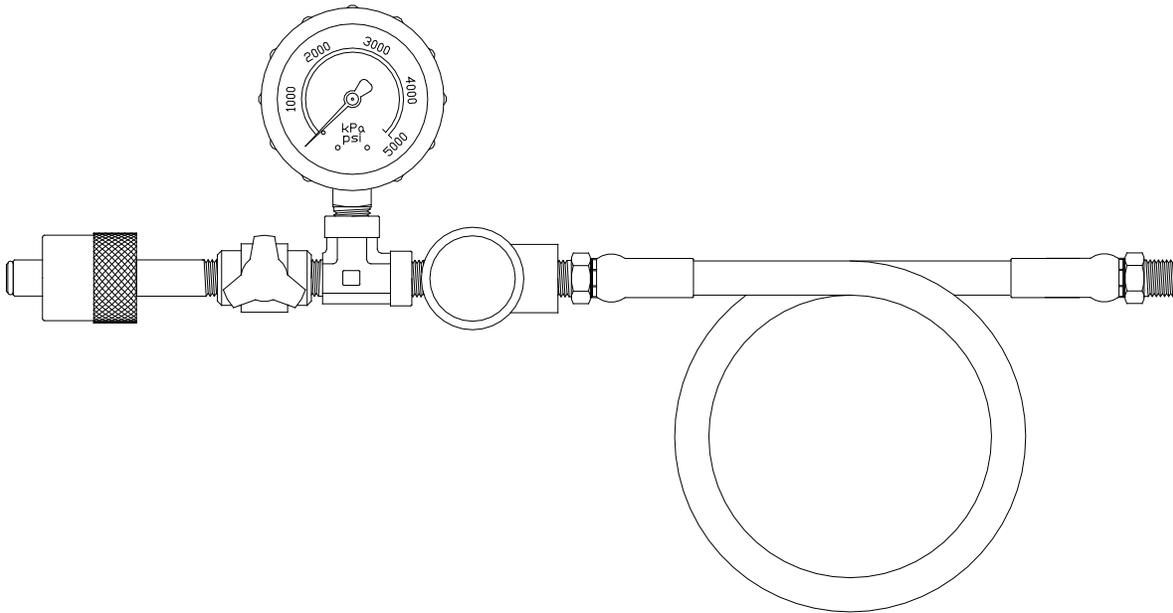




## OPERATING MANUAL

### MODELS:

HP-FW5-346	HPFW10346R
HP-FW5-347	HPFW53476K
HP-FW5-702	CBF_-346NB
HP-FW50-MA	CBF_-347NB
HPFW5-347R	CBF_-702NB



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## OVERVIEW

Fill whips are used to fill empty cylinders from a charged bank of cylinders or a fill compressor. The fill whip is provided with an on/off valve, pressure gauge, bleed valve, and a hand-tight nut. Some models include a preset relief valve to eliminate the possibility of overfilling cylinders.

## SPECIFICATIONS

Model #	HP-FW5-346	HPFW10346R	HP-FW5-702
Bottle Fill Connection	CGA-346/347 Universal Hand-tight (Gold) (Will install on CGA-346 and CGA-347 Valves)		CGA-702
Gauge	0-5000 PSI	0-5000 PSI	0-10,000 PSI
ON/OFF Valve	Yes	Yes	Yes
Bleed Valve	Yes	Yes	Yes
Relief Valve	No	Yes*	No
Whip Pressure Rating	5000 PSI Max. with a 4:1 Safety Factor		6000 PSI Max. with a 4:1 Safety Factor
Length	5 Ft.	10 Ft.	5 Ft.

