

# PRODUCT QUICK-START GUIDE

4" J-Force 15K/22K Gen III



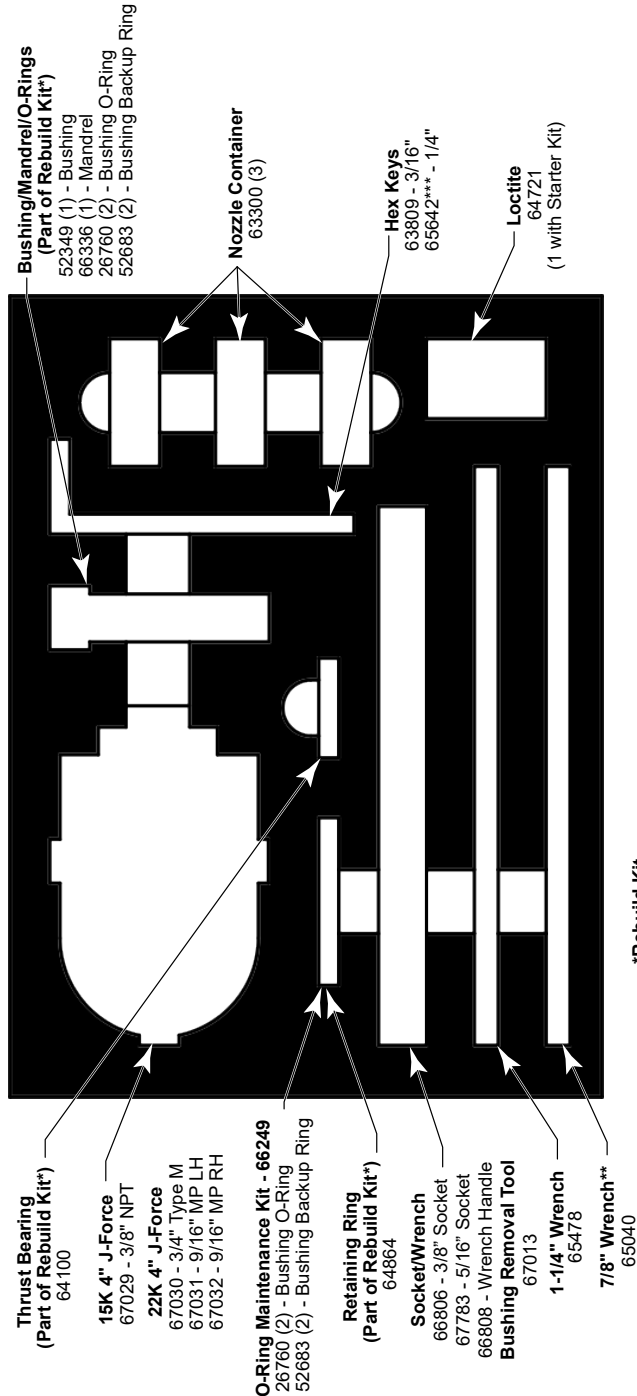
Model Name	JF4X15	JF4X22
Maximum Operating Pressure (psi)	15,000	22,000
Minimum Operating Pressure (psi)	2,500	
Maximum Flow (gpm)	40	
Maximum Operating Pressure (bar)	1000	1550
Minimum Operating Pressure (bar)	170	
Maximum Flow (l/min)	150	
Inlet Connection	3/8" NPT	3/4" Type M 9/16" MP LH/RH
Tube or Pipe I.D. (in)	4	
Tube or Pipe I.D. (mm)	102	
Speed Range (rpm)	1000 - 2000	
Nozzle Types Accepted	JS2, P2TCS	
Nozzle Pattern	2 @ 10°, 2 @ 45°, 2 @ 100°, 2 @ 135°	
Diameter (in)	2.75	
Length (in)	3.85	
Weight (lbs)	3.85	3.90
Diameter (mm)	70	
Length (mm)	98	
Weight (kg)	1.75	1.77

Note: Part numbers and descriptions are subject to change without notice.

## QSG-197 4" J-FORCE 15K/22K Gen III

### Part Placement

67631 22K 9/16" MP TUBE LH STARTER  
67632 22K 9/16" MP TUBE LH PREMIUM  
67629 22K 3/4" TYPE M MALE STARTER  
67630 22K 3/4" TYPE M MALE PREMIUM

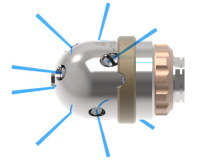


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## QSG-197 4" J-FORCE 15K/22K Gen III

