Maintenance & Troubleshooting

Lubricated Air Compressor

Description:

Apollo Dental Products Air Compressors are designed give years of trouble-free, reliable service. However, certain components do require periodic attention and service. Failure to adequetly service these components will not only cause failure of the compressor, but will also result in unsatisfactory service while it is running. If you require additional information contact, ADP Technical Support between the hours of 6:00 a.m. and 4:00 p.m. (Pacific Standard Time).

Maintenance:

A. Oil

Check Oil Level Weekly. Use only ADP Compressor Oil, Part #*ACA85921. The ADP oil has been specially formulated to reduce compressor wear and oil carry-over. Oil should only be added when the oil level remains below the center line of the oil-level sight glass after the compressor has been idle for at least 5 minutes. **For cold climate use Compressor Oil Part # ACA85930 (50° and below).*

Do Not Over-Fill. If the crankcase is over-filled, the compressor will pump the excess oil into the system.

Change Oil Annually. Place a drip pan under the drain plug (located at the lower right end of the compressor head when facing the oil fill spout) and remove plug. Drain oil and replace plug. Add oil until level reaches the center of the oil-level sight glass (approximately one pint).

B. Storage Tank (Standard Models Without Desiccant Drying System)

Check Water Build-Up In Storage Tank Monthly. To check, locate drain valve on bottom of storage tank and slowly open. If moisture is present, allow all moisture to be expelled before closing the valve.

C. Air Intake Filter-Muffler

Replace Air Intake Filter-Muffler Annually. A dirty air intake filter-muffler decreases the efficiency of the compressor and increases oil consuption. Replacement filter-muffler part #ACP90500.

D. Coalescing Filter

Replace Ultrair Coalescing Filter Annually. The coalescing filter removes 99.9997% of all particulates and oil vapor. A dirty filter will allow oil mist or vapor to enter the drying chamber. This will render the drying system less efficient. Replacement filter part #PFM85230 or #PFM85210.

E. Condensate Drain Canister

Empty Condensate Drain Canister Weekly. It is normal to see oil and water in the canister. This means the coalescent filter and drying system is working correctly.

F. Pump-Up Times

Check Pump-Up Times Monthly. Refer to table for proper time readings.

G. Leaks

Leaks are the #1 cause of poor performance and shortened compressor life. Use a soapy water solution to detect. Repair as needed.

Compressor Pump-Up Chart

Standard Compressor Models		Desiccant Compressor Models	
Compressor Model	**Compressor Pump-Up Time 80-100 PSI**	**Compressor Model**	**Compressor Pump-Up Time 80-100 PSI**
ALCSL12	30-35 Seconds	ALCSL12D	35-40 Seconds
ALCSL11	30-35 Seconds	ALCSL11D	35-40 Seconds
ALCSL22	25-30 Seconds	ALCSL22D	30-35 Seconds
ALCSL21	25-30 Seconds	ALCSL21D	30-35 Seconds
ALCTL32	30-35 Seconds	ALCTL32D	35-40 Seconds
ALCTL31	30-35 Seconds	ALCTL31D	35-40 Seconds
ALCTL42	25-30 Seconds	ALCTL42D	30-35 Seconds
ALCTL41	25-30 Seconds	ALCTL41D	30-35 Seconds
ALCRL62	15-20 Seconds	ALCRL62D	20-25 Seconds
ALCQL82	20-25 Seconds	ALCQL82D	40-45 Seconds

PROBLEM: Compressor will not start.

Cause: No power at motor terminals.
Remedy: Check for voltage at wall outlet. If proper voltage is measured there and not at motor terminals, check for:
1. Broken or loose wire.
2. Pressure switch decfective or out of adjustment (contacts should be closed if tank pressure is below 80 PSI).
3. Defective On/Off switch (DPST). Replace.

Cause: Defective start relay (Motor may hum but not start).
Remedy:
1. Tap relay starter assembly box lightly. If unit starts, the relay is sticking and should be replaced. This could be an evasive/intermittent problem.
2. Relay coil open. Check for continuity across relay coil terminals 2 and 5. If no continuity, relay should be replaced. (Relay is located inside capacitor starting assembly box).