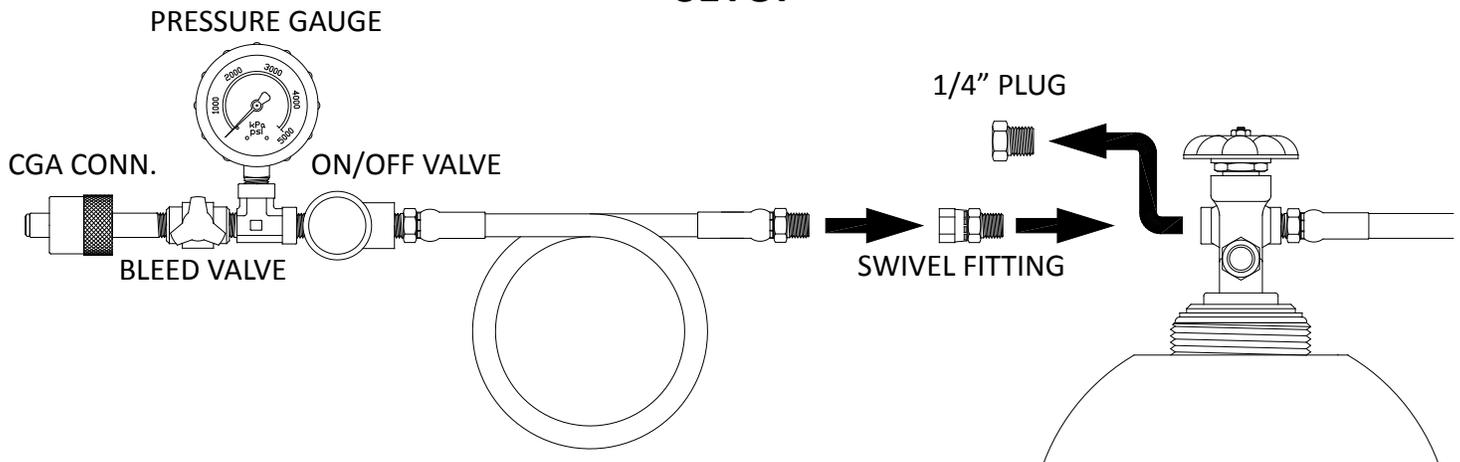
\* Relief valve set pressure is stamped on the lead tag attached to the relief valve.

Model #	HP-FW5-347	HPFW5-347R	HPFW53476K	HP-FW50-MA
Bottle Fill Connection	CGA-347 Hand-Tight (Silver)(Will only install on cylinders with CGA-347 valves)			
Gauge	0-5000 PSI	0-5000 PSI	0-5000 PSI	0-10,000 PSI
ON/OFF Valve	Yes	Yes	Yes	Yes
Bleed Valve	Yes	Yes	Yes	Yes
Relief Valve	No	Yes*	Yes*	No
Whip Pressure Rating	5000 PSI Max. with a 4:1 Safety Factor		6000 PSI Max. with a 4:1 Safety Factor	
Length	5 Ft.	5 Ft.	5 Ft.	50 Ft.

\* Relief valve set pressure is stamped on the lead tag attached to the relief valve.

Model #	CBF_-346NB	CBF_-347NB	CBF_-702NB
Fill Whip	HP-FW5-346	HP-FW5-347	HPFW53476K
Cylinder Connection(s)	CGA-346 Wrench Tight	CGA-347 Wrench Tight	CGA-702 Wrench Tight
Whip Pressure Rating	5000 PSI Max. with a 4:1 Safety Factor		6000 PSI Max. with a 4:1 Safety Factor
Length of Connect Whip(s)	30"	30"	30"

## SETUP



### STEP 1)

Close all cylinder valves. Locate the last cylinder in the system and remove the 1/4" MPT plug from the tee.

**Note: All Air Systems' cascade whip assemblies terminate with a tee fitting and a plug making it easy to add additional connect whips or a fill whip.**

### STEP 2)

Install the 1/4" swivel fitting in place of the 1/4" plug. Connect the fill whip to the swivel fitting.

To install fill the fill whip on a fill compressor; locate the outlet fitting and install the 1/4" swivel fitting and connect the fill whip to the swivel fitting.

## OPERATION

### STEP 1)

Close the bleed valve and on/off valve by turning knobs clockwise. Install the CGA connection to the cylinder valve of the cylinder to be filled.

### STEP 2)

Cascade filling is accomplished by opening only the first cylinder of the cascade system. Allow pressure to equalize in the cylinder being filled. Once equalized, close the first cylinder of the cascade system and repeat with the second cylinder, and so on. This is the most efficient way to operate a fill assembly and maximize fills. If filling from a compressor, start compressor now.

### STEP 3)

Open the on/off valve on the fill whip to desired fill rate.

