

THREAD MODIFICATION

(3306 KITS: MODEL 73450K, MODEL 73495)

PCB 46S02275-0010 SCHEMATIC 45S02275-0010

DESCRIPTION

This modification is one of a series available for Louis Allis Saber DC drives. It consists of components necessary for modifying the basic Controller for the thread function. It also includes modification overlays for the basic schematic in the Controller instruction manual.

The addition of this modification to the Controller provides a separately adjustable thread speed of up to 33% of rated speed. With the drive stopped after the STOP push button has been pressed and with any optional modification transfer relays in the manual position, pressing the THREAD push button applies the thread speed reference to the Acceleration Control circuit. When the drive is running at thread speed, pressing the RUN push button causes the drive to accelerate to run speed. When the drive is operating at run speed, pressing the THREAD push button causes the drive to operate at thread speed. When the drive is operating at thread speed or run speed, pressing the STOP push button causes the drive to stop.

INSTALLATION

WARNING

REMOVE ALL INPUT POWER TO DRIVE
BEFORE INSTALLING MODIFICATION KIT.

The Thread PCB is to be installed to the Relay/Interface PCB (see Figure 1). Installation instructions are contained in the Controller instruction manual.

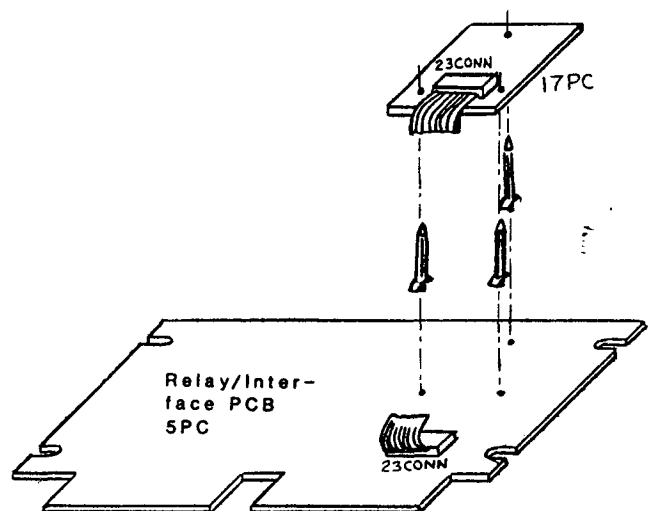


Figure 1

This modification requires 2TB installed on Relay/Interface PCB. For Kit Model 73450K, install cable 19CONN between Relay/Interface PCB and Volt/Speed Main PCB, following routing of cable 18CONN.

After installing the modification PCB, apply the appropriate Overlays to the basic schematic diagram as described in the Controller instruction manual.

CHANGE RECORD

1	STD-1430	3/4/82		
2	STD-2666	2/3/87		
3	STD-2733	RRR 3-20-87		

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NOTE

If this modification is used in conjunction with the Controlled Stop modification, the correct overlay must be selected from those included with the Controlled Stop modification.

INTERCONNECTION

This modification provides for internal THREAD adjustment when switch 1SS on the Thread PCB is closed (screw turned all the way in). If an external THREAD potentiometer is used the screw must be removed from switch 1SS.

Perform equipment interconnection according to the Controller instruction manual but substitute wiring in Figure 2 and Table 1 for operator control station wiring.

NOTE

If this modification is to be used in conjunction with Controlled Stop, refer to the Controlled Stop instruction sheet for interconnection information.

ADJUSTMENTS

After performing the adjustments in the Controller instruction manual, adjust the modification PCB as follows:

1. Apply AC input power to the drive.
2. Turn the THREAD SPEED potentiometer fully counterclockwise and press the THREAD push button.
3. Adjust the THREAD SPEED potentiometer clockwise as required to obtain desired thread speed.
4. Turn the SPEED Control potentiometer fully clockwise. Press the RUN

push button and note that drive accelerates to run speed.

5. If desired speed cannot be obtained, perform modification kit troubleshooting procedures.

MODIFICATION RECORDS

After completing installation of all modifications:

A. Modify the Controller identification number using Method 1 in the Controller instruction manual. Insert the appropriate designator in block 4.

B. If not already present, affix the OPTION ADJUSTMENTS label to the inside of the Power Cube cover, to the right of the STANDARD ADJUSTMENTS label.

C. On the OPTION ADJUSTMENTS label, record the final settings of all pots or switches on this modification.

D. Insert this instruction sheet immediately behind front cover of the Controller instruction manual.

TROUBLESHOOTING

If other mod boards have been installed, troubleshoot them thoroughly before discarding this board as faulty.

Troubleshooting consists of checking the input and output voltage of the circuit.

