COMBAT SUPPORT
FIRE FIGHTING
PRODUCTS
Inc
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CombatSupportProducts.com

350 LBS Purple K

500 GPM Diesel Pump

King Industries, Pump and Roll Quick Attack

King Industries QA

Pump And Roll Video 2
Cooling Stream

PUMP WATER TEMP. DO NOT RUN PUMP FOR MORE THAN 5 MINUTES WITH NO FLOW

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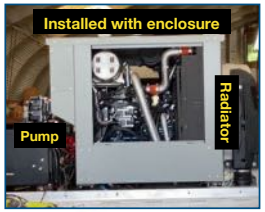
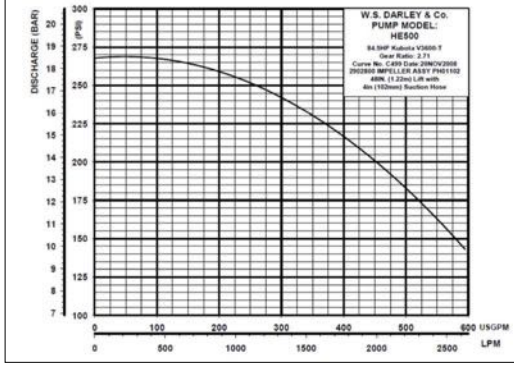
Darley Fire Pump Specs.

PART NUMBER - HE500kubota
PERFORMANCE 84.5 HPENGINE
Kubota V3600T 4 cyl. 84.5 HP diesel engine, liquid cooled, 12 V electric starter, alternator, mounted engine control panel.
500 gpm (1893 L/M) @ 150 psi (10.3 bar)
350 gpm (1325 L/M) @ 200 psi (13.8 bar)
250 gpm (946 L/M) @ 250 psi (17.2 bar)
Weight 450 lbs.(204 KG)





PUMP WATER TEMP. DO NOT RUN PUMP FOR MORE THAN 5 MINUTES WITH NO FLOW

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Hose Storage

Left hose bed: Adjustable divider - +/- 400 ft. 2” hose and +/- 300 ft. 3” hose.
Right hose bed: Room for 300 ft. 5” hose.

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Front Firefighting Station Info.

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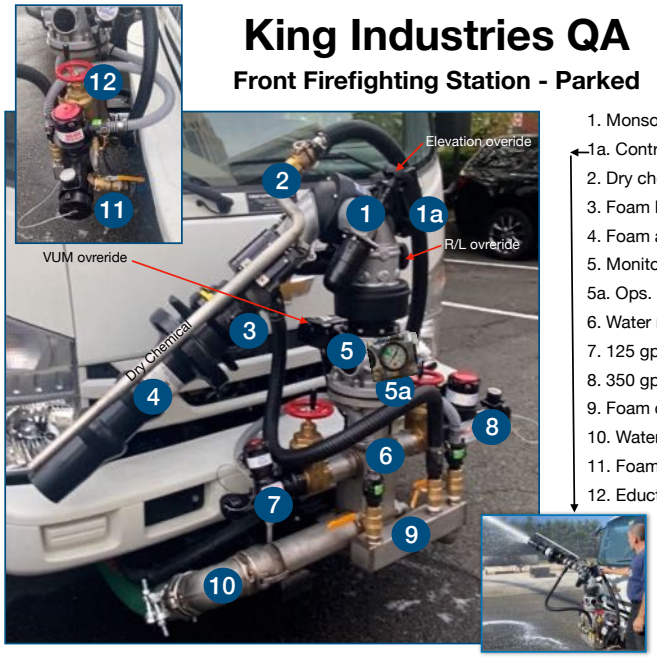
Front Firefighting Station - Parked



