combo, 8" X 18", VP Silver Series
(only sold as set of 4)

Part Number: 016094V-4



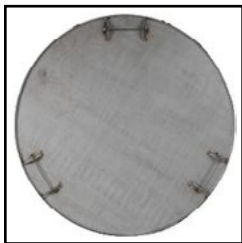
Trowel Blade, Finish, 6" X 18", VP Silver Series
(only sold as set of 4)

Part Number: 015695V-4



Float Pan, Clip On, 46.5" O.D., Universal Flat, 80° Lip Angle,
5-Blade

Part Number: 051552



Float Pan, Safety Catch, 46.5" O.D., Universal Flat, 80° Lip Angle,
5-Blade

Part Number: 051553



Lifting Bridle, 6,000 Pound Max, 2-Point x 3 Foot

Part Number: 064798



Dolly Jacks are available for HDX riders to make mobilization easier. These tires are pneumatic but they can be foam-filled to help support the added weight of the machine and to help prevent flats. (Comes in set of 2)

Part Number: 048770

NOTICE

Parts Manual

In order to provide a premier experience to our customers, we have moved the “Parts” section out of this manual and placed it in a separate “Parts & Decals Manual”. This will allow us to provide any changes or other important information quicker to you, the customer. See below for ways to access the “Parts & Decals Manual”.

Mobile Device:

Scan this QR code with a compatible device (cellular phone, tablet, etc.)



Computer:

Click the link to find the product manuals:

<https://www.alleneng.com/equipment-manual>

Mail:

A physical copy of the parts manual can also be mailed to you upon request. Please contact Allen Engineering service department and one can be sent to you.

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Revision Detail

MANUAL REVISION DETAIL

REVISION #	REVISION DATE	REVISION REFERENCE #	REVISION BY
-	2/2025	-	MK
A	02/2026	Updated warranty policy 2026. Updated Hyd service recommendation.	MK
B	07/26	Updated Hyd service information.	MK



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