

2. To restart the compressor, wait one (1) minute, then turn the Emergency Stop button clockwise to release it. Then, start the compressor per the above instructions. In case of alarm, press the Reset button before restarting.

INSTRUMENT PANEL (FIGURE 4-2) - The following is a description of the various displays, buttons and indicator lights on the Air Pilot Electronic controller:

1. Scrolling
2. Start
3. Stop
4. Change Setting (up)
5. Change Setting (down)
6. Reset (return to basic display)
7. Display
8. Left upper segment of display
9. left lower segment of display
10. Pressure indicator light
11. Temperature indicator light (running temp/dew point)
12. Operating hour indicator light (total hours/loaded hours)
13. Change oil light
14. Air filter indicator light
15. Air/oil separator indicator light
16. Oil filter indicator light
17. Motor indicator light
18. Power indicator light
19. Load indicator light (not on when machine is running unloaded)

20. Emergency stop
21. Remote control selecting switch

PROGRAMMING AND SETUP INSTRUCTIONS FOR THE AIR PILOT ELECTRONIC CONTROLLER

THE AIR PILOT ELECTRONIC CONTROLLER has five menus, four of which can be accessed by the operator.

The fifth menu contains the factory settings of the compressor. Access to the factory settings menu requires a special code. See FIGURE 4-3, page 17, for a diagram of how the menus are setup.

The basic display menu shows the compressor's running mode and information on the compressor's various functions.

The other menus are for programming. Programming and setup is accomplished with the program keys, see FIGURE 4-2. The programming menus are accessed by simultaneously depressing the up arrow and the down arrow keys and holding for 5 seconds. All indicator lights will light up and the display will start flashing. The 3 different menus can then be chosen using the up arrow key. The up arrow key and the down arrow key will increase or decrease displayed numeric values, step through the top level menus or if pushed simultaneously will enable the user to go into the program mode. The top level menus 01 for the user menu, 02 for the service menu and 03 for the multipilot menu.

The scroll (↵) key will enable the user to go through the various menu options, to change the numeric value on the display, use the up arrow or the down arrow keys. The value on the display starts flashing to indicate it is being changed.