1. Monsoon monitor
1a. Control touch panel
2. Dry chem discharge
3. Foam Nozzle (500 gpm)
4. Foam aerator attachment
5. Monitor control valve (VUM)
5a. Ops. pressure gauge
6. Water manifold (riser)
7. 125 gpm foam eductor
8. 350 gpm foam eductor
9. Foam concentrate manifold
10. Water from 2 -300 gal. tanks
11. Foam concentrate connection
12. Eductor discharge valve

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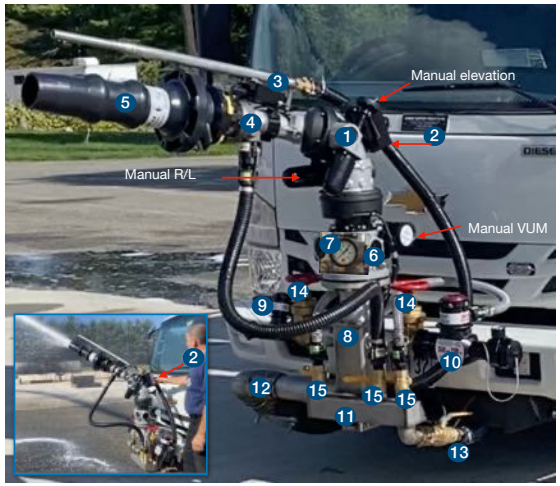
Front Firefighting Station Deployed



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11. Foam concentrate manifold
12. Water from 2 -300 gal. tanks
13. Foam connection & valve
14. Eductor discharge valve
15. Foam eductor supply valve

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Exterior Monitor Controlls

1. Oscillate set. See TFT operator's manual. Settings cancelled on power down
2. Auto park. Prefer doing it manually.

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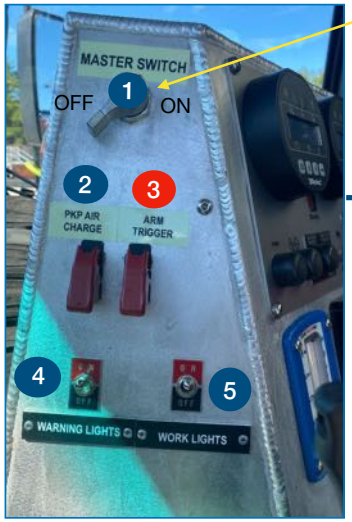
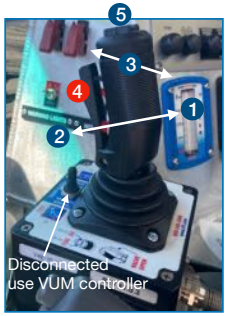
Interior Operator's Console



1. Master switch powers all functions
2. Powder PKP propellent (air)
3. Arm joystick's powder trigger.
4. Warning lights.
5. Work lights (floods).



Joystick Controls

Master On

1. Monitor swing right
2. Monitor swing left
3. Monitor up - down
4. Powder trigger
5. Pattern (spray / stream)

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Interior Controls For Monitor Ops.

1. Pump control power - Green light on.
2. Push to start pump - Pump is wet. Will idle at 50 psi. May have to prime pump (2a) at startup if tank water is less than ¼ full.
3. Set pump governor (3): Up is preferred when on tank water. Set discharge pressure (3a) (up arrow), then press enter (3b). Pump will throttle to desired pressure. Note: pump idle pressure is 50 psi, cannot be lowered.

   Foam Monitor: Set 120 psi then enter (3b). Pump throttles to 120 psi. Open monitor valve (4) (VUM) pressing one time. Direct stream to target using joystick. Run time is 1.2 min. To close VUM press (4b) once; pump stays at 120 psi. Press (2) to shut down pump. Restarting will erase 120 psi setting.
5. With (3) set in manual (down). Each press up increases pressure 5 psi. If not on hydrant, water tank will be emptying during the 14 or so clicks from 50 psi to 120 psi and is why pump governor (3) is preferred for monitor and eductor ops.
6. Pump shuts down if it senses: Out Of Water - Low oil - High Temp. This button overrides safety feature.

