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SERVICE BULLETIN	SUPERSEDE BULLETIN: DATE: PAGE: OF:
SUBJECT: **32SM CONTROLS - CHILLED WATER RECYCLE**	

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PURPOSE

To describe the 32SM chilled water recycle control function.

MACHINES AFFECTED

All 19 Series machines with 32SM controls.

PROCEDURE

When checking out control safeties on machine with 32SM controls, it is possible to get an indication that the chilled water recycle control is not functioning properly when, in fact, there is no actual problem.

If the machine is stopped by manually tripping the low chilled water recycle switch, the machine will stop and the program timer will start, as described in the Operation and Maintenance Instructions. If, however, the switch is remade in a few seconds, relay K1 will eventually drop out, and the machine will not automatically restart.

The reason for this apparent malfunction is as follows:

1. When the recycle switch is tripped, 1CR drops out (compressor stops), K4 drops out, and the program timer starts.
2. Shortly, PT-3 drops to its normally open position, preventing restart.
3. If, at this point, the recycle switch is remade, K4 will energize thru the contacts of K1 and the low oil pressure switch (Terminal [9]) because there is still coastdown lubrication (PT-3 is still made in its normally open position).
4. Ten seconds later, K4 contacts (between [17] and [14]) will open.
5. When coastdown lubrication stops, K1 will drop out, preventing automatic restart

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The above should not happen during normal operation. If the chilled water temperature gets low enough to trip the recycle switch, the refrigeration load is probably quite low and the entering chilled water temperature correspondingly low. It should take several minutes for the chilled water loop to rise ten degrees to remake the chilled water recycle switch, well after coastdown lubrication stops. In this case, K1 will not drop out and the machine will automatically recycle when called for.

In summary, if the machine trips out on low chilled water and the recycle switch is remade before the end of coastdown lubrication (30-45 seconds for 19DG, EA; 5 minutes for 19CB), the machine will not automatically restart. During normal operation, this should not be the case.