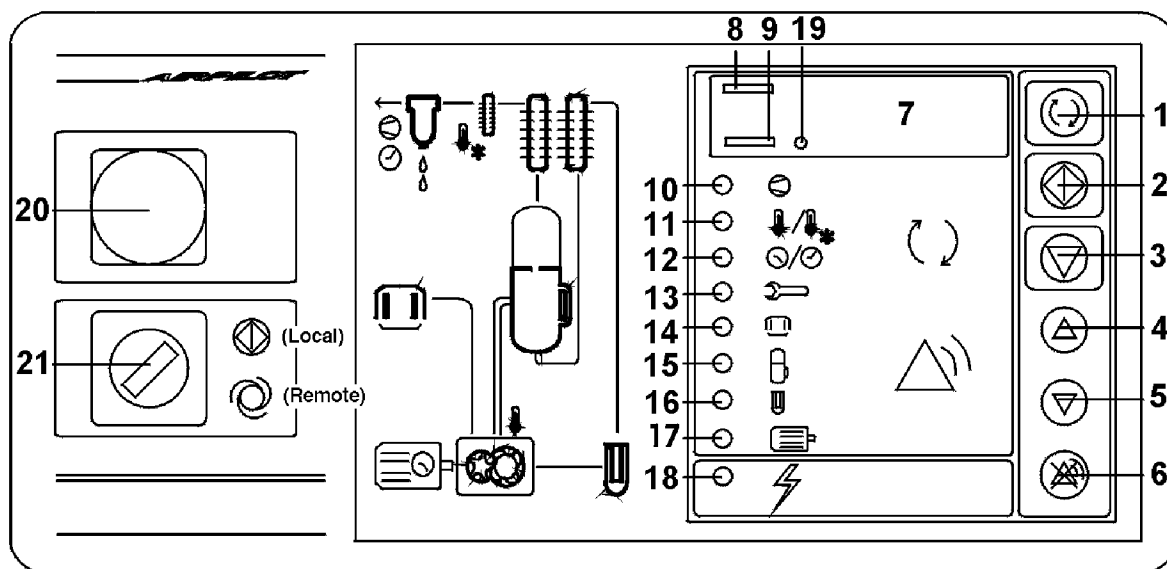


FIGURE 4-2 - STARTER / CONTROL BOX AND INSTRUMENT PANEL

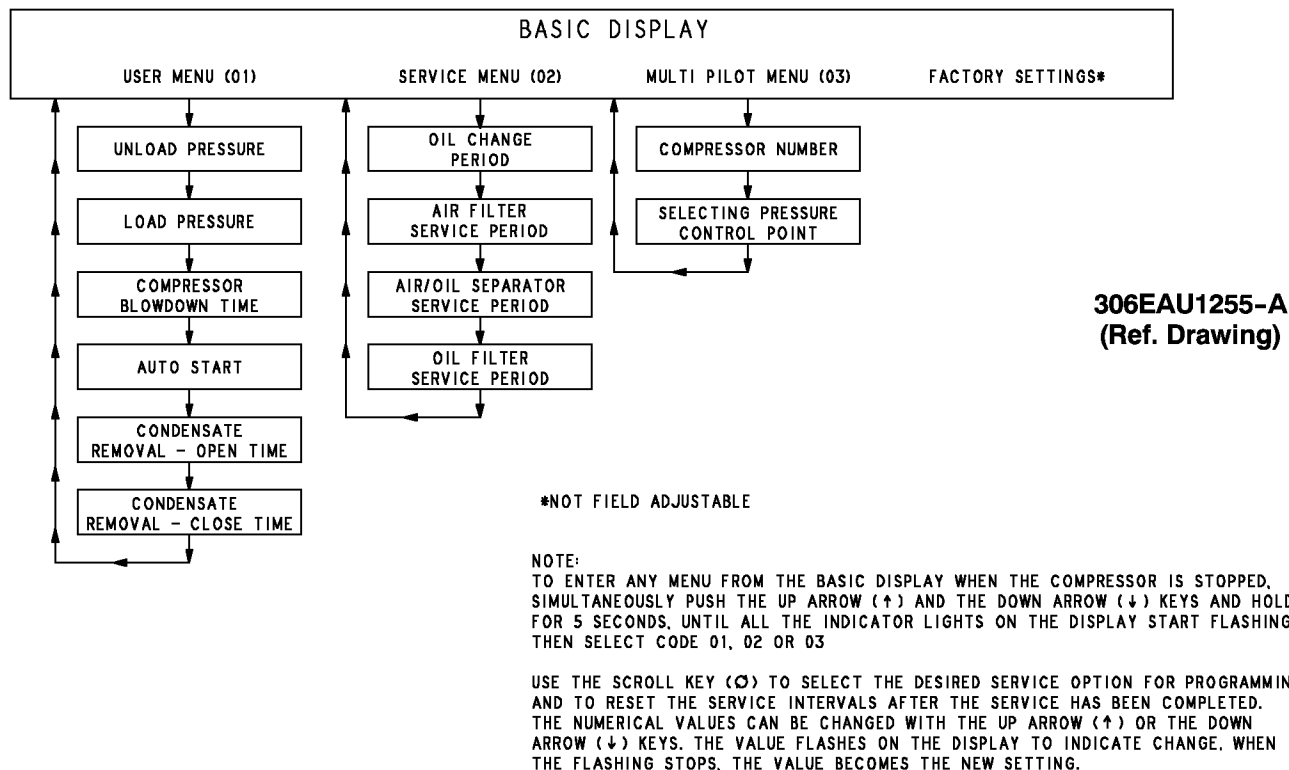


FIGURE 4-3 - AIR PILOT ELECTRONIC CONTROLLER

The flashing stops when the value is changed.

The following are the compressor running modes:

NOTICE
<p>The basic display can be entered from all menus by depressing the re-set key. The basic display will also return after one minute, if the panel is not used.</p>

BASIC DISPLAY – When the compressor is switched on, the unit shows the basic display. If the motor is running, the display shows a dot and the output pressure (the dot is shown when the compressor is loaded, not when unloading). If the motor is stopped, the display shows the compressor's running mode.

