

## K-4243 - Engine Compressor Washer Fuel Nozzle Cleaning Unit

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This instruction is to be used in conjunction with the Operation and Service Manual for the Engine Compressor Washer.

### 1.0 DESCRIPTION

The Tronair fuel nozzle cleaning unit provides a controlled air/solution pulse circuit when used in conjunction with a Tronair engine compressor washer unit.

This unit was developed for use on the Pratt & Whitney PT-6 family of turbine aircraft engines. Always consult the engine manufacturer's recommendations before performing any fuel nozzle cleaning.

When in operation, the fuel nozzle cleaning circuit supplies compressed air and cleaning solution at a factory preset rate of 0.50 seconds flowing and 0.20 seconds off. The unit can also supply compressed air to purge the fuel nozzle system and the engine compressor washer unit of any fluids, acting as a system dryer.

### 2.0 OPERATION

Always follow the engine manufacturer's recommendations for cleaning fuel nozzles.

#### 2.1 PREPARATION

1. Fill cleaning tank with desired amount of acceptable cleaning solution.
2. Fill rinse tank with desired amount of acceptable rinse fluid.
3. Connect shop air to engine compressor washer air tank connection, "Open" supply air valve, and pressurize air tank (125 psi/8.6 bars Maximum).
4. "Close" supply air valve.
5. Prepare engine for fuel nozzle cleaning.
6. Connect the PT-6 engine connection assembly, Part Number: Z-2319, to the engine.
7. Disconnect spraying wand from the unit supply hose at the quick disconnect fitting.
8. Connect the Part Number Z-2319 adapter assembly to the quick disconnect fitting on the unit supply hose.

#### 2.2 ADJUSTMENTS

1. With all valves closed or "Off", connect compressed air supply to fuel nozzle pulse cleaner.
2. Adjust the input pulse air regulator to the desired pressure.
3. Adjust the fluid tank air regulator to the desired pressure.

#### 2.3 FUEL NOZZLE CLEANING

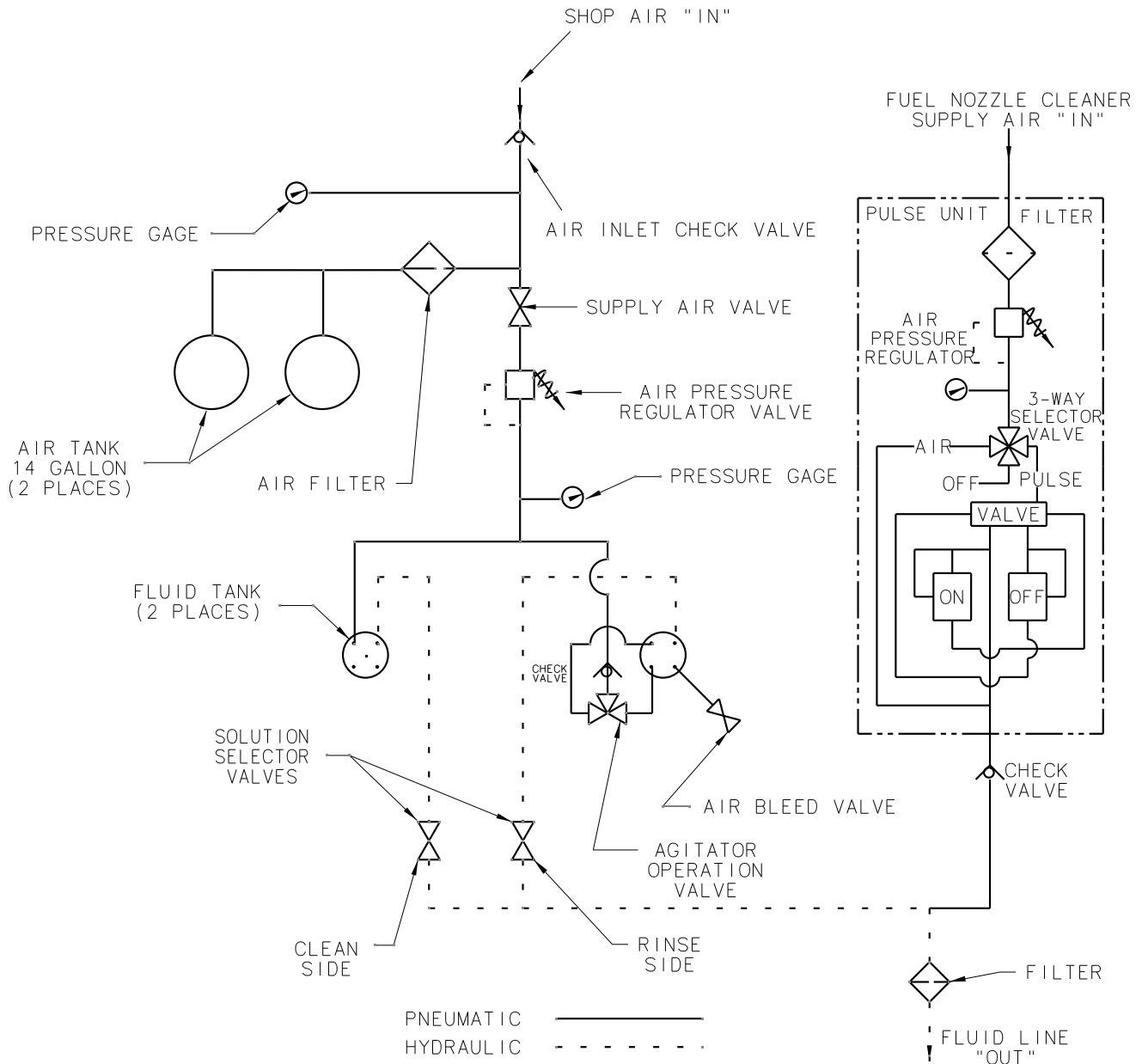
1. Follow the engine manufacturer's recommendations for specific order and duration of cycle steps.
2. The following chart denotes the proper orientation for all valves to perform specific steps of the operation cycle:

