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McCormick

GR SPH w/65" LAH



# FLEXXAIRE

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**PARTS BOOK 01801**

**FLEXXAIRE™ FAN SYSTEM 15328 - 2 POS 24V**

**KIT SERIAL NUMBER(S) #####**

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**MACHINE MAKE VARIOUS**

**MODEL FX/TAC-H**

**SERIAL NUMBER(S) VARIOUS**

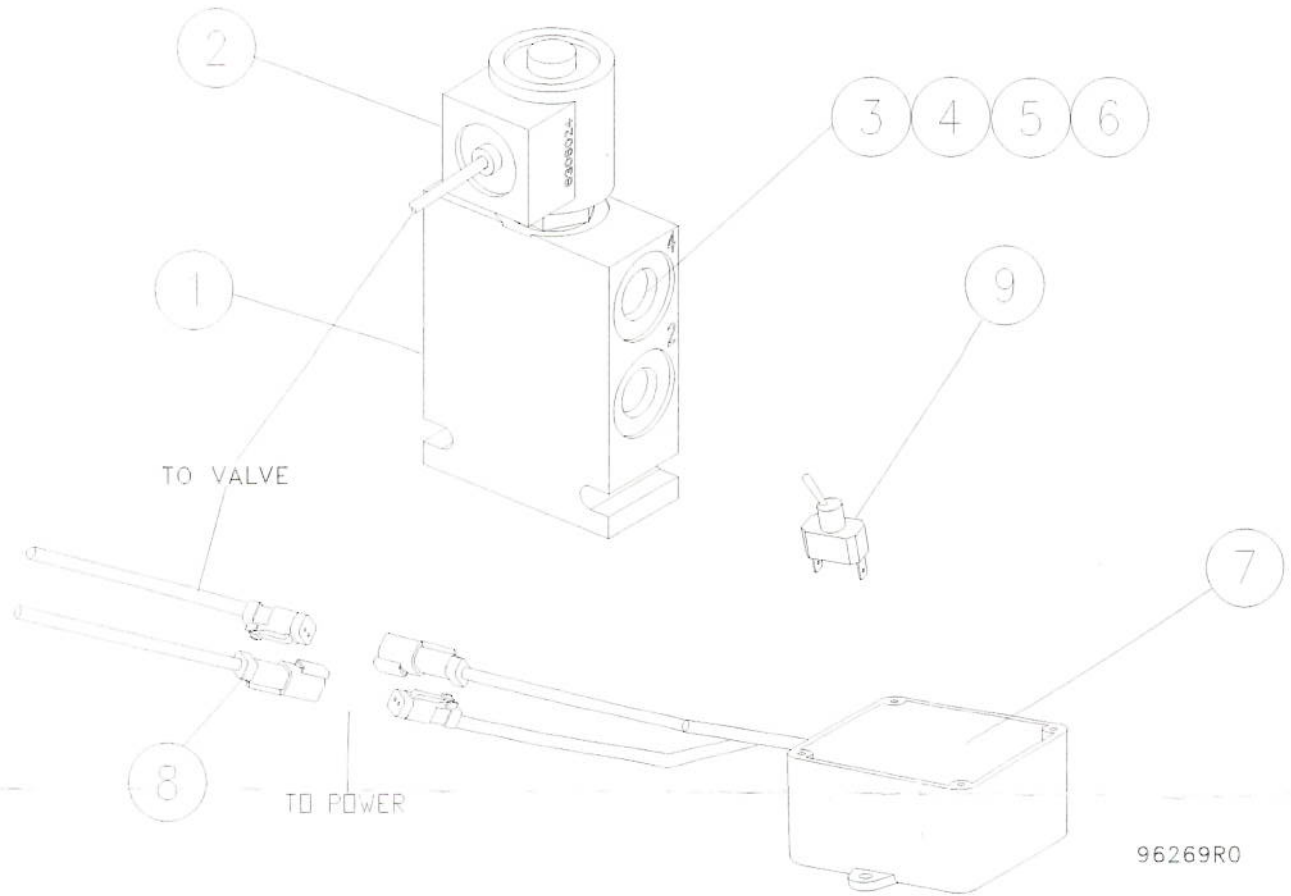
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# PARTS BOOK FOR FX/TAC-H CONTROL SYSTEM (15328) 2-POS 24V



ILLUSTRATIONS MAY NOT BE SPECIFIC TO YOUR MODEL ARE INTENDED FOR PARTS IDENTIFICATION ONLY

NOTE	REF NO	PART NUMBER	QTY	DESCRIPTION	NOTE	REF NO	PART NUMBER	QTY	DESCRIPTION
	1	50719	1	VALVE BODY	C	6	13407	1	PLUG
	2	15340	1	SOLENOID	A	7	14098	1	TIMER ASSEMBLY
	3	15372	1	ORFICE		8	20207	1	POWER CABLE
	4	12521	3	ADAPTER #6 ORB to JIC		9	14127	1	TOGGLE SWITCH
	5	12522	1	ADAPTER #6 ORB to JIC w/TAP for ORFICE					

A - SOLD AS ASSEMBLY ONLY  
 B - SUPPLIED FOR FX FANS  
 C - SUPPLIED FOR TAC-H FANS

THE CONTROL KIT SERIAL NUMBER IS REQUIRED WHEN ORDERING PART

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## 2-Position Hydraulic Control System Installation Instructions

This document outlines the procedure for installing Flexxaire's 2-position hydraulic control systems (p/n 15328) for Flexxaire fan systems. If you have any questions or require further assistance, please call Flexxaire at 866-489-3267.