DISPLAY	RUNNING MODE
OFF illuminated	Compressor switched off
OFF flashing slowly	Compressor in blowdown mode
OFF flashing quickly	Stop command given, compressor running unloaded before stopping.
ON illuminated	Compressor switched on
ON flashing quickly	Compressor in automatic mode and can start at any time.

Use the scroll key (↑↓) to get the following information:

DISPLAY	RUNNING MODE
Pressure light on (1)	Discharge pressure
Temperature light on (2)	Compressor temperature
Operating hours light on (3)	Operating hours
Operating hours flashing (3)	Loaded hours flashing
Change Oil light on (4)	Change oil
Air filter light on (5)	Replace air filter
Oil separator light on (6)	Replace air/oil separator
Oil filter light on (7)	Replace oil filter
No lights on	Compressor running mode on display

USER MENU – To enter the User Menu from the basic display when the compressor is stopped, simultaneously push the up arrow and the down arrow keys and hold for 5 seconds, until all the indicator lights on the display start flashing, then select code 01.

Use the scroll key (↑↓) to select the desired option for programming. The numerical values can be changed with the up arrow or the down arrow keys. The value flashes on the display to indicate change. When the flashing stops, the value becomes the new setting.

The following can be programmed through the User Menu.

Setting the unload pressure:

The pressure indicator light and the upper left segment of the display illuminate when the unload pressure is in the programming mode.

The discharge pressure shifts as the unload pressure is changed (the pressure differential remains constant).

The unload pressure set at the factory is equal to the compressor's maximum pressure which cannot be exceeded.

Setting the discharge pressure:

The pressure indicator light and the lower left segment of the display illuminate when the discharge pressure is in the programming mode.

NOTICE

Changing the discharge pressure will cause the pressure difference to change.

Compressor automatic timer:

The automatic timer determines how long the compressor runs unloaded before stopping.

The operating hour light illuminates when the unloading time is programmable. This timer is factory set at 5 minutes.

Automatic start after power failure:

This mode is disabled by setting the value to 0. Other values define the starting delay of the compressor when power is restored, recommend one (1) minute or longer.

The operating light flashes when automatic starting is programmable.



DANGER

Automatic restarting can cause injury or death. Open, tag and lockout main disconnect and any other circuits before servicing the unit.

Condensate removal, open time:

Condensate removal open time is in seconds.

The air filter light illuminates when this can be programmed.

NOTICE

Too short condensate removal time at too long an interval may cause water to enter the network. Humid and warm intake air require longer and more frequent condensate removal.

NOTICE

Too long of a condensate removal time at too short an interval will waste compressed air.

Condensate removal, close time:

Condensate removal close time is in seconds. This is time between condensate removal.

The oil separator light illuminates when this can be programmed.

SERVICE MENU – To enter the SERVICE Menu from the basic display when the compressor is stopped, simultaneously push the up arrow and the down arrow keys and hold for 5 seconds, until all the indicator lights on the display start flashing, then select code 02.

Use the scroll key (↑↓) to select the desired service option for programming and to reset the service intervals after the service has been completed. The numerical values can be changed with the up arrow or the down arrow keys. The value flashes on the display to indicate change. When the flashing stops, the value becomes the new setting. The following can be programmed through the SERVICE MENU.

Oil change interval:

The service light illuminates when the new oil interval can be set. The factory recommends using FIGURE 5-3, page 30, as a guide.

Air filter interval:

The air filter light illuminates when the new service interval can be set for the air filter. See Section 6, page 36, for change intervals.

Air/oil separator interval:

The air/oil separator light illuminates when the new service interval can be set for the air/oil separator. The factory recommends this be set at 4000 hours.

Oil filter interval:

The oil filter light illuminates when the new service interval can be set for the oil filter. The factory recommends this be set at 1000 hours.

NOTICE

After replacing the oil, filters, or separator, the service interval must be set in the controller.

MULTIPILOT MENU – Contact Champion Customer Service. To enter the MULTIPILOT Menu from the basic display when the compressor is stopped, simultaneously push the up arrow and the down arrow keys and hold for 5 seconds, until all the indicator lights on the display start flashing, then select code 03.