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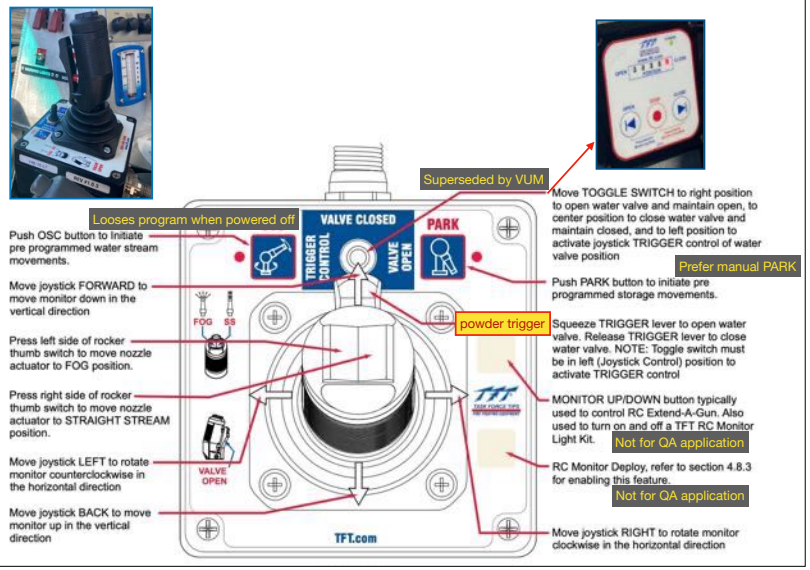
Interior Controls - Joy Stick Monitor Controller



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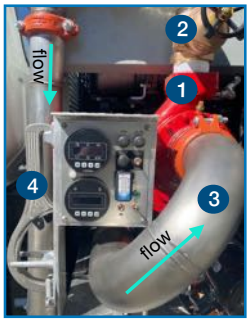
Exterior Pump Control Station



1. Pump
2. Discharge valve normally open
3. Pump Suction
4. Spanner wrenches

1. Pump control power
2. Pump start / stop
3. Prime if less than ¼ tank
4. Set pump governor (4): Up is preferred when on tank water. Set discharge pressure (4a) (up arrow), then press enter (4b). Pump will throttle to desired pressure. Open VUM in cab for monitor. Note: pump idle pressure is 50 psi.
5. Pump shuts down if it senses: Out Of Water - Low oil - High Temp. This button overrides safety feature.
6. With (4) set in manual (down). Each click up increases pressure 5 psi, or down 5 psi.

6. Note: If not on hydrant, water tank will be emptying during the 14 or so clicks from 50 psi to 120 psi, is why pump governor on is preferred for monitor ops.

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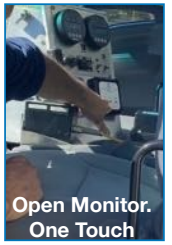
Dismounted Operations - Foam Monitor - Hydrant Supply



This is correct sequence. Video shows opening monitor before raising pump pressure to 120 psi. Using water while doing so. Not good if on tank water.

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Foam Eductor Ops.

Video

https://youtu.be/7O-0e1ODrns

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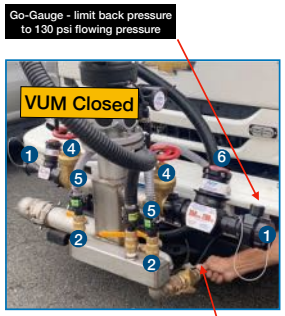
Foam Eductor Ops. Using Pump's Pressure Governor



See video on next page

1. Connect discharge hose to eductor (1) Up to 400' 3" for 350; up to 500' 2" or 300' 1.75" for 125.
2. Open concentrate supply valve for selected eductor (2)
3. Set 3% (default) on eductor meter valve.
4. Pump at idle, open eductor's red water supply valve (4) filling hose with solution. When discharge hose hardens quickly throttle up to 200 psi and operate foam stream. Set pressure governor to 200 psi and push enter arrow.