**Caution: Do not fill at excessive rates!**

### STEP 4)

After the desired fill pressure has been obtained, close the on/off valve.

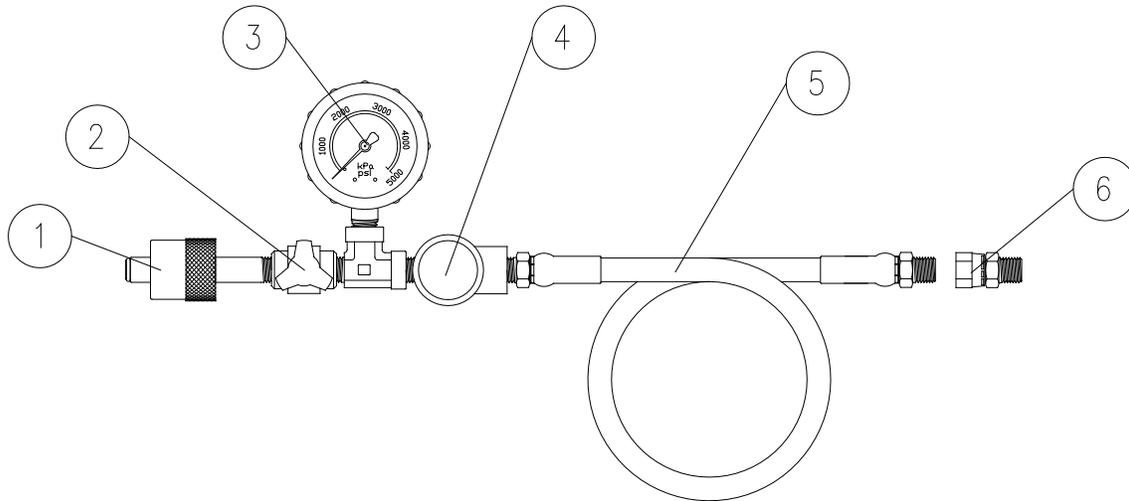
**Note: Some models are equipped with a preset relief valve to prevent overfilling of cylinders. The relief pressure will be marked on a lead tag.**

### STEP 5)

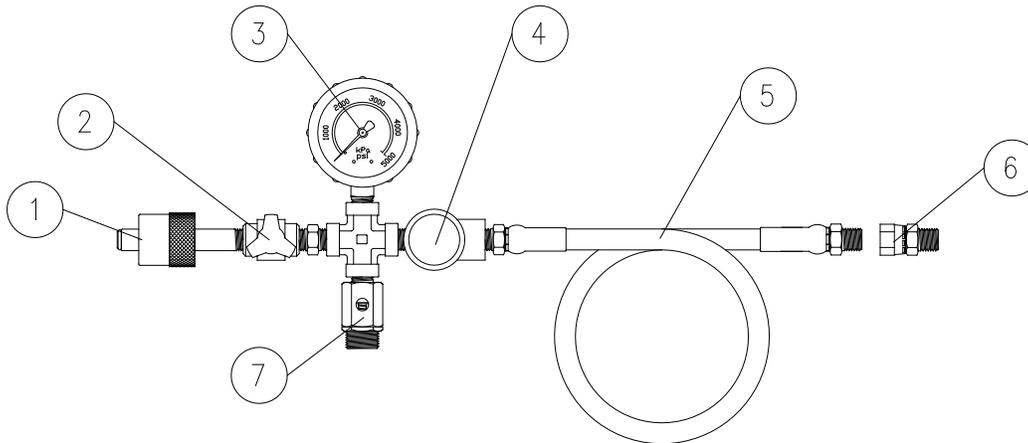
Close the valve of the cylinder being filled and open the bleed valve.

### STEP 6)

Remove the fill whip from cylinder by turning the CGA connection counterclockwise.

