How to Match "H" Boards and Software
For board part numbers 08BH18E***

This document applies to machines with suffixes VxJ and HxJ.

Pick the Right Processor Board

1. If the machine is sitting in place but has no processor board installed then the right processor board must be picked first. Refer to the "Guide to 188 Processor Replacements". The connector colors are key to getting a board matched to the machine. See page 3 below.
   a. Kit KXMIC00188 contains a processor board and the conversion harness from Amp connectors (Red) to the later Molex connectors (White).
   b. The clock speed on the board in the kit must be checked to determine the right software. Be sure to check any board taken from stock for clock speed (shown on the silver rectangular can next to the processor chip). There are 3 clock speeds, 11.0592Mhz, 15 Mhz and 20 Mhz. The board part number should also reflect changes in clock speed.

Pick the Right Software

2. After the processor type is determined then the proper software for the machine needs to be found. The spreadsheet of all Washer-Extractor software is available online at www.milnor.com to help source the right software. Excerpts are attached and are valid for VxJ and HxJ machines produced through 12-27-02. More current data may be available online. See the Milnor Tech Support Knowledge Base under key word "Software Compatibility".
   a. To use the spreadsheet, pick the right machine class that you are working on (this requires the machine model number) and then find the processor board in the list.
   b. Then install the latest version of software for the processor board of that type.
   c. Be sure to check all columns on the spreadsheet for the given machine to insure compatibility with the machine.
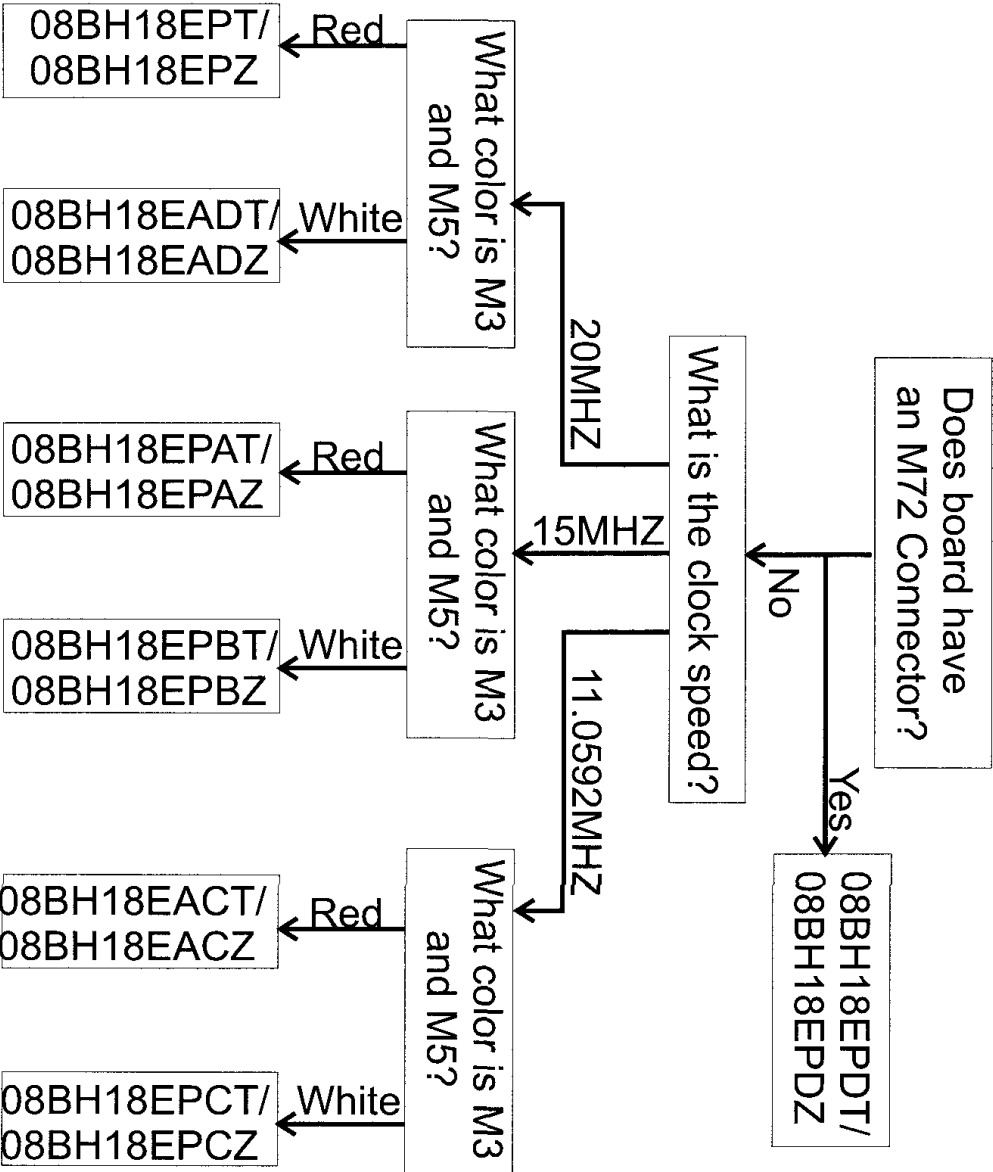
Special Notes:

1. It is possible that the kit KXMIC00188 has one of 3 different processor board part numbers in it. This kit does contain the output connector converter (24 pin) From the AMP (red) to the Molex (white) connector. This means that the actual part number must be determined before setting out to repair a machine.
2. The machine will not work properly if the processor board and software are not compatible. Strange characters or scrolling characters may appear in the display if the software does not match the clock speed on the processor board.