### Nozzle Flow Rates



Flow (gpm)	4" J-Force, Universal									
	Pull (lbf)	2500 psi			Pull (lbf)	5000 psi		Pull (lbf)	7500 psi	
		Nozzle Diameter (inches)				Nozzle Diameter (inches)			Nozzle Diameter (inches)	
		Fwd x 4, Side x 2	Rear x 2		Fwd x 4, Side x 2	Rear x 2		Fwd x 4, Side x 2	Rear x 2	
21				-33	0.018	0.063	-28	0.020	0.052	
22	-30	0.018	0.082	-31	0.020	0.063	-39	0.018	0.057	
23	-29	0.020	0.082	-29	0.022	0.063	-36	0.020	0.057	
24	-28	0.024	0.082	-27	0.024	0.063	-33	0.022	0.057	
25	-27	0.026	0.082	-25	0.026	0.063	-49	0.018	0.063	
26	-37	0.018	0.090	-37	0.022	0.069	-30	0.024	0.057	
27	-35	0.022	0.090	-35	0.024	0.069	-27	0.026	0.057	
28	-35	0.024	0.090	-33	0.026	0.069	-44	0.022	0.063	
29	-33	0.026	0.090	-46	0.022	0.075	-41	0.024	0.063	
30	-32	0.029	0.090	-44	0.024	0.075	-59	0.020	0.069	
31	-43	0.022	0.098	-42	0.026	0.075	-38	0.026	0.063	
32	-42	0.024	0.098	-25	0.032	0.069	-56	0.022	0.069	
33	-27	0.035	0.090	-57	0.022	0.082	-53	0.024	0.069	
34	-39	0.029	0.098	-55	0.024	0.082	-50	0.026	0.069	
35	-25	0.038	0.090	-34	0.032	0.075	-27	0.032	0.063	
36	-51	0.022	0.106							
37	-49	0.026	0.106	-49	0.029	0.082	-45	0.029	0.069	
38	-47	0.029	0.106	-30	0.035	0.075	-63	0.026	0.075	
39	-33	0.038	0.098	-45	0.032	0.082	-39	0.032	0.069	
40	-63	0.018	0.115							

\* Items part of Rebuild Kit PN 66248 (Premium Kits only)  
\*\* Items only part of NPT kits  
\*\*\* Items only part of Type M kits

Flow (gpm)	4" J-Force, Universal									
	Pull (lbf)	10000 psi			Pull (lbf)	12500 psi		Pull (lbf)	15000 psi	
		Nozzle Diameter (inches)				Nozzle Diameter (inches)			Nozzle Diameter (inches)	
		Fwd x 4, Side x 2	Rear x 2		Fwd x 4, Side x 2	Rear x 2		Fwd x 4, Side x 2	Rear x 2	
21	-27	0.020	0.047							
22				-38	0.018	0.047				
23	-40	0.018	0.052				-27	0.020	0.042	
24	-37	0.020	0.052	-34	0.020	0.047				
25	-33	0.022	0.052	-29	0.022	0.047	-46	0.018	0.047	
26	-51	0.018	0.057				-41	0.020	0.047	
27	-48	0.020	0.057	-46	0.020	0.052				
28	-44	0.022	0.057	-42	0.022	0.052	-35	0.022	0.047	
29				-64	0.018	0.057	-56	0.020	0.052	
30	-40	0.024	0.057	-60	0.020	0.057				
31	-36	0.026	0.057							
32	-59	0.022	0.063	-31	0.026	0.052				
34	-29	0.029	0.057							
35	-51	0.026	0.063							

Flow (gpm)	4" J-Force, Universal									
	Pull (lbf)	17500 psi			Pull (lbf)	20000 psi		Pull (lbf)	22000 psi	
		Nozzle Diameter (inches)				Nozzle Diameter (inches)			Nozzle Diameter (inches)	
		Fwd x 4, Side x 2	Rear x 2		Fwd x 4, Side x 2	Rear x 2		Fwd x 4, Side x 2	Rear x 2	
23	-38	0.018	0.042							
24							-33	0.018	0.038	
25	-32	0.020	0.042	-43	0.018	0.042	-26	0.020	0.038	
26							-47	0.018	0.042	
27	-26	0.022	0.042	-36	0.020	0.042				
28	-48	0.020	0.047							

## QSG-197 4" J-FORCE 15K/22K Gen III

### **DANGER**

*THIS PRODUCT CAN BE DANGEROUS IF NOT USED PROPERLY! Always wear appropriate Personal Protective Equipment (PPE). Detailed PPE information can be found at: [www.fssegssafety.com](http://www.fssegssafety.com) and clicking on the JETSTREAM name or by referring to the yellow JETSTREAM SAFETY WARNING pamphlet (PI-082).*

The following Quick-Start Guide is intended to provide the customer with an expedient reference for 4" J-Force 15K/22K Gen III installation and operation. It does not replace the complete product instructions (PI-197).