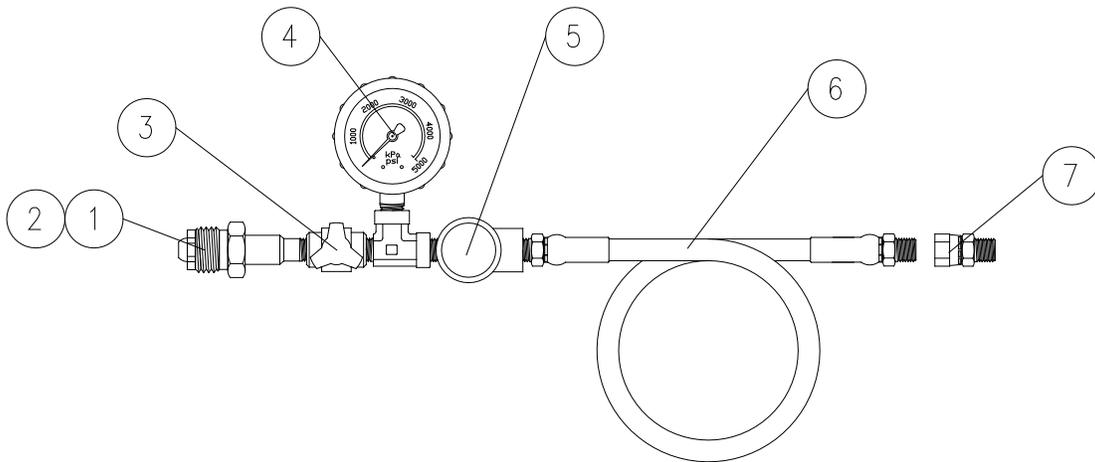
**MODELS: HP-FW5-346, HP-FW5-347, HP-FW50-MA**

ITEM #	DESCRIPTION	HP-FW5-346	HP-FW5-347	HP-FW50-MA
1	HAND-TIGHT NUT/STEM	SS347HT	SS347SNHT	SS347SNHT
2	BLEED VALVE	VAL030	VAL030	VAL030
3	PRESSURE GAUGE	GA255KSBOT	GA255KSBOT	GA2510KS
4	ON/OFF VALVE	VAL020	VAL020	VAL020
5	REPLACEMENT WHIP	HP-FW5-RW	HP-FW5-RW	PHA50650MJ
6	1/4" MPT X 1/4" FPT SWIVEL FITTING	ST44MFV	ST44MFV	N/A

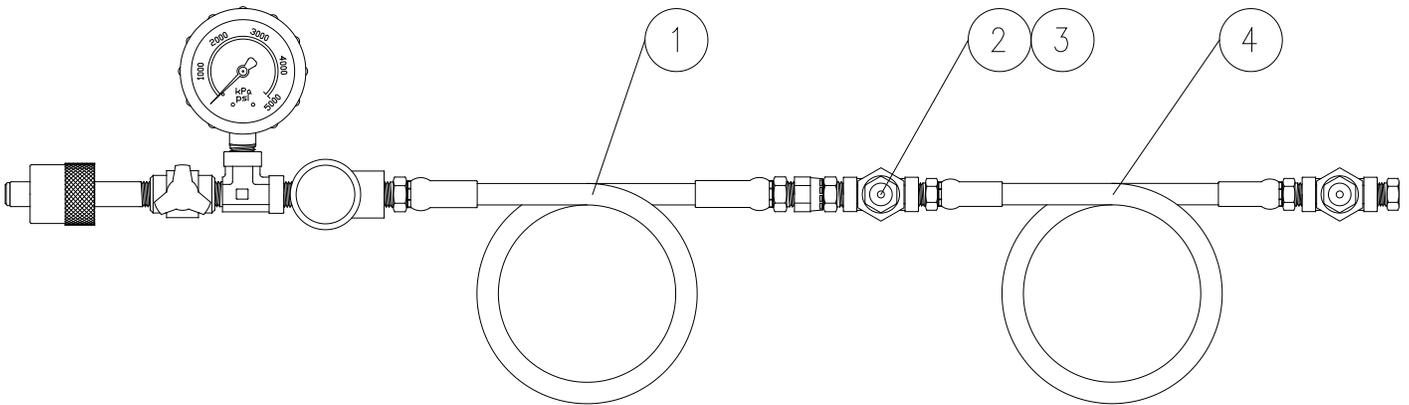
**MODELS: HPFW5-347R, HPFW10346R, HPFW53476K**

ITEM #	DESCRIPTION	HPFW5-347R	HPFW10346R	HPFW53476K
1	HAND-TIGHT NUT/STEM	SS347SNHT	SS347HT	SS347SNHT
2	BLEED VALVE	VAL030	VAL030	VAL030
3	PRESSURE GAUGE	GA255KSBOT	GA255KSBOT	GA256KS
4	ON/OFF VALVE	VAL020	VAL020	VAL020
5	CONNECT WHIP	HP-FW5-RW6	HP-FW10-RW	HP-FW5-RW6
6	1/4" MPT X 1/4" FPT SWIVEL FITTING	ST44MFV	ST44MFV	ST44MFV
7	RELIEF VALVE*	VAL050	VAL050	VAL050

\* Relief valve set pressure is stamped on the lead tag attached to the relief valve.

