

INSTRUCTIONS



99TA516151 (for RCD use only)

Instruction Sheet Number: 99TA516151

Description: Oil Accessory Kit (Paragon Compressors TS, TT, TU, TV) Rev 5

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Part Number: 6BTA000300

KIT: 6BTA000300 (For 06TS137, 155, 186 , 06TT266, 301, 356, 06TU483, 554, and 06TV680, 753, 819 Compressor Models)

<u>QTY</u>	<u>ITEM</u>	<u>Carlyle Part Number</u>	<u>Carrier Part Number</u>
1	Oil Filter, 5 Micron	8BTB000312.....	00PPG000012800
1	5/8" Oil Solenoid Valve	8BTB000313.....	00PPG000018200
1	5/8" Check Valve	8BTB000314.....	00PPG000022101
1	5/8" Ball Valve	EP71BA233
1	Kit, Oil Filter fittings	6BTA000308
	• (ORS Sleeve, QTY 3)	(8BTB000317).....	(00PPG000022001)
	• (ORS Nut, QTY 3)	(8BTB000316).....	(00PPG000021901)
1	**Oil Level Switch (120-240 vac)	HK13LB004.....	00PPG000011400
1	**Oil Level Switch	8CCB000743 (115V) or 8CCB000744 (230V)	
1	**Oil Level Sensor fitting	8CCB000742	
1	**Oil Separator Heater (120/240 vac).....	HT38KN007	
1	**Economizer Muffler	8BTB000315.....	00PPG000462400

**** These items are sold separately and do not come in the 6BTA000300 kit, but are shown here for installation instruction purposes.**

Each Oil Accessory Kit contains the following Parts:

Oil Level Switch (120-240 Vac)
HK13LB004

Oil Level Switch/Sensor (115 or 230 Vac)
P/N 8CCB000743 & 8CCB000744
P/N 8CCB000742 (sensor fitting)



115V/230V

Oil Filter, 5 Micron
P/N 8BTB000312 (00PPG000012800)



5/8" Oil Solenoid Valve
P/N 8BTB000313 (00PPG000018200)



5/8" Check Valve
P/N 8BTB000314 (00PPG000022101)



5/8" Ball Valve
P/N EP71BA233



Economizer Muffler
8BTB000315 (00PPG000462400)



Kit, Oil Filter fittings, P/N 6BTA000308
8BTB000316 (Nut) and 8BTB000317 (Sleeve)



Component Description & Installation:

- Follow recognized safety procedures and practices.
- Do not remove any compressor fittings until factory-supplied holding charge has been relieved.
- Verify the content of the kit is complete and according to the pictorial and part numbers shown.
- Verify parts are clean and free from damage.
- Follow all recommend torques to ensure proper assembly.
- Verify all voltage requirements.
- Protect components with a wet cloth during the brazing process.

Oil Level Switch and Sensor:

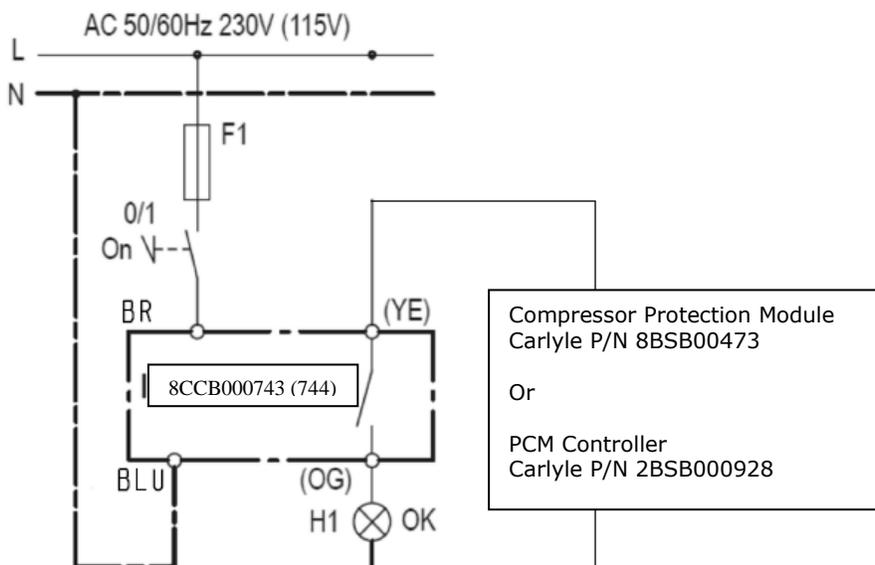
The oil level switch **8CCB000743 (744)** and oil level sensor fitting **8CCB000742** connect together to perform oil level monitoring in the oil separator for Paragon Screw compressor applications. The oil level switch is available in 115V-1-60Hz or 230V-1-60Hz.