Caution: If discharge hose is filled with water before eductor concentrate valve is open, water will flow from nozzle after foam valve is open for +/- thirty seconds before finished foam discharges from nozzle. Solution transit time is dependent on hose length. See transit time discussion in eductor operations article in ring binder.

Note: On tank water, pump will idle at 50 psi. On 80 psi hydrant, pump idles at +/- 130 psi. You may need to throttle intake valve to get below 130 psi if needed.

5. **Shut Down & Flush:** Pump to idle (50 psi) before closing discharge valves (4)
6. **Flush:** shut concentrate manifold valves (2). Disconnect nozzle(s). Flow water till discharge frothing stops at open hose butt.
7. Reconnect nozzle and shut it.
8. If on hydrant supply, shut intake valve and use water tank to flush eductors at idle, @ 50 PSI.
9. Disconnect foam hose (5) from shut manifold valve. With nozzle closed, press RED EDUCTOR button (6) Doing so will defeat check valve and allow water to back flow through metering valve. Capture flush concentrate from hose (5) in a pail. Concentrate spillage is very slippery.

Blitzfire will consume 11.5 gpm concentrate per minute - 125 eductor 3.75 gpm - 500 gpm monitor will consume 15 gpm. Foam tank holds 330 gallons of concentrate.

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Foam Eductor Ops.

Back pressure will shutdown a foam eductor. When 65% of 200 psi inlet pressure is felt on eductor outlet, the outlet gauge (Go-Gauge) will go into the red at 130 psi. At this point the eductor will stop pulling foam concentrate.

Back pressure is total of: nozzle pressure, hose friction loss, and nozzle elevation.

Things that will effect outlet back pressure:

- Kinked hose.
- Hose diameter too small.
- Hose too long.
- Nozzle partly closed.
- Nozzle flow less than eductor flow rate.
- Nozzle elevation too high.

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Foam Eductor Ops.

Foam Solution Transit Time

The time it takes foam solution to go from eductor outlet (your truck) to the nozzle.

125 gpm handline with 400 ft. 2" hose; time is about 10 seconds per 100 ft. or 40 sec.

350 eductor with 300 ft. 3" hose, time is about 21 seconds; 7 sec per 100 ft.

If hose is filled with water first, it will take 40 seconds to see foam from nozzle

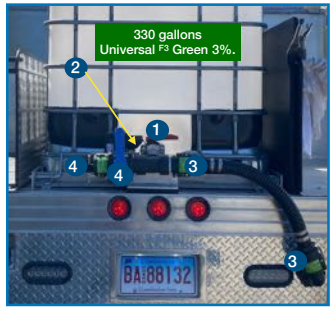
See more in ring binder


Foam Lines

Portable Foam Eductors - The inexpensive, bullet-proof alternative.

King Industries Quick Attack (QA)

Foam Concentrate Supply - Ready, Nursing & Training



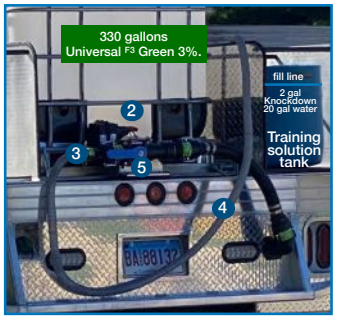
Ready

1. Tank drain valve, normally OPEN.
2 Cab operated electric valve, normally CLOSED.
3. Two-inch supply hose to front firefighting station.
4. Nurse / training connection valve, normally CLOSED.

Nurse / Train

1. Tank drain CLOSED 2
2. Nurse valve OPEN 5
3. Two-inch male nurse to alternate supply 3
4. Or 1.25" hose to training tank. Use 2" F x 1" M cam-lock adapter for training 4

Fluorine free training foam: Knockdown class A foam diluted 10:1 with water; proportion @ 3%.



