

MINUTEMAN XD OWNER'S MANUAL



OWNER SUPPORT

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KEEP MANUAL WITH EQUIPMENT AT ALL TIMES

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SAFETY INFORMATION

⚠ GENERAL WARNINGS & GUIDELINES ⚠

- Before operating this 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 this unit.
- Do not modify the unit in any way without manufacturer approval.
- Ensure all operators are properly trained and familiar with the controls and safety procedures.
- A functioning spark arrester may be required by state or federal regulation when operating in wildland areas — inspect and clean regularly.



OPERATION INSTRUCTIONS

STARTUP PROCEDURE

- Check engine oil — confirm dipstick level is in the correct zone.
- Check fuel level — use fresh, non-ethanol gasoline.
- Set choke.
- Turn fuel shutoff switch ON.
- Turn the kill switch ON.
- Ensure the pump is filled with water — do not run the pump dry.
- Start the engine using the recoil starter (or electric start if applicable).

NORMAL OPERATION

- Confirm main bottom tank valve is open.
- Set the 1" recirculation valve fully open when not spraying to prevent pump overheating. For spot spraying, set the valve at 45-degrees. Close the valve for maximum nozzle volume and pressure.
- To spray water: turn booster hose valve ON and operate the nozzle.

DRAFTING OPERATION

- Make sure pump is filled with water. Fill through top 2" priming cap and reinstall cap after filling.
- Close main bottom tank valve.
- Connect suction hose to lower auxiliary suction valve on right side of the manifold. If the unit is installed in a standard pickup bed, use the 90-degree adapter provided in the storage box to route the hose through the tailgate opening. Set hose and strainer in water source away from debris.
- Open suction valve.
- Open the 1" recirculation valve to allow water into the tank.
- Start the engine — you should hear the engine pull down when drafting and feel water pumping into the tank.
- If the pump will not draft: Gently shake or agitate the strainer and hose end while submerged and drafting to help dislodge trapped air and force water up the hose.

SHUTDOWN PROCEDURE

- If the pump was used with foam, chemicals, or high-mineral water, flush with fresh water for 2 minutes before shutdown. Keep the engine idling and valves open while flushing. Discharge water through the booster hose and discharge valve.
- Allow the engine to idle and cool while recirculating.
- Turn the kill switch OFF.

STORAGE & WINTERIZATION

If storing for extended periods or in freezing conditions:

- Drain water from the tank and manifold by pumping it out. Tilt the skid toward the rear or park at an angle to remove as much water as possible.
- Drain the pump and manifold using the drain plug on the bottom of the pump casing. Ensure valves are positioned correctly to allow the manifold to drain.
- Drain the booster hose by: 1. Unwind completely; 2. Remove the nozzle; 3. Rewind hose; 4. Reinstall the nozzle. This will allow all water to drain from hose.
- Fill the pump and manifold with RV antifreeze for freeze protection.
- Treat the gasoline with fuel stabilizer or run the fuel tank empty before storing.
- Store skid in a dry, covered area (preferably under a tarp or protective cover).

SAFETY WARNINGS

- Do not run the pump dry — permanent mechanical seal damage will occur.
- Always use clean, non-ethanol gasoline.
- Always perform maintenance with the engine off and the spark plug wire disconnected.
- Secure the skid properly in the vehicle before transport.
- Drain pump and hoses before freezing conditions.
- Dispose of oil, fuel, and filters according to local environmental regulations.
- Use appropriate PPE (gloves & eye protection) when handling fuel or chemicals.

SPECIFICATIONS

FLUID CAPACITIES

- The Minuteman 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	0.82 gal (3.1 L)	Unleaded gasoline, 86+ octane. Non-ethanol fuel recommended.
Engine Fuel Tank - Honda GX270	1.40 gal (5.3 L)	
Auxiliary Fuel Can	2.0 gal (7.6 L)	2-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	225 gal (852 L) 325 gal (1,230 L)	Polyethylene tank with sight tube and float.

DIMENSIONS & WEIGHTS

- The Minuteman XD Truck Fire Skid is available in 225-gallon (225XD) 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 (EST)</u>	<u>WET WEIGHT (EST)</u>
225XD	76" x 48" x 63"	700 lbs	2,600 lbs
325XD	95" x 48" x 63"	800 lbs	3,500 lbs

MAINTENANCE

SERVICE SCHEDULE

Perform maintenance at the following intervals, whichever comes first. For additional engine maintenance requirements, refer to the Honda GX200/GX270 Owner's Manual.