Flexxaire has 2 distinctly different hydraulically actuated fan systems. The FX fan adjusts blade pitch by way of a double-acting piston and cylinder arrangement. The Hybrid fan adjusts pitch with a single-acting, spring-return piston and cylinder arrangement.

### HYDRAULIC SYSTEM SPECIFICATIONS

Flexxaire's FX and Hybrid fans require a hydraulic pressure source from the machine. The source for your specific application may be specified in the **Special Instructions** under the title of "Recommended Hydraulic Source" within the front cover page of the installation manual. If not, there are several considerations to make:

- A. Flexxaire's hydraulically actuated fans place little demand on a hydraulic system's flow rate. Approximately 2 in<sup>3</sup> of oil is required for a full purge.
- B. FX fans have an acceptable hydraulic pressure range of 300 - 1200 psi. Hybrid fans have an acceptable hydraulic pressure range of 470 - 1000 psi.
- C. The hydraulic source must maintain the minimum operating pressure to hold the fan blades in pitch.

**NOTE:** The Differential Pressure (Source Pressure - Return Pressure) must meet or exceed the minimum pressure requirement.

- D. Avoid hydraulic systems with high pressure spikes.
- E. The hydraulic seals used in Flexxaire's fans are compatible with most petroleum based hydraulic and lubricating oils. Do not use high temperature oils, aromatic solvents or industrial phosphate esters; use of these fluids could result in a seal failure.
- F. Potential hydraulic sources for a Flexxaire fan:
  - a. Pilot / Charge pressure systems.
  - b. Parking brake system.
  - c. Power steering system.
  - d. Final drive system.
  - e. Any other hydraulic source that meets the above specifications but are not listed above may be a good source. Contact your Flexxaire representative for verification.
- G. FX fan assemblies are shipped with #6 ORB fittings with JIC (9/16" - 18 MALE 37° Flare end) ends. Hybrid fan valve bodies have #6 ORB female ports.

### CONTROL KIT INFORMATION

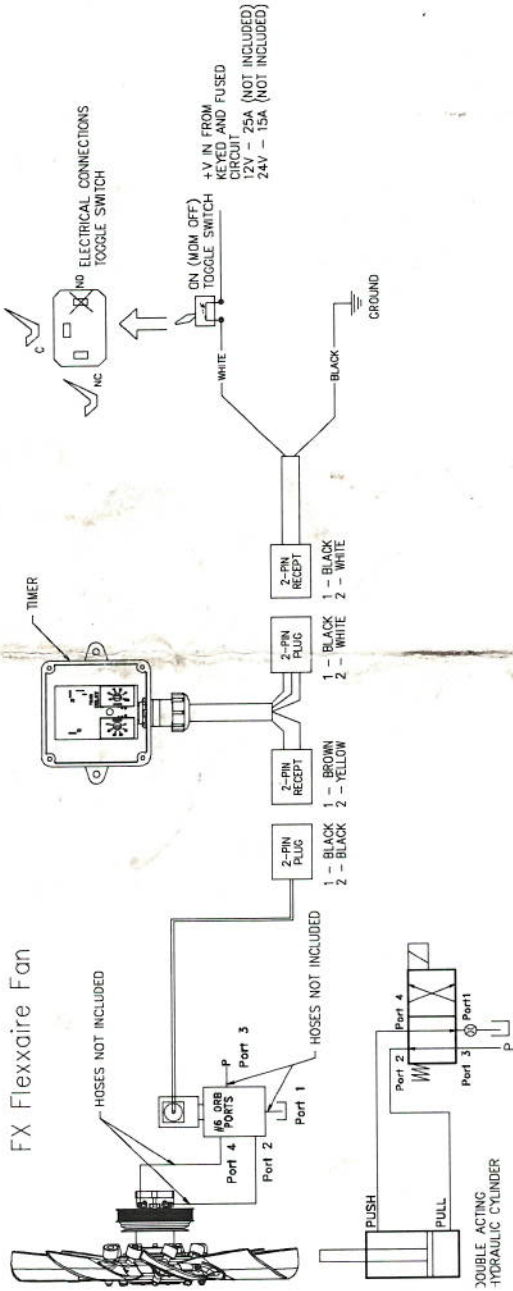
After the fan is mounted onto the machine, the hydraulic solenoid valve, hydraulic lines, etc. must be installed. This fan control group uses a 2-position solenoid valve. A 2-position valve gives two pitch positions - "PUSH" and "PULL", and is suitable for applications which only require purging.

The Flexxaire 2-position hydraulic control kit (p/n 153298) includes a timer to automate purge cycles, a hydraulic solenoid valve with orifice and fittings and a momentary switch to manually trigger a purge cycle.