VALVE ORIENTATION FOR CYCLE STEPS				
CYCLE STEPS	Selector Valve	Supply Air Valve	Clean Valve	Rinse Valve
Detergent Wash	Pulse	Open	Open	Closed
System Rinse	Pulse	Open	Closed	Open
Soak/Off	Off	Closed	Closed	Closed
Air Dry System	Air dry	Closed	Closed	Closed

#### 2.4 POST-CLEANING OPERATION

1. Close all valves on the engine compressor washer and verify that all flow has stopped.
2. Disconnect unit from engine and reassemble engine components per engine manufacturer's recommendations.
3. To empty and/or clean the fluid tanks, follow the steps listed in the engine compressor washer Operation and Service Manual; reference Section 3.1 "Cleaning Fluid Tanks After Each Use".
4. Purge all fluid from system by air drying components with attached compressed air.
5. Disconnect compressed air supply from fuel nozzle pulse cleaner and reduce pulse and solution tank pressures to zero.
6. Store unit in a clean, dry area when not in use.

**3.0 SCHEMATIC**



**Note: Schematic may vary based on the model of engine compressor washer**

#### 4.0 GUARANTEES/LIMITATION OF LIABILITY

Tronair products are warranted to be free of manufacturing or material defects for a period of one year after shipment to the original customer. This is solely limited to the repair or replacement of defective components. This warranty does not cover the following items:

- a) Parts required for normal maintenance
- b) Parts covered by a component manufacturers warranty
- c) Replacement parts have a 90-day warranty from date of shipment

If you have a problem that may require service, contact Tronair immediately. Do not attempt to repair or disassemble a product without first contacting Tronair, any action may affect warranty coverage. When you contact Tronair be prepared to provide the following information:

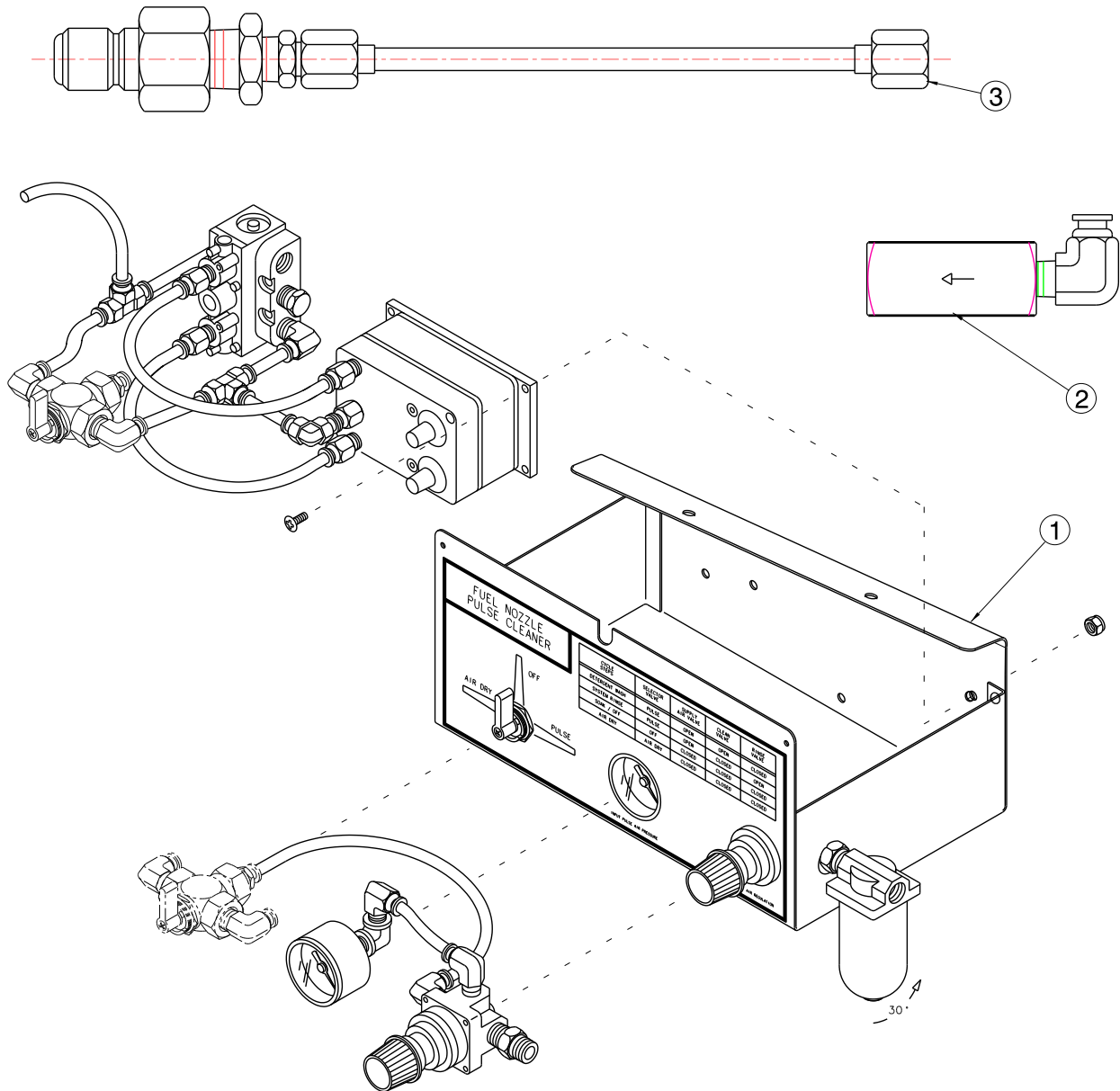
- a) Product Model Number
- b) Product Serial Number
- c) Description of the problem

If warranty coverage is approved, either replacement parts will be sent or the product will have to be returned to Tronair for repairs. If the product is to be returned, a Return Material Authorization (RMA) number will be issued for reference purposes on any shipping documents. Failure to obtain a RMA in advance of returning an item will result in a service fee. A decision on the extent of warranty coverage on returned products is reserved pending inspection at Tronair. Any shipments to Tronair must be shipped freight prepaid. Freight costs on shipments to customers will be paid by Tronair on any warranty claims only. Any unauthorized modification of the Tronair products or use of the Tronair products in violation of cautions and warnings in any manual (including updates) or safety bulletins published or delivered by Tronair will immediately void any warranty, express or implied.

The obligations of Tronair expressly stated herein are in lieu of all other warranties or conditions expressed or implied. **Any unauthorized modification of the Tronair products or use of the Tronair products in violations of cautions and warnings in any manual (including updates) or safety bulletins published or delivered by Tronair will immediately void any warranty, express or implied and Tronair disclaims any and all liability for injury (WITHOUT LIMITATION and including DEATH), loss or damage arising from or relating to such misuse.**