This oil level sensor fitting, 8CCB000742, is an optical sensor (not a float type like the 8BTB000311 oil level sensor). The optical sensor is designed to be immersed in oil, and when uncovered will open the internal switch contacts of the oil level switch 8CCB000743 (744). The oil level sensor fitting, 8CCB000742 installs in the oil separator.

The oil level switch and optical sensor work with the Carlyle compressor protection module, **P/N 8BSB000473**, which is part of the compressor protection kit P/N 6BSB000472 (R134a) and 6BSB000603 (R404a). Or the Carlyle PCM Controller, **P/N 2BSB000928**, which is part of the PCM Controller kit P/N 6BSB000929 (R134a) and 6BSB000930 (R404a).

The oil level switch has a 5 second built in time delay. The oil level sensor is 1/2" NPT steel nickel-plated that installs into the oil separator oil level port. The sensor should be torques to 50-60 ft-lbs.

Wiring Diagram



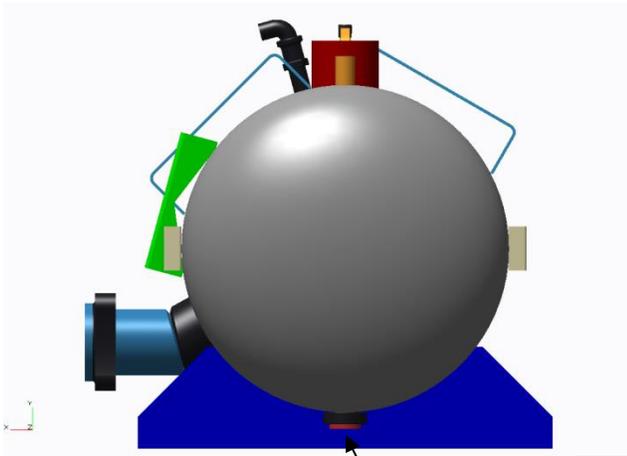
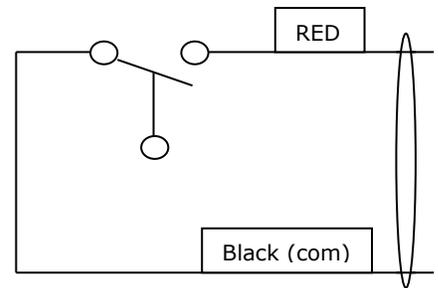
Oil Level Switch (8BTB000311): The oil level switch mounts to the bottom of the oil separator and provides compressor low oil level protection. The switch should be wired into the compressor start control circuit and should trip the compressor off on low oil separator level. The switch electrical rating is 20VA, 120 to 240 Vac.

The oil level switch will work with the Carlyle compressor protection module **P/N 8BSB000473** which is part of the compressor protection kit P/N 6BSB000472 (R134a) and 6BSB000603 (R404a).



Connector is METRI-PAK #166571. If not using mating METRI-PAK connector, remove connector end and field wire accordingly.