1. Rotate the THREAD SPEED potentiometer fully counterclockwise.
2. Apply AC input power to the Controller.
3. Rotate the SPEED control fully clockwise and press the THREAD push button.
4. Refer to the schematic diagram of the Thread PCB and check input voltage from 1TB-8 to 1TB-4 (common) of the

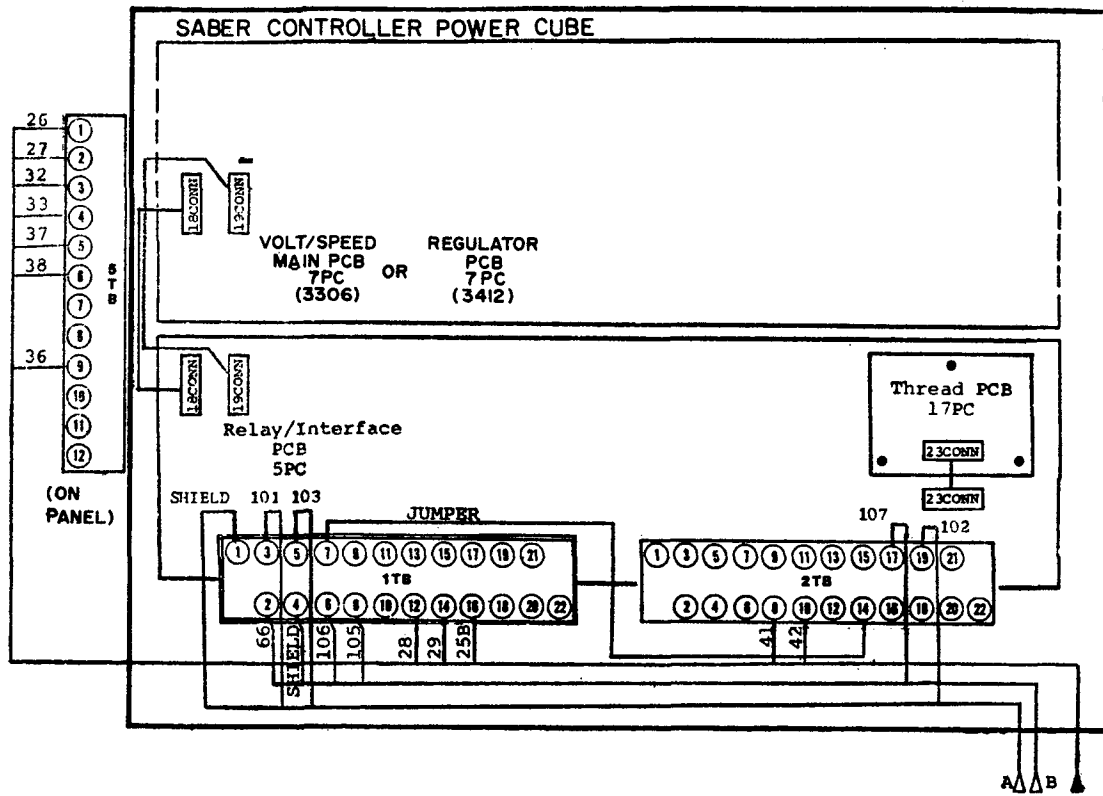
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Relay/Interface PCB. Voltage should be approximately -15 VDC. If voltage is incorrect, refer to the troubleshooting charts in the Controller instruction manual or remove the Thread PCB and repeat this check.

5. Check output voltage from 1TP on the Thread PCB to 33TP (common) on the Volt/Speed Main PCB (3306) or 63TP (common) on the Regulator PCB (3412).

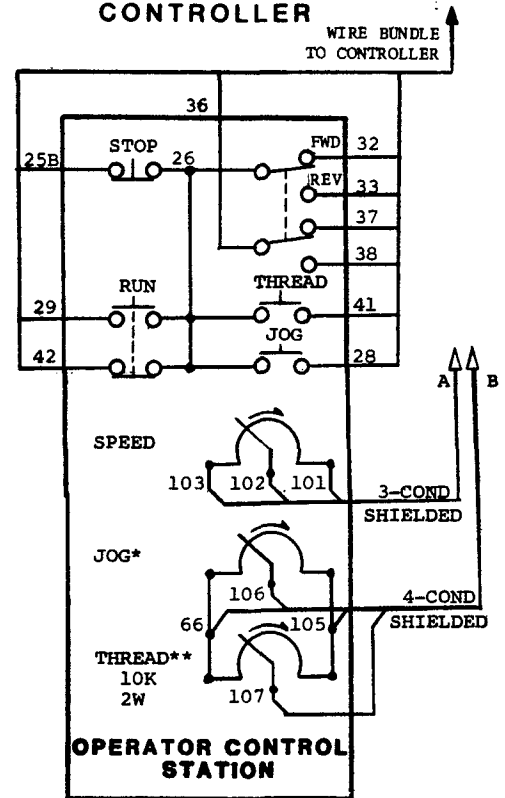
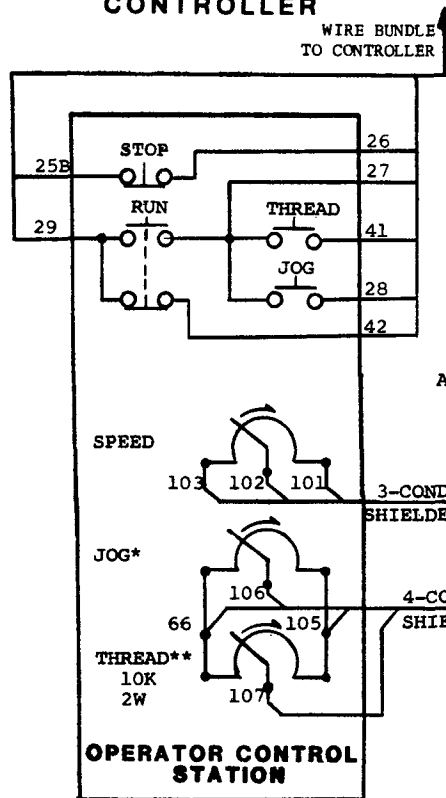
6. Press RUN push button and check output voltage from 1TP on the Thread PCB to 33TP (common) on the Volt/Speed Main PCB (3306) or 63TP (common) on the Regulator PCB (3412). Voltage should not vary with the setting of the SPEED control potentiometer. If voltage is incorrect, replace the Thread PCB.