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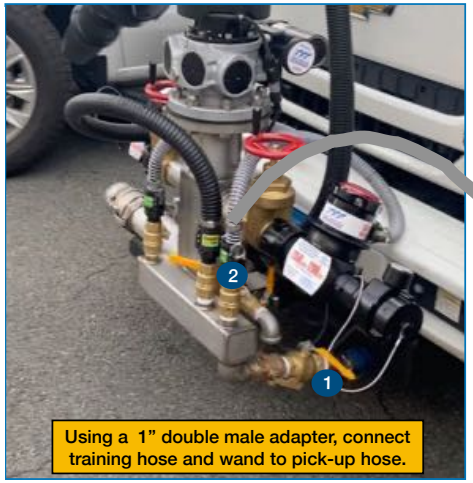
Training - Substitute colored water for training foam.



Keep water tanks full when pumping from tank water.

Add 1 to 50 gal water

No fluorine

1 Supply valve OFF
Restore to OPEN when finished

2 Pick-up hose OPEN

Might substitute colored water for training foam. 350 eductor will drink about 11.5 gallons and 125 eductor will drink 7+ gallons water

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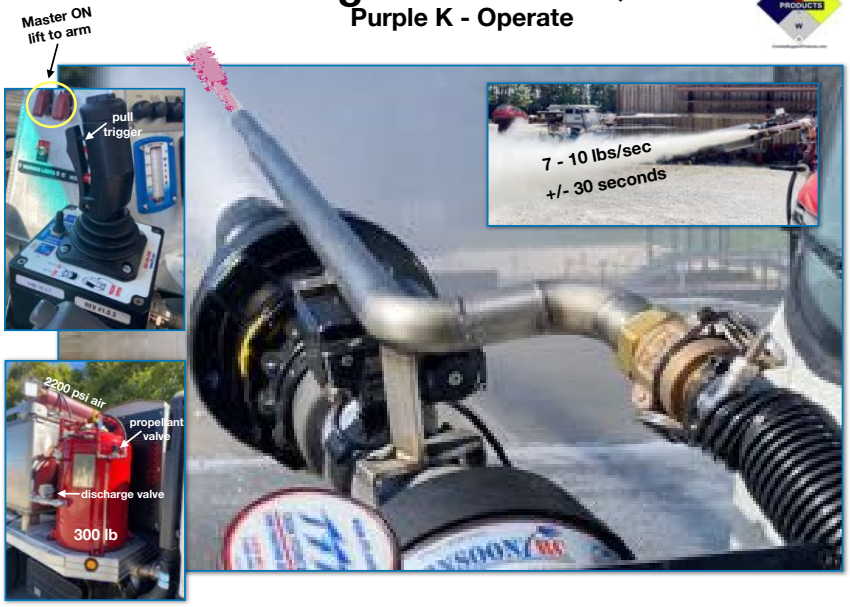
Purple K - Operate



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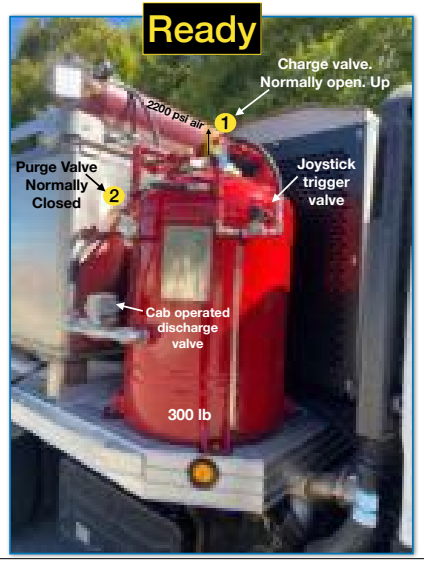
Purple K Valve Alignments



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