Break-In Period: 20 Hours / 1 Month

- Change engine oil on new engine after 20 hours of use (see Fluid Capacities). Perform this service once before beginning the standard 100-hour oil-change interval.

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 clean spark arrester screen.
- Inspect and replace pump seals if leaking.
- Tighten all bolts, clamps, and fittings.



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 • Fuel shutoff switch in OFF position	• 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 • Verify fuel shutoff switch is ON
● Engine starts but stalls	• Dirty air filter • Fuel contaminated or old • Carburetor clogged • Choke left engaged	• Clean or replace air filter • Drain and replace with fresh fuel • Clean carburetor or seek service • Return choke to RUN position
● 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 • Tank out of water	• Inspect/clean nozzle • Straighten or replace hose • Inspect/replace impeller or seals • Re-prime pump and tighten suction fittings • Refill tank
● 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 has 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 “Pump Diagrams & Parts”, page 6.
● Pump will not draft	• Pump not primed • Valves not aligned properly • Air leak in suction line • Suction hose strainer clogged • Air in drafting hose	• Fill pump with water before starting • Verify valve position per “Drafting Operation” • Tighten suction fittings, verify no leaks • Clean suction strainer • Gently shake or agitate the strainer and hose end while submerged in water to remove trapped air from the drafting hose and help force water up the drafting hose

PUMP DIAGRAMS & PARTS

WATERAX VERSAX 6 PUMP DIAGRAM – HONDA GX200

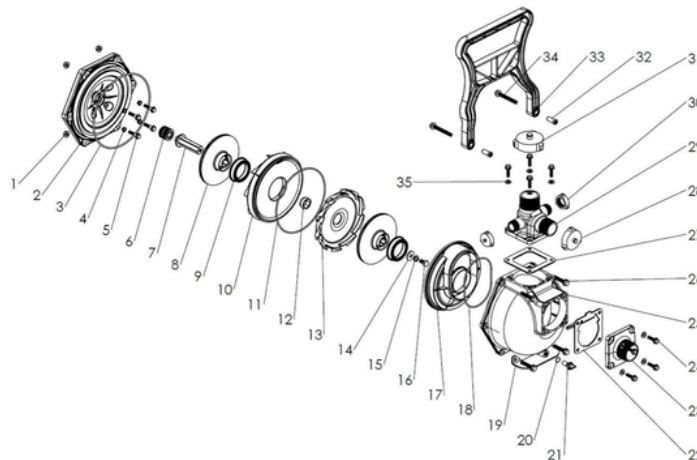


Figure 1: Exploded view of the VERSAX 6HP pump end (portable configuration).

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	701521	ROTARY SEAL 3/4" VERSAX®	1	24	800211	VSC126 SCREW M8 VERSAX®	8
7	800215	VSC128 STUB 5/8" SHAFT VERSAX®	1	25	800192	VSC118 CASING VERSAX®	1
8	800226	VSC132 IMPELLER - 5/8" SHAFT 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	702103	DIFFUSER - 2ND STAGE VERSAX® ANODIZED	1	28	300512*	ADP-A-C15S-NC 1.5 NPSH CAP W/O CHAIN, ALUM	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, ALUM	2
13	702102	DIFFUSER - INTERSTAGE VERSAX® ANODIZED	1	31	300761	ADP-A-C20BSP-NC 2 BSPP CAP W/O CHAIN, ALUM	1
14	800189	VSC111 WASHER IMPELLER 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	702104	SUCTION COVER VERSAX® ANODIZED	1	35	701532	WASHER 5/16 FLAT BLACK FIBRE	8
18	800187	VSC119 O-RING SUCTION COVER VERSAX®	1				

* Not included on vehicle mount configuration.