3. Ordering replacement electronic boards and software by model and serial number does not guarantee success in replacing these parts.
4. It is possible to repair a machine with spare boards of a different part number (and clock speed) as long as the software is compatible with the spare board and the machine. The connectors on the machine must also match the spare board.
5. The download feature, if available on a given board, is wired to pins 1 and 2 of the power connector (M1).
6. The connector M72 is a 14 pin Molex that connects the processor to the switch panel on 36 and 42 V machines.

GLL 12-27-02

GUIDE TO 188PROCESSOR REPLACEMENTS

NUMBERS THAT END WITH "T" ARE NEW, "Z" ARE REMANUFACTURED

Does board have an M72 Connector?

- No →
- Yes → 08BH18EPDT/ 08BH18EPDZ

What is the clock speed?

20MHZ → What color is M3 and M5?
- Red → 08BH18EPT/ 08BH18EPZ
- White → 08BH18EADT/ 08BH18EADZ

15MHZ → What color is M3 and M5?
- Red → 08BH18EPAT/ 08BH18EPAZ
- White → 08BH18EPBT/ 08BH18EPBZ

11.0592MHZ → What color is M3 and M5?
- Red → 08BH18EACT/ 08BH18EACZ
- White → 08BH18EPCT/ 08BH18EPCZ

For HxJ Machines Only!

Software P/N	Software Version	Processor Board	Crystal Frequency	Output Connector	Download Available?	Door Button Required
WUH7JA	97001	08BH18EPT	20Mhz	AMP(RED)	NO	NO
	97002	08BH18EPT	20Mhz	AMP(RED)	NO	NO
	97003	08BH18EPT	20Mhz	AMP(RED)	NO	NO
	97004	08BH18EPT	20Mhz	AMP(RED)	NO	NO
	97005	08BH18EPT	20Mhz	AMP(RED)	NO	NO
	97006	08BH18EPT	20Mhz	AMP(RED)	NO	NO
	97007	08BH18EPT	20Mhz	AMP(RED)	NO	NO
	97008	08BH18EPT	20Mhz	AMP(RED)	NO	NO
	97008X	08BH18EPT	20Mhz	AMP(RED)	NO	NO
	97009	08BH18EPT	20Mhz	AMP(RED)	NO	NO
	97009A	08BH18EPT	20Mhz	AMP(RED)	NO	NO
	9700B	08BH18EPT	20Mhz	AMP(RED)	NO	NO
	9700C	08BH18EPT	20Mhz	AMP(RED)	NO	NO
	9700CX	08BH18EPT	20Mhz	AMP(RED)	NO	NO
	2100E	08BH18EPDT	20Mhz	Molex(WHITE)	NO	YES
	2200E	**08BH18EPDT Rev K**	20Mhz	Molex(WHITE)	**YES**	YES
	2200F	**08BH18EPDT Rev K**	20Mhz	Molex(WHITE)	**YES**	YES
WUH7JB	9800C	08BH18EPAT	15Mhz	AMP(RED)	NO	NO
		08BH18EPBT	15Mhz	Molex(WHITE)	NO	NO
WUH7JC	9900C	08BH18EPCT	11Mhz	Molex(WHITE)	NO	NO
	9900D	08BH18EPCT	11Mhz	Molex(WHITE)	NO	NO
WUH7JD	9900E	08BH18EPCT	11Mhz	Molex(WHITE)	NO	YES
	9900EX	08BH18EPCT	11Mhz	Molex(WHITE)	NO	YES

For VxJ Machines Only:

Software P/N	Software Version	Processor Board	Crystal Frequency	Output Connector	Download Available?
WUV7J1B	**2100K**	**08BH18EPDT**	20Mhz	Molex(WHITE)	**YES**
	2200K	**08BH18EPDT**	20Mhz	Molex(WHITE)	**YES**
	2200L	**08BH18EPDT**	20Mhz	Molex(WHITE)	**YES**
	2200M	**08BH18EPDT**	20Mhz	Molex(WHITE)	**YES**
	97009	08BH18EPT	20Mhz	AMP(RED)	NO
	9700A	08BH18EPT	20Mhz	AMP(RED)	NO
	9700B	08BH18EPT	20Mhz	AMP(RED)	NO
	9700C	08BH18EPT	20Mhz	AMP(RED)	NO
	9700D	08BH18EPT	20Mhz	AMP(RED)	NO
WUV7J1C					
	9800D	08BH18EPAT	15Mhz	AMP(RED)	NO
		08BH18EPBT	15Mhz	Molex(WHITE)	NO
WUV7J1D					
	9900D	08BH18EPCT	11Mhz	Molex(WHITE)	NO
	9900E	08BH18EPCT	11Mhz	Molex(WHITE)	NO
	9900F	08BH18EPCT	11Mhz	Molex(WHITE)	NO
	9900G	08BH18EPCT	11Mhz	Molex(WHITE)	NO
	9900H	08BH18EPCT	11Mhz	Molex(WHITE)	NO
	9900i	08BH18EPCT	11Mhz	Molex(WHITE)	NO
	9900J	08BH18EPCT	11Mhz	Molex(WHITE)	NO
	9900K	08BH18EPCT	11Mhz	Molex(WHITE)	NO
	9900KX	08BH18EPCT	11Mhz	Molex(WHITE)	NO
	9900L	08BH18EPCT	11Mhz	Molex(WHITE)	NO