Cause: Defective capacitor. (Motor may hum but not start).
Remedy:
1. Short capacitor lead terminals and test capacitors using Ohm meter, checking for resistence rise. If there is no resistence rise, capacitor/start assembly is defective and must be replaced.

Cause: Defective thermal overload protector.
Remedy:
1. Test by jumping protector, replace if necessary. Do not operate the compressor for an extended period of time with the protector jumped “OUT”.

Cause: Frozen motor/compressor.
Remedy:
1. If with proper voltage to motor terminals R and 2, and capacitor/relay assembly operating correctly compressor still will not run, the head is frozen and should be replaced. Remove fan and capacitor assembly before returning head to factory. Contact ADP for Return Authorization on any parts under warranty.

PROBLEM: Motor runs for only a few seconds or “chuggs”.

Cause: Low voltage.
Remedy:
1. Check line voltage, it should be 230 10% (208-230 volt units). Install ADP transformer if necessary.

Cause: Cold operating temperature.
Remedy:
1. Compressor should not be subjected to temperatures below 40 degrees Fahrenheit, or hard starting may result. Use ADP Cold Weather Oil, part #ACA85930.

Cause: Sticking relay.
Remedy:
1. Feel the start capacitor; if it is warm, the start relay is not releasing and should be replaced (ensure there is proper voltage first).

Cause: Defective capacitor.
Remedy:
1. Short capacitor lead terminals and test capacitors using Ohm meter checking for resistence rise. If there is no resistence rise, capacitor/start assembly is defective and must be replaced.

PROBLEM: Compressor head runs but will not pressurize to 100 PSI.

Cause: Quick exhaust valve or pressure switch unloader valve not closing when compressor runs.
Remedy: 1. Quick exhaust valve or pressure switch unloader valve may be dirty or defective. Clean or replace.

Cause: Coalescent filter float stuck.
Remedy: 1. Clean or replace.

Cause: Air leaks in system piping.
Remedy: 1. Check for leaks using soapy water solution. Repair any system piping air leaks.

Cause: Blockage in air line.
Remedy: 1. Inspect all air lines for restrictions.

Cause: Leak in compressor unit.
Remedy: 1. Close the storage tank shut-off valve. With compressor running check discharge line, flex hose pressure, safety valve, tank drain valve and all fittings for leaks, using soapy water.

Cause: Insufficient discharge.
Remedy: 1. Remove discharge line flex hose and check for pressure build-up by holding finger over discharge outlet fitting. If low pressure build-up occurs, head is defective. Contact ADP for Return Authorization information.

PROBLEM: Compressor cycles with no air being used.

Cause: Manual purge valve handle is in “ON” position (vertical).
Remedy: 1. Turn valve handle to normal “OFF” position (horizontal).

Cause: Leak in office air system.
Remedy: 1. Close the storage tank shut-off valve. Pump up storage tank to 100 PSI. If pressure is maintained at 100 PSI for 15-20 minutes, leak is in air system not in compressor.

Cause: Leak in compressor.
Remedy: 1. Storage tank check valve may be dirty or defective. Clean or replace.
2. Check for leaks at storage tank shut-off valve pressure safety valve, tank drain valve and all fittings attached to storage tank using soapy water solution.

PROBLEM: Moisure indicator is pink.

Cause: Unloading system not functioning properly.
Remedy: 1. Check to see that the quick exhaust valve closes when the compressor is pumping. If not, check for voltage at solenoid.
2. Ensure that the quick exhaust valve and the pressure switch unloader valve opens as soon as the compressor stops. The purge tank gauge pressure should drop from 100 PSI to zero.

Cause: Saturated Desiccant Drying Chamber.
Remedy: 1. Operate drying system in the manual purge mode. If after 1 (one) week the system is not dry, replace silica gel (desiccant).

Cause: Compressor running too frequently.
Remedy: 1. Compressor undersized for installation. Check with ADP Air Systems Technical Support.
2. Leaks in air system, locate and repair.

