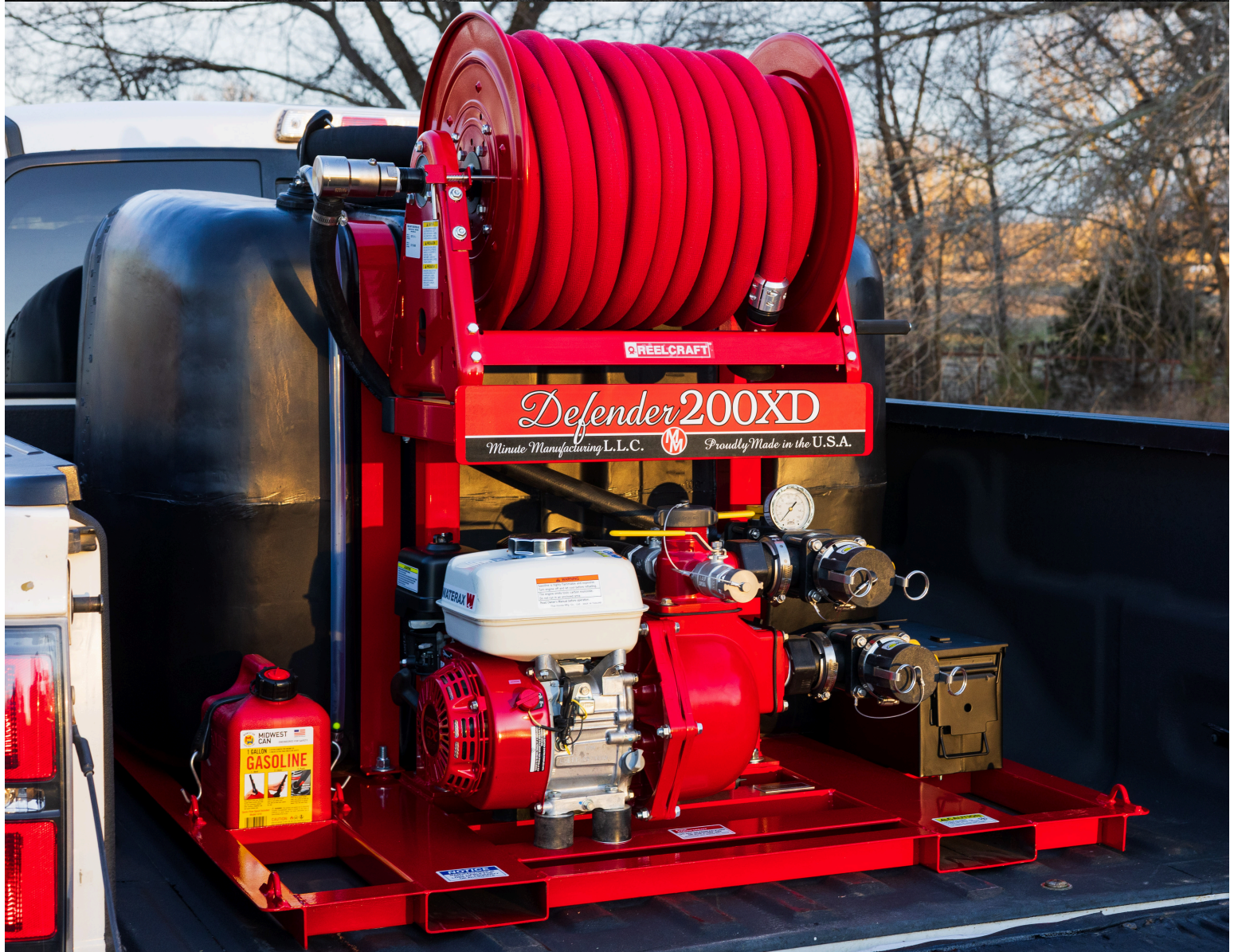


DEFENDER XD OWNER'S MANUAL



SUPPORT INFORMATION

For assistance, parts, or service, please contact:

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KEEP MANUAL WITH EQUIPMENT AT ALL TIMES



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INTRODUCTION

➤ ⚠ SAFETY INFORMATION ⚠

- Before operating your Defender XD Truck Fire Skid, read and fully understand this Owner's Manual.
- Failure to follow the instructions, precautions, and warnings in this manual may result in equipment damage, serious injury, or death.
- Always wear proper Personal Protective Equipment (PPE) when operating the unit.
- Do not modify the unit in any way without manufacturer approval.
- Keep all operators trained and familiar with the controls and safety procedures.