This product is sold with the understanding that the purchaser agrees to thoroughly train all operators and maintenance personnel in the correct and safe installation, operation, and maintenance of the product and to provide adequate supervision of personnel at all times. JETSTREAM urges customers to make complete instructions available to all personnel and that all instructions are read thoroughly before installing, connecting or using the 4" J-Force 15K/22K Gen III. Retain these instructions for future reference. If this product is resold or otherwise conveyed, the purchaser must pass on these instructions to the new user. If any questions remain or for additional copies, call JETSTREAM at (800) 231-8192 or (832) 590-1300.

Read the yellow JETSTREAM SAFETY WARNING pamphlet included with the shipment of the product.

### CONNECTING 4" J-FORCE GEN III

Prior to the start of any job, make sure only high pressure rated fittings and hoses are used in the waterblasting system.

Prior to installing the 4" J-Force Gen III onto the hose, flush the system to clear any debris.

#### 15K PSI RATED CONNECTION (NPT INLET)

1. Apply 3-4 wraps of Teflon thread sealant tape to the available male threads of the connection.
2. Apply anti-seize compound over the sealant tape for additional protection against galling.
3. Install the JF4X15 by using appropriate open-end wrench on flats found on body and tighten 1-2 turns past hand-tight. All NPT pipe connections should have a minimum thread engagement of (4) threads.

#### 22K PSI RATED CONNECTION (3/4" Type M Male, 9/16" MP LH/RH Inlet)

1. Apply anti-seize compound to the threads of the Type M connection or to the male 9/16" MP hose/lance end.  
*NOTE: DO NOT use Teflon tape on 22K PSI connections.*
2. Install the JF4X22 by using appropriate open-end wrench on flats found on body and tighten to 90 ft-lbs.  
*NOTE: DO NOT OVERTIGHTEN; damage to coned sealing surface could result.*

### OPERATION

As per the WJTA-IMCA Recommended Practices, all operators shall follow the OSHA regulations for personal protective equipment. (OSHA guidelines for Personal Protective Equipment are available in document number 3151-12R 2004, which can be obtained from [www.osha.gov](http://www.osha.gov).) All operators shall be issued suitable head protection, eye protection, hearing protection, body protection, hand and foot protection and respiratory protection (if needed). For detailed specifications on all protections required, refer to the WJTA-IMCA 'Recommended Practices for the Use of High Pressure Waterjetting Equipment' Section 6, Protective Equipment For Personnel.

### **CAUTION**

*The 4" J-Force Gen III can be used for minimum service temperature of -20°C (-4°F) and a maximum service temperature of 115°C (240°F). Use at lower or higher than recommended temperatures may result in premature tool failure.*

1. Start by slowly increasing pressure to 500 psi and check the entire system, including all connections, for leaks. Increase pressure in increments, pausing at each to inspect system for leaks, proper rotation of tool, temperature, and other operational anomalies. If any problems are discovered, lower pressure back to zero and turn off source of power before making any adjustments.
2. During operation, it is normal for water to leak out of the front of the head from around the front nozzle (or front plug). This leak-by water comes from the water-bearing that the tool operates on.

### **WARNING**

*Remove the nozzle from service if:*

- a) *The rotor or mandrel shows signs of cracking or other damage.*
- b) *The wall thickness of these parts is reduced by 25% at any point.*
- c) *The nozzles can no longer hold pressure at water flow rate for which it was sized.*

*NOTE: For improved reliability and longer life, it is recommended that a filter of at least 10 microns be used on the water supply inlet. A strainer (100 mesh minimum) must also be used in the water tank (if equipped with tank).*



*J-Force surface may exceed 200°F.*



*J-Force utilizes magnets which produce strong magnetic fields. Keep the tool at least 6 inches away from any medical device.*

## QSG-197 4" J-FORCE 15K/22K Gen III

### **DANGER**

*Failure to follow the following instructions will cause unsafe conditions, severe injury can result.*

- *DO NOT operate the 4" J-Force Gen III above its specified pressure.*
- *Operator must wear ear protection due to the noise generated by the spinning nozzle.*
- *NEVER stand in the plane of blasting.*
- *A Lance Safety Grip is recommended to minimize the risk of a live nozzle exiting the tube unexpectedly back at the lance operator.*
- *At high-pressure, the water can be hot. Wear gloves and use precaution to prevent scalding.*
- *Place barricades with warning signs or barricade tape around work area. This includes the waterblast unit and all high-pressure hoses.*
- *Operator must be outfitted with proper safety apparel (refer to yellow JETSTREAM SAFETY WARNING pamphlet). Body armor is strongly recommended.*

### **CAUTION**

*DO NOT use the 4" J-Force 15K/22K Gen III if it has not been cleaned and inspected prior to starting the working shift.*

For further info see:



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Click on JETSTREAM