Cause: Condensation in air lines.
Remedy: 1. As the compressed air moves through the air lines to the operatory, it cools, causing condensation of any moisture particles in the air. This can result in wet operatory air. To prevent this, it is necessary to install a Mini Spitter FIter Kit (Part #ASA85315) in the dental unit. This will filter any condensation from the compressed air before it enters handpieces.

PROBLEM: Excessive oil use.

Cause: Compressor running too frequently.
Remedy: 1. Compressor undersized for installation. Check with ADP Air Systems Technical Support.
2. Leaks in air system, locate and repair.

Cause: Compressor running hot.
Remedy: 1. Compressor should be in well ventilated area with room air temperature under 100 degrees Fahrenheit.
2. Compressor undersized for installation. Check with ADP Air Systems Technical Support.
3. Leaks in air system, locate and repair.

Cause: Head not level.
Remedy: 1. Compressor must be level to ensure proper lubrication.

Under normal operating conditions, a small amount of moisture with some oil may be under the unloader exhaust muffler. This is not a malfunction. It is evidence of what the filter on the Desiccant Drying System captured, and did not permit to enter the operatory air supply.

Warranty Information:

Apollo Dental Products Lubricated Air Compressors are thoroughly inspected and tested in accordance with the rigid specifications and standards of ADP. They are guaranteed against any defective material and workmanship for a period of two years from the date of shipment, provided the installation, operation and maintenance is done in accordance with ADP's procedures as outlined in the manual.

During the life of this guarantee, ADP will repair or replace (at ADP's discretion) without charge, any defective part(s) for a two year period, if such defects occur in normal service and are not due to apparent misuse, abuse or accident. Provided that the parts are returned to ADP, via the dealer through which they were purchased, transportation prepaid. Warranty cards must be returned to ADP within ten days of installation to effect warranty. ADP makes no other warranties or guarantees, expressed or implied.

Head Replacement Parts

Models	SL12/12D	SL11/11D	SL22/22D	SL21/21D	TL32/32D	TL31/31D	TL42/42D	TL41/42D	RL62/62D	QL82/82D
Capacitor-Run	---	---	HCA30622	HCA30620	---	---	HCA30622	HCA30620	HCA30622	HCA30622
Capacitor-Start	HCA30625	HCA30626	HCA30625	HCA30628	HCA30625	HCA30626	HCA30625	HCA30628	HCA30625	HCA30625
Capacitor-Start Assembly	SPD95285	SPD95275	SPD95291	SPD95280	SPD95285	SPD95275	SPD95291	SPD95280	SPD95291	SPD95291
Compressor Head Kit	ACH95450	ACH95445	ACH95460	ACH95455	ACH95450	ACH95445	ACH95460	ACH95455	ACH95460	ACH95460
Compressor Oil (16 Oz.)	ACA85921	ACA85921	ACA85921	ACA85921	ACA85921	ACA85921	ACA85921	ACA85921	ACA85921	ACA85921
Discharge Reed Valve	HCA30670	HCA30670	HCA30670	HCA30670	HCA30670	HCA30670	HCA30670	HCA30670	HCA30670	HCA30670
Gasket Cylinder Head	HCA30638	HCA30638	HCA30638	HCA30638	HCA30638	HCA30638	HCA30638	HCA30638	HCA30638	HCA30638
Oil Sight Glass Kit	ACA85322	ACA85322	ACA85322	ACA85322	ACA85322	ACA85322	ACA85322	ACA85322	ACA85322	ACA85322
Protector-Thermal Overload	HCA30605	HCA30600	HCA30615	HCA30610	HCA30605	HCA30600	HCA30615	HCA30610	HCA30615	HCA30615
Starter Relay	HCA30653	HCA30652	HCA30655	HCA30654	HCA30653	HCA30652	HCA30655	HCA30654	HCA30655	HCA30655
Suction Reed Retainer	HCA30680	HCA30680	HCA30680	HCA30680	HCA30680	HCA30680	HCA30680	HCA30680	HCA30680	HCA30680
Suction Reed Valve	HCA30675	HCA30675	HCA30675	HCA30675	HCA30675	HCA30675	HCA30675	HCA30675	HCA30675	HCA30675
Suction Screen Strainer	HCA30690	HCA30690	HCA30690	HCA30690	HCA30690	HCA30690	HCA30690	HCA30690	HCA30690	HCA30690