OPERATION INSTRUCTIONS

➤ STARTUP PROCEDURE

- Check engine oil - confirm dipstick level is in the correct zone.
- Check gasoline level - use non-ethanol gasoline for best performance.
- Set choke.
- Turn fuel shutoff switch ON.
- Verify kill switch is in the ON position.
- Ensure the pump has water - do not run pump dry.
- Start engine using recoil pull cord.

➤ NORMAL OPERATION

- Confirm arrow on bottom 3-way valve faces the water source (either tank or auxiliary water source).
- Confirm arrow on top 3-way valve faces the tank for spraying or away from tank for discharging.
- Set 1" recirculation valve to open position when not spraying (prevents pump overheating). Position at a 45-degree angle for spot spraying.
- To spray water: turn booster hose valve ON and operate the nozzle.

➤ DRAFTING OPERATION

- Make sure pump is filled with water.
- Connect suction hose to suction port on bottom 3-way valve - set hose and strainer in water source.
- Turn bottom 3-way valve towards suction hose (away from tank).
- Set 1" recirculation valve to open position (to allow water into tank).
- Start engine - you should hear engine pull down when drafting and feel water pumping into the tank.

➤ SHUTDOWN PROCEDURE

- Idle down engine to allow pump and engine to cool.
- Switch kill switch to OFF.

➤ ⚠ SAFETY WARNINGS ⚠

- Do not run pump dry - permanent seal damage may occur.
- Always use clean, non-ethanol gasoline.
- Never operate without PPE (gloves, eye protection, fire clothing, etc.).
- Secure skid properly in vehicle before transport.
- Drain pump and hoses before freezing conditions.



MAINTENANCE

▶ **ROUTINE INSPECTIONS**

Perform the following checks before each use to ensure safe and reliable operation:

- Engine Oil - Check engine oil level on dipstick and top off if needed.
- Air Filter - Check air filter. Clean/blow out when dirty.
- Fuel Level - Use fresh, non-ethanol gasoline only.
- Pump Housing - Ensure the pump is primed and free of leaks.
- Hoses - Inspect booster hose and suction hose for cracks, abrasions, or leaks.
- Nozzle & Valves - Check for smooth operation and free movement.
- Frame & Tank - Inspect mounting points, tie-downs, and tank bands for security.
- Sight Tube & Float - Confirm tank water level is visible and float is functioning properly.
- Flush Pump - Flush pump with clean water after using foam, herbicides, or chemicals.

▶ **SERVICE SCHEDULE**

Perform maintenance at the following intervals, whichever comes first:

Every 25 Hours / 3 Months

- Inspect all hoses, fittings, and nozzles.

Every 50 Hours / 6 Months

- Clean/blow out air filter.
- Inspect spark plug and clean or replace if necessary.

Every 100 Hours / Annually

- Change engine oil (see Fluid Capacities).
- Replace spark plug.
- Replace air filter.
- Clean fuel filter.
- Inspect and replace pump seals if leaking.
- Tighten all bolts, clamps, and fittings.
- Recoat any chipped paint areas to prevent rust.

▶ **STORAGE & WINTERIZATION**

If storing for extended periods or in freezing conditions:

- Drain water out of tank and manifold via pumping the water out of tank (tilting skid towards rear or park at an angle to get more water out of the tank).
- Drain pump and manifold via drain plug on bottom of pump casing. Ensure valves are positioned correctly to allow manifold to drain.
- Drain booster hose by: 1. Unwinding completely, 2. Opening nozzle, 3. Rewinding, 4. Closing nozzle. This should allow all water in hose to run out.
- Fill the pump and manifold with RV antifreeze for freeze protection.
- Always treat gasoline or run gas tank empty before storing.
- Store skid in a dry, covered area (preferably under a tarp or protective cover).

▶ **⚠ SAFETY NOTES ⚠**

- Never run the pump without water - this will cause rapid damage to seals.
- Always perform maintenance with engine off and spark plug wire disconnected.
- Dispose of oil, fuel, and filters according to local environmental regulations.
- Use appropriate PPE (gloves & eye protection) when handling fuel or chemicals.