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FOR NON-REVERSING CONTROLLER

FOR REVERSING CONTROLLER



- * If JOG potentiometer is mounted in the Operator Control Station as shown, 25S on 7PC must be in the OFF position.
- ** If THREAD potentiometer is mounted in the Operator Control Station as shown, the screw must be removed from 1SS on the Thread PCB.

Figure 2. Installation/Interconnection Diagram

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Table 1.

WIRE NO.	-- FROM		TO		REMARKS
	EQUIPMENT	TB OR OTHER MARKING	EQUIPMENT	TB OR OTHER MARKING	
NON-REVERSING CONTROLLER					
25B	STOP PB		Controller	1 TB (16)	
26	STOP PB		Controller	5 TB (1)	
	RUN PB	N.O.	Controller	5 TB (1)	
27	RUN PB	NO	THREAD PB		
	THREAD PB		JOG PB		
28	JOG PB		Controller	1 TB (12)	
29	RUN PB	N.O.	Controller	1 TB (14)	
	RUN PB	N.O.	RUN PB	N.C.	
41	THREAD PB		Controller	2 TB (8)	
42	RUN PB	N.C.	Controller	2 TB (10)	
JUMPER	Controller	1 TB (7)	Controller	2 TB (14)	
101	SPEED Potentiometer	CW	Controller	1 TB (3)	
102		Wiper		2 TB (19)	
103		CCW		1 TB (5)	
SHIELD	NO CONNECTION				
66	Ext JOG Pot	CCW	Controller	1 TB (2)	
	Ext THREAD Pot	CCW	Ext JOG Pot	CCW	
105	Ext JOG Pot	CW	Controller	1 TB (8)	
	Ext THREAD Pot	CW	Ext JOG Pot	CW	
106	Ext JOG Pot	Wiper	Controller	1 TB (6)	
107	Ext THREAD Pot	Wiper	Controller	2 TB (17)	
SHIELD	NO CONNECTION		Controller	1 TB (4)	

(Table Continued)

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Table 1.
(Continued)

WIRE NO.	FROM		TO		REMARKS
	EQUIPMENT	TB OR OTHER MARKING	EQUIPMENT	TB OR OTHER MARKING	
REVERSING CONTROLLER					
25B	STOP PB		Controller	1 TB (16)	
26	STOP PB		RUN PB		
	STOP PB		FWD/Rev Sw.		
	RUN PB	N.O.	RUN PB	N.C.	
	THREAD PB		RUN PB		
	JOG PB		RUN PB		
28	JOG PB		Controller	1 TB (12)	
29	RUN PB	N.O.	Controller	1 TB (14)	
32	FWD/Rev Switch		Controller	5 TB (3)	
33				5 TB (4)	
36				5 TB (9)	
37				5 TB (5)	
38				5 TB (6)	
41	THREAD PB		Controller	2 TB (8)	
42	RUN PB	N.C.	Controller	2 TB (10)	
JUMPER	Controller	1 TB (7)	Controller	2 TB (14)	
101	SPEED Potentiometer	CW	Controller	1 TB (3)	3-Conductor shielded. See note in Controller manual for connecting shielded cable.
102		Wiper		2 TB (19)	
103		CCW		1 TB (5)	
SHIELD	NO CONNECTION			1 TB (1)	
66	Ext JOG Pot	CCW	Controller	1 TB (2)	
	Ext THREAD Pot	CCW	Ext JOG Pot	CCW	
105	Ext JOG Pot	CW	Controller	1 TB (8)	
	Ext THREAD Pot	CW	Ext JOG Pot	CW	
106	Ext JOG Pot	Wiper	Controller	1 TB (6)	
107	Ext THREAD Pot	Wiper	Controller	2 TB (17)	
SHIELD	NO CONNECTION		Controller	1 TB (4)	

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