## Parts List

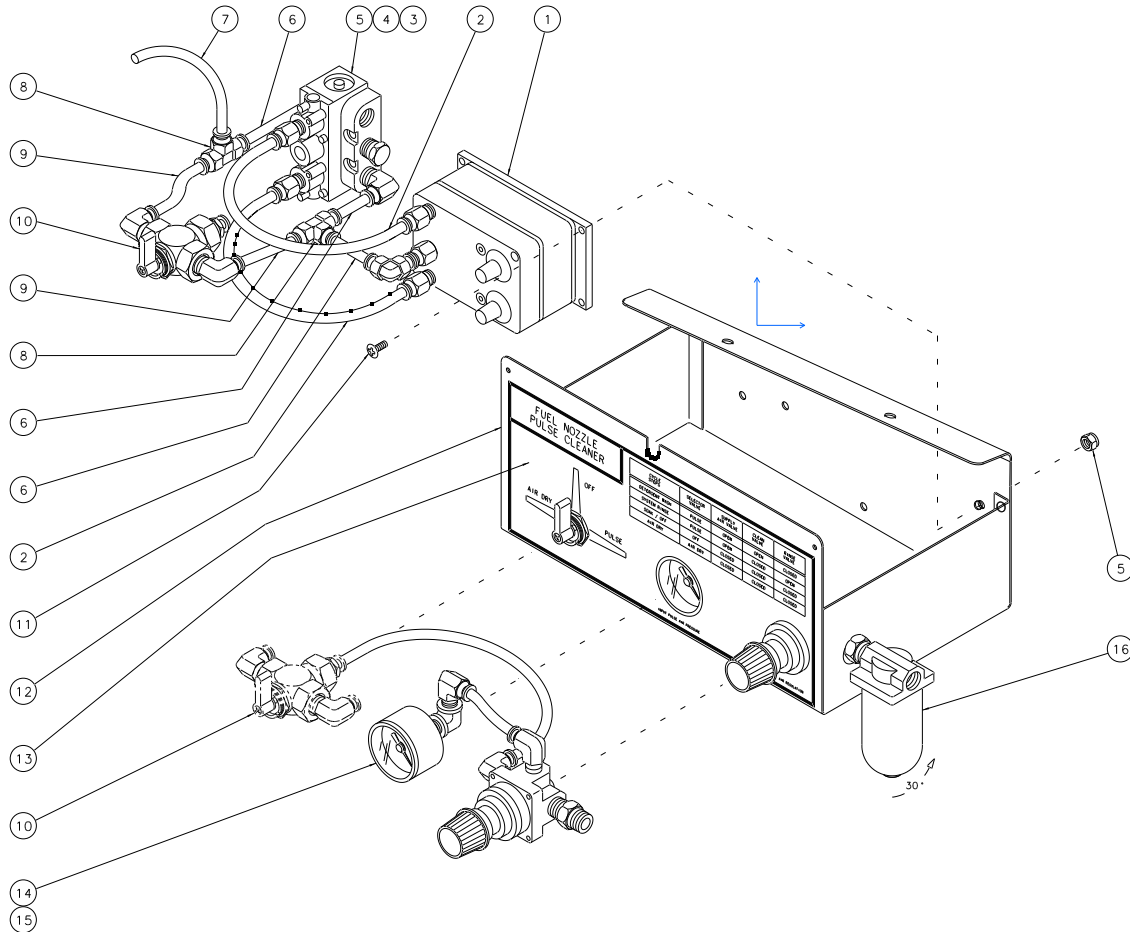
When ordering replacement parts/kits, please specify model, serial number and color of your unit.



Item	Part Number	Description	Qty
	<b>Z-6873</b>	<b>Option 5, Fuel Nozzle Cleaning</b>	
1	Z-6872	Assembly, Fuel Nozzle Cleaning	1
2	Z-2318	Assembly, Panel Adaptor	1
3	Z-2319	Assembly, PT-6 Engine Connection	1
N/S	G-1179-103004	Screw, #10 PAN HD CR REC TPG	2
N/S	G-1250-1030N	Flatwasher, #10 Narrow	2
N/S	N-2201-04-B	Union	1