CAPACITIES

► FLUID CAPACITIES

- The Defender XD Truck Fire Skid requires proper fluids to ensure safe and reliable operation. Always use the recommended fuel and oil types listed below.

<u>SYSTEM</u>	<u>CAPACITY</u>	<u>TYPE / NOTES</u>
Engine Oil - Honda GX200	0.63 qt (0.60 L)	SAE 10W-30, 4-stroke engine oil. Synthetic or conventional oil. Check dipstick before each use.
Engine Oil - Honda GX270	1.16 qt (1.10 L)	
Engine Fuel Tank - Honda GX200	1.0 gal (3.80 L)	Unleaded gasoline, 87+ octane. Non-ethanol fuel recommended.
Engine Fuel Tank - Honda GX270	1.4 gal (5.30 L)	
Auxiliary Fuel Can	1.0 gal (3.8 L)	1-gallon auxiliary gas can. Store securely during operation.
Pump Priming Water	Fill pump housing	Ensure pump casing is full before operation to prevent damage.
Water Tank	150 gal (568 L) 200 gal (757 L) 325 gal (1,230 L)	Polyethylene tank with sight tube and float.

DIMENSIONS & WEIGHTS

► DIMENSIONS & WEIGHTS

- The Defender XD Truck Fire Skid is available in 150-gallon (150XD), 200-gallon (200XD), and 325-gallon (325XD) tank configurations. Dimensions and weights may vary slightly depending on accessories.

<u>MODEL</u>	<u>DIMENSIONS (L x W x H)</u>	<u>DRY WEIGHT</u>	<u>WET WEIGHT</u>
150XD	60" x 48" x 44"	~400 lbs	~1,650 lbs
200XD	60" x 48" x 44"	~450 lbs	~2,100 lbs.
325XD	91" x 48" x 44"	~550 lbs	~3,300 lbs.



TROUBLESHOOTING

PROBLEM	POSSIBLE CAUSE	SOLUTION
● Engine will not start	- Empty fuel tank - Kill switch in OFF position - Choke not set - Spark plug fouled or disconnected - Low oil shutdown triggered	- Refill with fresh non-ethanol fuel - Verify kill switch is ON - Set choke for cold start - Inspect/clean spark plug and reconnect wire - Check oil level and add if necessary
● Engine starts but stalls	- Dirty air filter - Fuel contaminated or old - Carburetor clogged	- Clean or replace air filter - Drain and replace with fresh fuel - Clean carburetor or seek service
● Engine runs rough or misfires	- Stale or contaminated fuel - Clogged fuel filter or carburetor jet - Bad or misgapped spark plug	- Drain and refill with fresh, non-ethanol fuel - Clean or replace fuel filter/carburetor jet - Clean, re-gap, or replace spark plug
● Excessive engine vibration	- Loose mounting bolts - Engine contacting frame - Damaged engine mounts	- Tighten all mounting bolts - Inspect and adjust engine position - Replace damaged mounts
● Low water pressure	- Nozzle partially blocked - Hose kinked or leaking - Pump impeller worn/damaged - Air in suction line	- Inspect/clean nozzle - Straighten or replace hose - Inspect/replace impeller or seals - Re-prime pump and tighten suction fittings
● Pump overheats	- Running pump without water - Recirculation valve closed during use - Excessive run time without spraying	- Ensure pump is primed with water - Open recirculation valve when not spraying - Allow cool-down cycles
● Pump will not prime or no water flow	- Pump ran dry - Air leak in suction line - Suction hose strainer clogged - Valves not aligned properly	- Fill pump with water before starting - Tighten suction fittings - Clean suction strainer - Verify valve positions per "Normal Operation"
● Water leaks around fittings	- Loose clamps or fittings - Worn gasket	- Tighten clamps/fittings - Replace gasket
● Water leaks between pump and engine	- Mechanical Seal has failed	- Replace Mechanical Seal (# 6) see "Parts Diagram and Breakdown"