**MODELS: HP-FW5-702**

ITEM #	DESCRIPTION	HPFW5-702
1	CGA-702 WRENCH TIGHT NUT	SS702N
2	CGA-702 WRENCH TIGHT STEM	SS702S
3	BLEED VALVE	VAL030
4	PRESSURE GAUGE	GA2510KS
5	ON/OFF VALVE	VAL020
6	CONNECT WHIP	HP-FW5-RW6
7	1/4" MPT X 1/4" FPT SWIVEL FITTING	ST44MFV

**MODELS: CBF\_-346NB, CBF\_-347NB, CBF\_-702NB**

ITEM #	DESCRIPTION	CBF_-346NB	CBF_-347NB	CBF_-702NB
1	FILL WHIP ASSEMBLY	HP-FW5-346	HP-FW5-347	HPFW53476K
2	CGA WRENCH TIGHT NUT	HPBR025	HPBR049	SS702N
3	CGA WRENCH TIGHT STEM	HPBR026	HPBR050	SS702S
4	30" WHIP, 1/4" MPT X 1/4" MPT	PHA050-30M	PHA050-30M	PHA506K30M
4A	30" WHIP ASSEMBLY, INCLUDES 30" WHIP, TEE, AND CGA CONNECTION	CW-30	CW-30HP	CW-30-702

## HIGH PRESSURE AIRLINE MAINTENANCE AND INSPECTION

<b>Monthly</b>	Check regulators, gauges, and valves for external leakage.
	Inspect valves for proper closure.
	Check whips for flexibility, wear, leakage, blisters or other hose damage.
	Inspect check valves for leakage.
<b>Annually</b>	Check relief valve's pressure setting.
	Check regulator function by opening and closing regulator knob fully.
<b>Every 4 years</b>	Replace all flexible whips.

## **WARRANTY DISCLAIMER**

Air Systems' manufactured equipment is warranted to the original user against defects in workmanship or materials under normal use for one year from the date of purchase. Any part which is determined by Air Systems to be defective in material or workmanship will be, as the exclusive remedy, repaired or replaced at Air Systems' option. This warranty does not apply to electrical systems or electronic components. Electrical parts are warranted, to the original user, for 90 days from the date of sale. During the warranty period, electrical components will be repaired or replaced at Air Systems' option.

**NO OTHER WARRANTY, EXPRESSED OR IMPLIED, AS TO DESCRIPTION, QUALITY, MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, OR ANY OTHER MATTER IS GIVEN BY AIR SYSTEMS IN CONNECTION HERewith. UNDER NO CIRCUMSTANCES SHALL THE SELLER BE LIABLE FOR LOSS OF PROFITS, ANY OTHER DIRECT OR INDIRECT COSTS, EXPENSES, LOSSES, OR DAMAGES ARISING OUT OF DEFECTS IN, OR FAILURE OF THE PRODUCT OR ANY PART THEREOF.**

The purchaser shall be solely responsible for compliance with all applicable Federal, State and Local OSHA and/or MSHA requirements. Although Air Systems International believes that its products, if operated and maintained as shipped from the factory and in accordance with our "operations manual", conform to OSHA and/or MSHA requirements, there are no implied or expressed warranties of such compliance extending beyond the limited warranty described herein. Product designs and specifications are subject to change without notice. **Rev. 2, 12/98**

Air leaks are not covered under warranty except when they result from a defective system component, i.e. an on/off valve or regulator or upon initial delivery due to poor workmanship. Air leaks due to poor delivery or damage will be covered under delivery claims. Minor air leaks are part of routine service and maintenance and are the responsibility of the customer just as are filters and oil changes.



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