Compressor Replacement Parts

Models	SL12/12D	SL11/11D	SL22/22D	SL21/21D	TL32/32D	TL31/31D	TL42/42D	TL41/42D	RL62/62D	QL82/82D
Air Intake Muffler	ACP90500	ACP90500	ACP90500	ACP90500	ACP90500	ACP90500	ACP90500	ACP90500	ACP90500	ACP90500
Desiccant Drying Tower	ACA85308	ACA85308	ACA85308	ACA85308	ACA85308	ACA85308	ACA85308	ACA85308	ACA85308	ACA85307
Desiccant Material	ACA85345	ACA85345	ACA85345	ACA85345	ACA85345	ACA85345	ACA85345	ACA85345	ACA85345	ACA85345
Discharge Line Flex Hose, 12 In.	PCH50200	PCH50200	PCH50200	PCH50200	PCH50200	PCH50200	PCH50200	PCH50200	PCH50200	PCH50200
Discharge Line Flex Hose, 21 In.	---	---	---	---	PCH50205	PCH50205	PCH50205	PCH50205	---	---
Drying Tower Filter	PFM70300	PFM70300	PFM70300	PFM70300	PFM70300	PFM70300	PFM70300	PFM70300	PFM70300	PFM70300
Fan	SEA95540	SEA95535	SEA95540	SEA95535	SEA95540	SEA95535	SEA95540	SEA95535	SEA95540	SEA95540
Manual Purge Valve	PVV50550	PVV50550	PVV50550	PVV50550	PVV50550	PVV50550	PVV50550	PVV50550	PVV50550	PVV50550
Moisture Indicator Kit	ACA85965	ACA85965	ACA85965	ACA85965	ACA85965	ACA85965	ACA85965	ACA85965	ACA85965	ACA85965
On/Off Switch	ECS10417	ECS10417	ECS10417	ECS10417	ECS10417	ECS10417	ECS10417	ECS10417	ECS10417	ECS10417
Pressure Safety Valve	PVV50560	PVV50560	PVV50560	PVV50560	PVV50560	PVV50560	PVV50560	PVV50560	PVV50560	PVV50560
Pressure Switch/Unloader Valve	ECS10445	ECS10445	ECS10445	ECS10445	ECS10445	ECS10445	ECS10445	ECS10450	ECS10450	ECS10455
Purge Gauge	PGA70400	PGA70400	PGA70400	PGA70400	PGA70400	PGA70400	PGA70400	PGA70400	PGA70400	PGA70400
Quick Exhaust Valve 115V	---	PVV70501	---	PVV70501	---	PVV70501	---	PVV70501	---	---
Quick Exhaust Valve 208V	PVV70502	---	PVV70502	---	PVV70502	---	PVV70502	---	PVV70502	PVV70502
Storage Tank Check Valve	PVV50515	PVV50515	PVV50515	PVV50515	PVV50515	PVV50515	PVV50515	PVV50515	PVV50515	PVV50515
Storage Tank Gauge	PGA70400	PGA70400	PGA70400	PGA70400	PGA70400	PGA70400	PGA70400	PGA70400	PGA70400	PGA70400
Shut-Off Valve	PVV50500	PVV50500	PVV50500	PVV50500	PVV50500	PVV50500	PVV50500	PVV50500	PVV50500	PVV50500
Tank Drain Valve	PVV50525	PVV50525	PVV50525	PVV50525	PVV50525	PVV50525	PVV50525	PVV50525	PVV50525	PVV50525
Tank Isolation Feet	MRP70967	MRP70967	MRP70967	MRP70967	MRP70967	MRP70967	MRP70967	MRP70967	MRP70969	MRP70969
Ultrair Filter Housing	ACA70305	ACA70305	ACA70305	ACA70305	ACA85215	ACA85215	ACA85215	ACA85215	ACA85215	ACA85215
Ultrair Filter Element	PFM85230	PFM85230	PFM85230	PFM85230	PFM85210	PFM85210	PFM85210	PFM85210	PFM85210	PFM85215