PUMP DIAGRAM BREAKDOWN

➤ WATERAX VERSAX 6 PUMP DIAGRAM - HONDA GX200

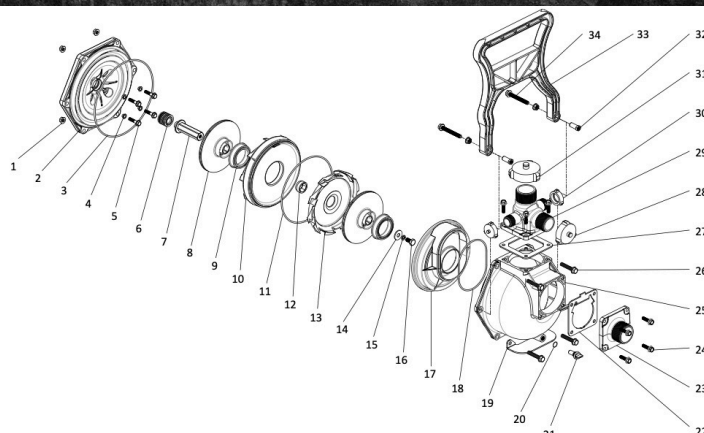


Figure 1: Exploded view of the VERSAX 6HP pump end (portable configuration).

ID	ITEM NO	DESCRIPTION	QTY	ID	ITEM NO	DESCRIPTION	QTY
1	800208	VSC124 NUT CASING VERSAX	6	19	701162*	SUPPORT BRACKET PUMP END VERSAX	1
2	800216	VSC130 YOKE 3/4" SHAFT VERSAX	1	20	800227	VSC122 O-RING FOR DRAIN PLUG VERSAX	1
3	701292	O-RING #2250040 (METRIC) NITRILE 70 DURO	1	21	800195	VSC117 PLUG 1/4" DRAIN VERSAX	1
4	800228	VSC123 SEAL FOR BOLT VERSAX	4	22	800191	VSC116 GASKET - CLACKER ASSY VERSAX	1
5	800217	VSC133 BOLT 5/16" X 1-1/4" VERSAX	4	23	800199	VSC115 FLANGE - SUCTION 2"NPT VERSAX	1
6	800213	VSC129 SEAL - MECHANICAL 3/4"	1	24	800211	VSC126 SCREW M8 VERSAX	8
7	800215	VSC128 STUB SHAFT 5/8" VERSAX	1	25	800192	VSC118 CASING VERSAX	1
8	800226	VSC132 IMPELLER SHAFT 5/8" VERSAX	2	26	800201	VSC125 BOLT - CASING VERSAX	4
9	800229	VSC131 WEAR RING 3/4" SHAFT VERSAX	2	27	800224	VSC107 GASKET - DISCHARGE VERSAX	1
10	800194	VSC114 DIFFUSER - 2ND STAGE VERSAX	1	28	300512*	ADP-A-C15S-NC 1.5 NPSH CAP W/O CHAIN	1
11	800198	VSC113 O-RING DIFFUSER - INTERS VERSAX	1	29	800230	VSC108 FLANGE - DISCHARGE VERSAX	1
12	800214	VSC127 SPACER SLEEVE 5/8X3/4SHA VERSAX	1	30	300762*	ADP-A-C10S-NC 1 NPSH CAP W/O CHAIN	2
13	800190	VSC112 DIFFUSER - INTERSTAGE VERSAX	1	31	300761	ADP-A-C20BSP-NC 2 BSPP CAP W/O CHAIN	1
14	800189	VSC111 WASHER M10X30 VERSAX	1	32	800209*	VSC105 NUT-BUSH 3/8" FOR HANDLE VERSAX	2
15	800220	VSC120 WASHER (SPRING)-IMPELLER VERSAX	1	33	800223*	VSC103 HANDLE VERSAX	1
16	800207	VSC110 SCREW - IMPELLER VERSAX	1	34	800202*	VSC104 BOLT-CASING FOR HANDLE VERSAX	2
17	800222	VSC109 SUCTION COVER VERSAX	1				
18	800187	VSC119 O-RING SUCTION COVER VERSAX	1				

* Not included on vehicle mount configuration.