**NOTE:** This kit does not come with hydraulic lines or fittings as these vary from machine to machine. Determine the additional materials required prior to starting installation.

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FX Flexxaire Fan



Hybrid Flexxaire Fan

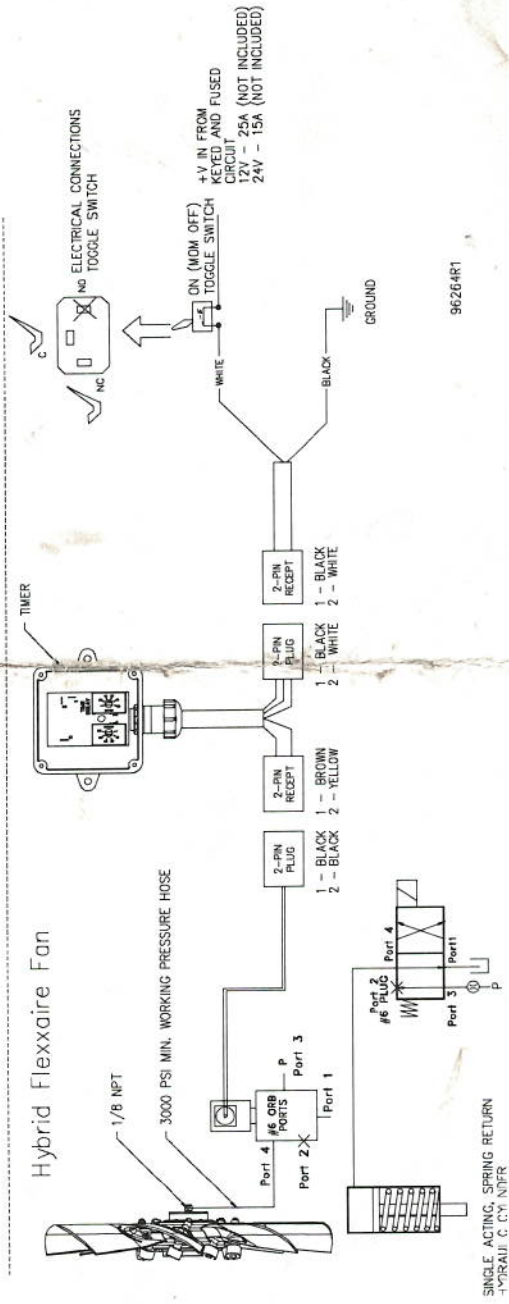


Figure 1: Flexxaire 2-Position Fan Wiring and Hydraulic Schematic

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## HYDRAULIC VALVE INSTALLATION - Refer to Figure 1

- A. Mount the solenoid valve in a suitable location on the application.
- B. For **Hybrid** fans, ensure the orifice is located in Port 3. For **FX** fans, ensure the orifice is located in Port 1.
- C. Install a "T" fitting and attach a hydraulic line from the pressure line to Port 3 on the valve manifold.
- D. Install a "T" fitting and attach a hydraulic line from the return line to tank to Port 1.
- E. For **FX** fans, attach the hydraulic lines from Port 2 on the valve manifold to 'PULL' and Port 4 on the valve manifold to 'PUSH' on the FX fan mainshaft. For **Hybrid** fans, attach the hydraulic line from Port 4 of the valve manifold to the rotary union on the front of the fan.

## ELECTRICAL INSTALLATION – Refer to Figure 1

The 2-position valve comes with one solenoid. The fan will start in full pitch and when the solenoid is energized the fan will reverse pitch. When the solenoid is de-energized the fan will return to original full pitch position.

Please see Figure 1 for a detailed description of the electrical system wiring arrangement for Flexxaire's hydraulic, 2-position fans.

## HYDRAULIC FAN CONTROL SET-UP

**NOTE:** Control valve bodies from Flexxaire include an orifice which is used to control the speed at which the blades change pitch. Please see **Figure 1** for information regarding the specific location of the orifice. Under no circumstances should a Flexxaire fan move from the "PULL" to "PUSH" blade positions in less than 1 second. Please contact your Flexxaire representative if the blade pitch interval is less than 1 second.

- A. Start the engine to develop hydraulic pressure.
- B. Reverse Flexxaire fan several times with the toggle switch to purge air from newly installed hydraulic lines.

**NOTE:** If air exists within the hydraulic lines, the fan will take longer to purge.

- C. Set the Timer by adjusting the "ON TIME" (Duration) and the "OFF TIME" (Interval) to the desired lengths. Select a duration and interval that meets the application requirements. By default, the "ON TIME" is set to 15 seconds and "OFF TIME" to 20 minutes.

**NOTE1:** "ON TIME" is the length of the purge cycle (duration) and is adjustable between 1-100 seconds. "OFF TIME" is the time between purge cycles (interval) is adjustable between 1-100 minutes.

**NOTE2:** This Timer gives the option of setting interval times as low as 1 minute, but it is not recommended to set intervals below 5 minutes due to reduction in cooling capacity and potentially excessive wear of fan components.