Wiring Diagram



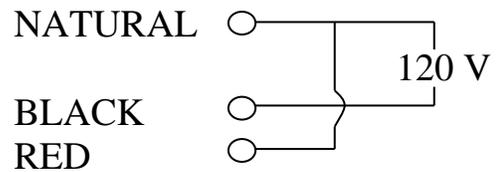
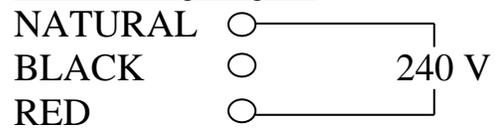
Oil Level Switch connection port is (1-1/16-12UN-2B threads). Lightly oil the oring and threads prior to installation into the oil separator.

Oil Separator Heater: The oil separator heater mounts to the underside of the oil separator and fastens around the oil separator body via the supplied springs. The heater is dual voltage 120/240 Vac, output is 500 watts, operating temperature is 450F. The oil separator heater should be energized when the compressor is not in-service and de-energized when the compressor is operating.

Oil Separator Heater (120/240 Vac)
P/N HT38KN007



Heater Wiring Diagram



Oil Filter: The oil filter is a 5 micron filter that protects the compressor bearings and twin rotors from damage by filtering out debris in the oil supply system. The oil filter mounts to the oil separator (see figure 1) and comes with two orings installed. ORS nut (8BTB000316) and ORS sleeve (8BTB000317) are provided to facilitate the installation of the Oil filter.

Oil Solenoid Valve: The oil solenoid valve is installed downstream of the oil filter and is a normally closed valve that provides line isolation between the compressor and oil separator and also prevents refrigerant migration from the compressor to the oil when the compressor is off (see figure 1). For servicing the oil filter, verify the solenoid coil is de-energized and the oil supply line manual ball valve is in the closed position.

Check Valve: The check valve primarily prevents reverse oil flow from the compressor to the oil separator. And secondly prevents refrigerant migration from the compressor to the oil separator in an event the oil solenoid is temporarily removed or stuck open (see figure 1).

Ball Valve: The ball valve is a manual valve that provides additional line isolation of the oil separator if the oil filter requires servicing/replacement (see figure 1). **Verify the ball valve is in the open position prior to compressor start.**

Oil Filter Fittings: ORS nut (8BTB000316) and ORS sleeve (8BTB000317) are provided to facilitate the installation of the oil filter and the oil supply line tee located at the top of paragon compressor (see figure 1).

Economizer Muffler: The economizer muffler is supplied with this kit to be field installed by the OEM to the oil separator in a horizontal direction. The economizer muffler is not flow directionally dependant and may be installed in either direction. The economizer muffler is designed to work with the economizer subcooling circuit (not the oil supply circuit) and functions to minimize line vibration caused by discharge gas pulsations.

Oil Separator Fill procedure:

This 5/8" ball valve is provided in the 6BTA000300 kit. The ball valve should install just downstream of the 5/8" oil supply outlet of the oil separator to the compressor, as shown in figure 1 below. The ball valve has a schrader port that can be used to fill the oil separator with oil.

- The ball valve is not flow directional, so it can be installed with the schrader port between the Ball Valve and Oil Separator or installed so schrader port is between the oil filter and ball valve. This later installation is preferred because it allows the end user to evacuate the oil line between the ball valve and oil solenoid valve in order to replace the oil filter.
- Therefore to charge the oil separator with oil, the normally closed oil solenoid will be de-energized and the ball valve will be manually open to allow the schrader port to communicate with the oil separator.
- Therefore ensure the NC oil solenoid valve is de-energized and the ball valve is in the closed position.
- Remove the cap and schrader valve and install your oil fill hose to the schrader port.
- With your oil separator under a vacuum, manually open the ball valve to draw oil into the oil separator.
- Fill the oil separator with the recommend oil type and charge quantity, which is based on the application duty, refrigerant, and Oil Separator type (side-by-side, over/under, or vertical) as define in the 574-085 Application Guide located at www.carlylecompressor.com.
- Once oil charge is complete, close the ball valve and remove the oil fill line and re-install the schrader valve.
- Then evacuate the 5/8" oil line between the ball valve and oil solenoid valve.