The settings in this menu are used when the compressor is connected to the optional Multipilot control through an RS 485 communication line. An additional printed circuit board is needed. Contact Champion Customer Service.

Use the scroll key (↑↓) to select the desired option for programming. The numerical values can be changed with the up arrow or the down arrow keys. The value flashes on the display to indicate change. When the flashing stops, the value becomes the new setting. The following can be programmed through the MULTIPILOT MENU.

Compressor identification number:

The display shows alternately the text RS 485 and the compressor number.

When no indicator lights are on, the compressor identification number can be changed.

The number flashes quickly as its value is being changed.

Selecting the pressure control point:

The compressor's pressure control point can be changed here. The text LOCAL indicates control by the compressor, while the text PILOT means control by the multipilot system.

REMOTE CONTROL OPERATION – Remote control operation is selected by turning the selector switch on the cabinet clockwise, FIGURE 4-2, page 16, detail number 21.

WARNING

When the remote control is enabled, the compressor's own start button is not in operation. However, the compressor can be stopped with the stop button on the compressor.

In the remote control mode the compressor is operated with a closing contact which is connected to terminal blocks 22 and 30 of the compressor control box. The compressor is started by closing the contact and stopped by opening it.

MULTI-COMPRESSOR CONTROL – If multi-compressor control with a sequence controller is desired, a closing contact is connected to terminals 20 and 25. When the contact is closed, the compressor is controlled by a sequence controller.

In addition, a closing contact for discharge pressure regulation is connected to terminals 21 and 27. When the contact is closed, the compressor runs fully loaded; when the contact is open, the compressor runs unloaded.

COMPRESSOR SETTINGS CHANGEABLE BY THE USER:

Parameter	Setting range	Factory setting
Unload pressure	45 psig to compressor maximum pressure (see nameplate)	Maximum pressure rating for the package as built at the factory*
Discharge pressure	45 psig to compressor maximum pressure (see nameplate)	differential pressure = 10 psi
Automatic timer	1–20 minutes	3 or 5 minutes
Automatic start delay	0 or 10–240 seconds	0
Condensate removal, open time	1–20 seconds	2 seconds
Condensate removal, close time	10 – 120 seconds	60 seconds
Air filter replacement interval	0–4000 hours	2000 hours
Oil change interval	0–4000 hours	4000 hours
Air/oil separator replacement interval	0–8000 hours	6000 hours
Oil filter replacement interval	0–4000 hours	1000 hours

CONTROL DEVICES

CONTROLLER – See “Air Pilot Electronic Controller,” page 14, for description.

Relief Valve – (A) pressure relief valve(s) is (are) installed in the final discharge line and set to approximately 120–125% of the unit's full load operating pressure for protection against over pressure. Periodic checks should be made to ensure its (their) operation.

The relief valve should be tested for proper operation at least once every year. To test the relief valve, raise the system operating pressure to 75% of the relief valve set pressure and manually open the valve with the hand lever. Hold the valve open for a few seconds and allow it to snap shut.



CAUTION

Never paint, lubricate or alter a relief valve. Do not plug vent or restrict discharge.



WARNING

Operation of unit with improper relief valve setting can result in severe personal injury or machine damage.

Insure properly set valves are installed and maintained.



WARNING

When the relief valve opens, a stream of high velocity air is released, resulting in a high noise level and possible discharge of accumulated dirt or other debris. Always wear eye and ear protection and stand clear of the discharge port when testing the relief valve to prevent injury.

Blowdown Valve (FIGURE 4–1, page 14) – This valve is normally used for control functions, but also serves to relieve air/oil reservoir pressure following a shut-down. The blowdown valve is a pneumatic operated valve which is piped into the air/oil reservoir, ahead of the minimum pressure check valve. When the valve is open, the system blows down. When the valve closes, the system pressurizes.

Oil Level Gauge – This gauge is located on the oil reservoir and indicates the oil level. See Section 5, page 32, for information on how to correctly read the gauge.

Minimum Discharge Pressure/Check Valve (FIGURE 5–1, page 28) – An internal spring-loaded