WATERAX VERSAX 9 PUMP DIAGRAM – HONDA GX270

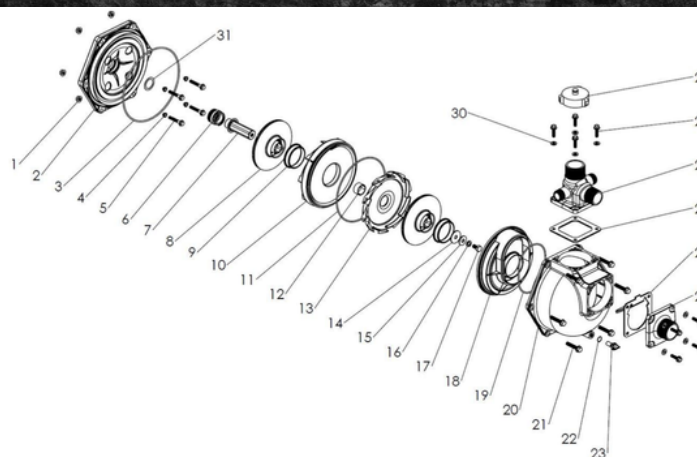


Figure 2: Exploded view of the VERSAX 9 HP pump end (vehicle configuration).

ID	ITEM NO	DESCRIPTION	QTY	ID	ITEM NO	DESCRIPTION	QTY
1	800208	VSC124 NUT CASING VERSAX®	6	17	800207	VSC110 SCREW - IMPELLER VERSAX®	1
2	800196	VSC138 YOKE 1" SHAFT VERSAX®	1	18	702104	SUCTION COVER VERSAX® ANODIZED	1
3	701292	O-RING #2250040 (METRIC) NITRILE 70 DURO	1	19	800187	VSC119 O-RING SUCTION COVER VERSAX®	1
4	800228	VSC123 SEAL FOR BOLT VERSAX®	4	20	800192	VSC118 CASING VERSAX®	1
5	800219	VSC141 BOLT 5/16" X 2" LONG VERSAX®	4	21	800201	VSC125 BOLT - CASING VERSAX®	6
6	701522	ROTARY SEAL 1-1/8" VERSAX®	1	22	800227	VSC122 O-RING FOR DRAIN PLUG VERSAX®	1
7	701524	STUB SHAFT MODIFIED 1-1/8" VERSAX®	1	23	800195	VSC117 PLUG 1/4" DRAIN VERSAX®	1
8	800218	VSC140 IMPELLER - 1" SHAFT VERSAX®	2	24	800199	VSC115 FLANGE - SUCTION 2"NPT VERSAX®	1
9	800197	VSC139 WEAR RING FOR GX270 VERSAX®	2	25	800191	VSC116 GASKET CLACKER ASSY VERSAX®	1
10	702103	DIFFUSER - 2ND STAGE VERSAX® ANODIZED	1	26	800224	VSC107 GASKET DISCHARGE VERSAX®	1
11	800198	VSC113 O-RING DIFFUSER - INTERS VERSAX®	1	27	800230	VSC108 FLANGE - DISCHARGE VERSAX®	1
12	800188	VSC135 SPACER SLEEVE 1" SHAFT VERSAX®	1	28	800211	VSC126 SCREW M8 VERSAX®	8
13	702102	DIFFUSER - INTERSTAGE VERSAX® ANODIZED	1	29	300761	ADP-A-C20BSP-NC 2 BSPP CAP W/O CHAIN, ALUM	1
14	800206	VSC134 WASHER IMPELLER M10X40 VERSAX®	1	30	701532	WASHER 5/16 FLAT BLACK FIBRE	8
15	800189	VSC111 WASHER IMPELLER M10X30 VERSAX®	1	31	701523	WASHER SEAT SUPPORT VERSAX® SS	1
16	800220	VSC120 WASHER (SPRING)-IMPELLER VERSAX®	1				

PUMP SERVICING

NOTE: The following steps apply to both VERSAX 6 (Figure 1) and VERSAX 9 (Figure 2).

IMPORTANT: Part numbers referenced in the following service procedures correspond to the VERSAX 6 pump shown in Figure 1. When servicing a VERSAX 9 pump, use Figure 2 on page 6 to cross-reference the corresponding part numbers. Component locations and service procedures are otherwise similar.

► DISASSEMBLY OF VERSAX 6/9 PUMP

1. Take pictures during disassembly to ensure proper reassembly of the pump.
2. Remove screws #26 from nuts #1.
3. Remove pump casing #25.
4. Remove suction flange #23 and discharge flange #29 by removing screws #24.
5. Remove suction cover #17 and O-ring #18.
6. Remove wear ring #9 and note its orientation as it is important for the re-assembly.
7. Remove screw #16, lock washer #15 and washer #14.
8. Remove components #8 through #13. Note the orientation of #9 and #12, as it is important for reassembly.
9. Remove stub shaft #7. The rotating portion of mechanical seal #6 will come off with the stub shaft.
10. Remove O-Ring #3.
11. Remove the screws #5 and the bolt seals #4.
12. Remove yoke #2 with stationary portion of mechanical seal #6.