### Parts List

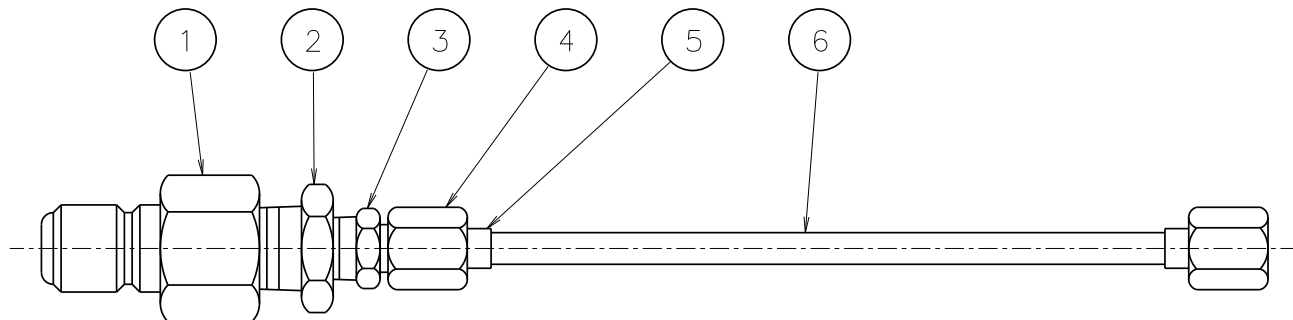
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Item	Part Number	Description	Qty
	<b>Z-6872</b>	<b>Assembly, Fuel Nozzle Cleaning</b>	
1	Z-2313	Assmebly, Oscillator	1
2	TF-1012*10.3	Hose, ¼ Polyethylene x 10 ¼ LG	2
3	Z-2310	Assembly, Valve	1
4	G-1159-103512	Screw, RD HD CR REC, 10-32 x 1 ¼ LG	2
5	G-1202-1035	Stopnut, Elastic, 10-32	4
6	TF-1012*02.3	Hose, ¼ Polyethylene x 2 ¼ LG	3
7	TF-1012*09.0	Hose, ¼ Polyethylene x 9 LG	1
8	N-2458-03	Tee, Union, ¼ Hose	2
9	TF-1012*01.5	Hose, ¼ Polyethylene x 1 ½ LG	2
10	Z-2312	Assembly, 3 Way Valve	1
11	G-1159-103506	Screw, RD HD CR REC, 10-32 x ¾ LG	2
12	Z-6871-01	Weldment, Box	1
13	V-1420	Label, Fuel Nozzle Cleaning	1
14	Z-2311	Assembly, Regulator	1
15	H-1426-06	Clamp, Hose	1
16	H-1775	Filter, Air	1

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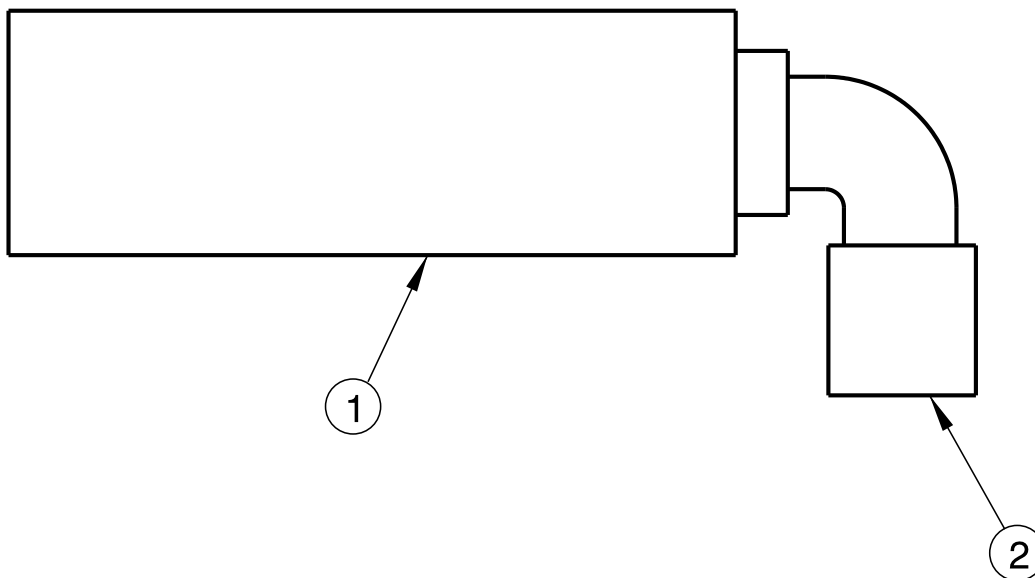
When ordering replacement parts/kits, please specify model, serial number and color of your unit.



Item	Part Number	Description	Qty
	<b>Z-2319</b>	<b>Assembly, PT-6 Engine Connection</b>	
1	N-2401-04-B	Plug, Female Thread 1/2 NPT	1
2	N-2210-08-B	Reducer, Pipe Thread 1/2 Male x 1/4 Female	1
3	N-2009-04-S	Connector, Male 1/4 NPT x #4	1
4	N-2000-03-S	Nut, 37° Flare #4	2
5	N-2019-03-S	Sleeve	2
6	TR373-05*006.00	Tubing, Stainless, 1/4 OD, .049 Wall x 6 LG	1

**Parts List**

When ordering replacement parts/kits, please specify model, serial number and color of your unit.



Item	Part Number	Description	Qty
	<b>Z-2318</b>	<b>Assembly, Panel Adaptor</b>	
1	H-1773-02	Valve, Check ¼ NPT	1
2	N-2446-05	Elbow, 90° Male, ¼ Tube x ¼ NPT	1







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