➤ WATERAX VERSAX 9 PUMP DIAGRAM - HONDA GX270

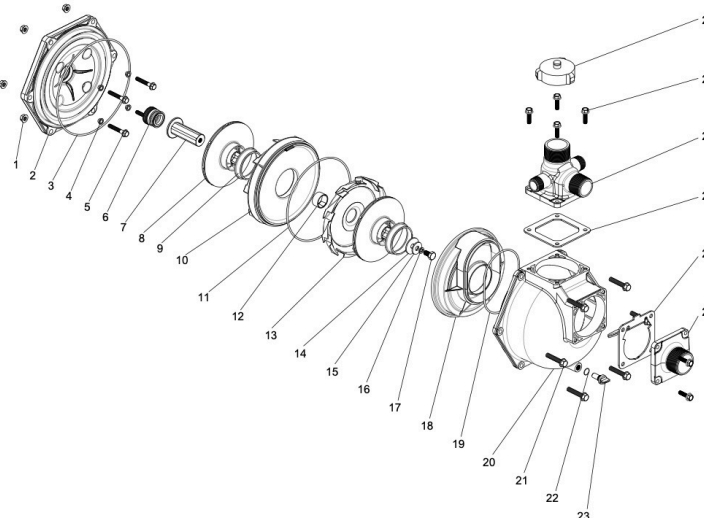


Figure 2: Exploded view of the VERSAX 9 HP pump end (vehicle configuration).

ID	ITEM NO	DESCRIPTION	QTY	ID	ITEM NO	DESCRIPTION	QTY
1	800208	VSC124 NUT CASING VERSAX	6	16	800220	VSC120 WASHER (SPRING)-IMPELLER VERSAX	1
2	800196	VSC138 YOKE 1" VERSAX	1	17	800207	VSC110 SCREW - IMPELLER VERSAX	1
3	701292	O-RING #2250040 (METRIC) NITRILE 70 DURO	1	18	800222	VSC109 SUCTION COVER VERSAX	1
4	800228	VSC123 SEAL FOR BOLT VERSAX	4	19	800187	VSC119 O-RING SUCTION COVER VERSAX	1
5	800219	VSC141 BOLT 5/16" X 2" LONG VERSAX	4	20	800192	VSC118 CASING VERSAX	1
6	800200	VSC123 SEAL - MECHANICAL 1" VERSAX	1	21	800201	VSC125 BOLT - CASING VERSAX	6
7	800193	VSC136 STUB SHAFT 1" VERSAX	1	22	800227	VSC122 O-RING FOR DRAIN PLUG VERSAX	1
8	800218	VSC140 IMPELLER SHAFT 1" VERSAX	2	23	800195	VSC117 PLUG 1/4" DRAIN VERSAX	1
9	800197	VSC139 WEAR RING SHAFT 1" VERSAX	2	24	800199	VSC115 FLANGE - SUCTION 2"NPT VERSAX	1
10	800194	VSC114 DIFFUSER - 2ND STAGE VERSAX	1	25	800191	VSC116 GASKET - CLACKER ASSY VERSAX	1
11	800198	VSC113 O-RING DIFFUSER - INTERS VERSAX	1	26	800224	VSC107 GASKET - DISCHARGE VERSAX	1
12	800188	VSC135 SPACER SLEEVE 1" SHAFT VERSAX	1	27	800230	VSC108 FLANGE - DISCHARGE VERSAX	1
13	800190	VSC112 DIFFUSER - INTERSTAGE VERSAX	1	28	800211	VSC126 SCREW M8 VERSAX	8
14	800206	VSC134 WASHER IMPELLER M10X40 VERSAX	1	29	300761	ADP-A-C20BSP-NC 2 BSPP CAP W/O CHAIN, ALUM	1
15	800189	VSC111 WASHER M10X30 VERSAX	1				

WARRANTY & SUPPORT

➤ WARRANTY

- All Minute Manufacturing L.L.C. products are covered by a standard 1-year bumper-to-bumper parts warranty against manufacturer defects, starting from the date of product receipt. If you encounter any issues, please contact us for assistance. We will work with you to resolve the problem. If the issue cannot be resolved and a manufacturing defect is identified, we will facilitate the necessary repairs or replacements. This process may include sending replacement parts, offering repair guidance, or other support. Depending on the issue or parts required, defective items may need to be returned to us at our expense. This warranty does not cover normal wear and consumable items (hoses, nozzles, gaskets, seals), misuse, neglect, or damage resulting from improper installation or operation.

➤ SUPPORT INFORMATION

- For assistance, parts, or service, please contact:

Minute Manufacturing LLC
550 N. Marymount Rd. Unit K
Salina, KS 67401
Phone: 785-655-0650
Email: minutemanufacturing@gmail.com

SERIAL NUMBER:

DATE PURCHASED:



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