5/8" Ball Valve
P/N EP71BA233



Paragon Oil Supply General Parts Layout

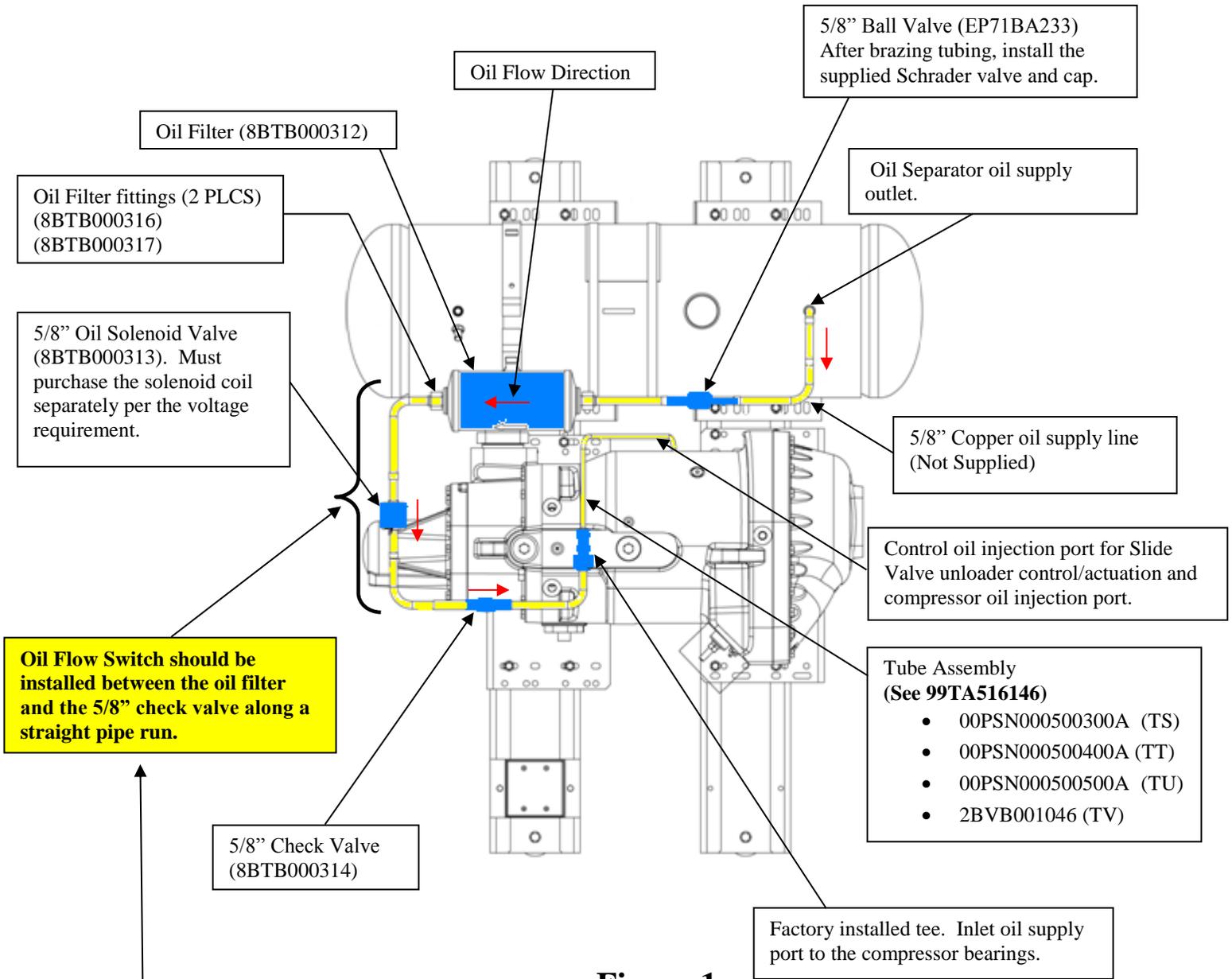


Figure 1

Flow Switch, P/N 8BSB000475 or P/N 8BSB000605



Flow switch end fitting is threaded to the body assembly and torque to 25 ft-lbs. Do not remove or disassemble.