► ASSEMBLY OF VERSAX 6/9 PUMP

1. Install the stationary portion of mechanical seal #6 in yoke #2. For VERSAX 9, install washer seat support #31 (Figure 2). It is recommended to replace the mechanical seal at each pump disassembly.
 - a. Clean sealing face with lint-free tissue and alcohol. Do not touch the seal faces with bare fingers or use grease/oil on the seal faces.
 - b. Seat seal firmly using diluted dish soap; ceramic side faces out.
2. Align yoke #2 onto engine, seal drain slot facing down.
3. Insert bolt seals #4 onto screws #5.
4. Fasten yoke #2 with screws #5. Torque: 124–142 in-lb, cross sequence.
5. Install rotating seal #6 onto stub shaft #7, carbon face toward stationary seal.
6. Screw stub shaft #7 onto engine shaft and tighten firmly until snug, pressing the seals together. Do not over-tighten.
7. Slide impeller #8 onto stub shaft #7.
8. Install wear ring #9 on the impeller. Orientation is critical — see Figure 3.
9. Install diffuser #10. Align the outside lug at 12 o'clock — see Figure 4.
10. Place spacer #12 on impeller #8. Orientation is critical — see Figure 4
11. Install diffuser #13. Align the outside lug at 12 o'clock — see Figure 4.
12. Slide second impeller #8 onto stub shaft #7 until it rests on spacer #12.
13. Install wear ring #9 on the second impeller — see Figure 3.
14. Fasten screw #16, lock washer #15, and washer #14. Torque: 124–142 in-lb.
15. Install O-ring #11 into diffuser #10 groove.
16. Install suction cover #17, aligning notches with lugs at 12 o'clock on diffusers #10 and #13. Orientation is critical — see Figure 4.
17. Install O-ring #18 into suction cover #17 groove.
18. Install O-ring #3 into yoke #2 groove.
19. Align casing #25 with yoke #2 and suction cover #17. It should fit up easily and sit flush — if it doesn't, recheck internal alignment before proceeding.
20. Install bracket #19, fasten casing #25 using screws #26 and nuts #1. Torque: 221 in-lb, cross sequence.
21. Install drain plug #21 and O-ring #20, hand-tighten.
22. Install clacker gasket #22 and suction flange #23 with screws #24 and washers #35. Torque: 195–215 in-lb, cross sequence.
23. Install discharge gasket #27 and discharge flange #29 with screws #24 and washers #35. Torque: 195–215 in-lb, cross sequence.
24. Before starting: Pull the recoil starter to confirm the shaft turns freely. If resistance is felt, do not start. Recheck the wear rings, impellers, and diffuser alignment.

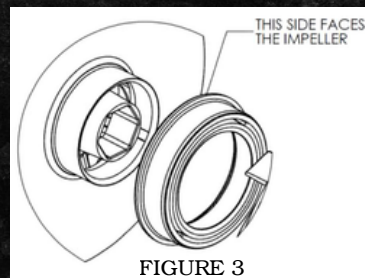


FIGURE 3

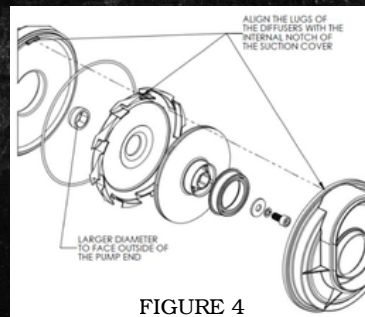


FIGURE 4

WARRANTY & SUPPORT

WARRANTY

- All Minute Manufacturing L.L.C. products are covered by a limited parts warranty against manufacturing defects from the date of product receipt. Standard use warranty: 12 months. Commercial use warranty: 6 months. This warranty excludes normal wear, consumable items (gaskets, seals), misuse, neglect, improper installation, and improper operation. Routine field adjustments and maintenance (tightening clamps, fasteners, inspecting connections, etc.) are a normal part of equipment operation and are the responsibility of the owner/operator. Please contact us with any issues.

SUPPORT

- For assistance, parts, or service, contact:

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MODEL:

SERIAL:

DATE PURCHASED:



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PREVENT. PROTECT. PRESERVE.

