

# Speed Search Board Function and Installation

After a momentary power outage or if the ST – CC connection momentarily opens and is then closed, the output signal of the ASD will cease and the ASD may have to startup into a spinning motor upon restart. The Auto-Restart Speed Search option board (ASD-SS) is used to supplement the performance of the Auto-Restart function by allowing the ASD to determine the rotor speed before outputting a signal to the motor. Once the speed and direction of the motor are determined, the ASD will provide the normal output to engage the motor from its present speed and continues on with the programmed speed reference.

Parameter **F301** enables the Speed Search function of the ASD. The Speed Search Board option is one of several speed search methods used by the ASD to detect the speed and direction of a spinning motor. The Speed Search Board may be selected using **F314** (select Option Board).

The advantage of using this method is that neither the motor constants nor the vector calculations are a requirement for proper operation. This results in a more reliable and accurate speed search function.

## Required Hardware

- Connector Assembly — P/N 51203A
- Cable Assembly — P/N 75105
- Speed Search PWB — 51202A
- Speed Search Resistance PWB — 51756A

## Installation Precautions

- The Speed Search option must be factory-installed on the following G7 ASD systems:  
230 volt 1 – 5 and 10 – 25 HP,  
460 volt 1 – 5 and 15 – 40 HP, and the  
600 volt 1 – 5 HP.
- When using a shaft-mounted encoder for feedback the Speed Search hardware option board should not be used.
- Route the connector assembly cable away from heat sources and sharp edges.

## Installation and Setup Procedure

1. Plug the dual-board assembly into the power supply board. Ensure that connectors CSSU, CSSV, and CSSW of the power supply board connect to CSSUA, CSSVA, and CSSWA of the Speed Search option board respectively.

***Note:** The Speed Search hardware connects differently for each HP class of ASD. See figures 1 or 2 for connection specifics for each class.*

2. Connect CNU3A of the Speed Search option board to CNU3 of the Control Board.
3. Enable the Speed Search function (F301) by placing a check in the Break/Make ST box.

Figure 1. ASD Speed Search Board connection information (7.5 – 10 HP).

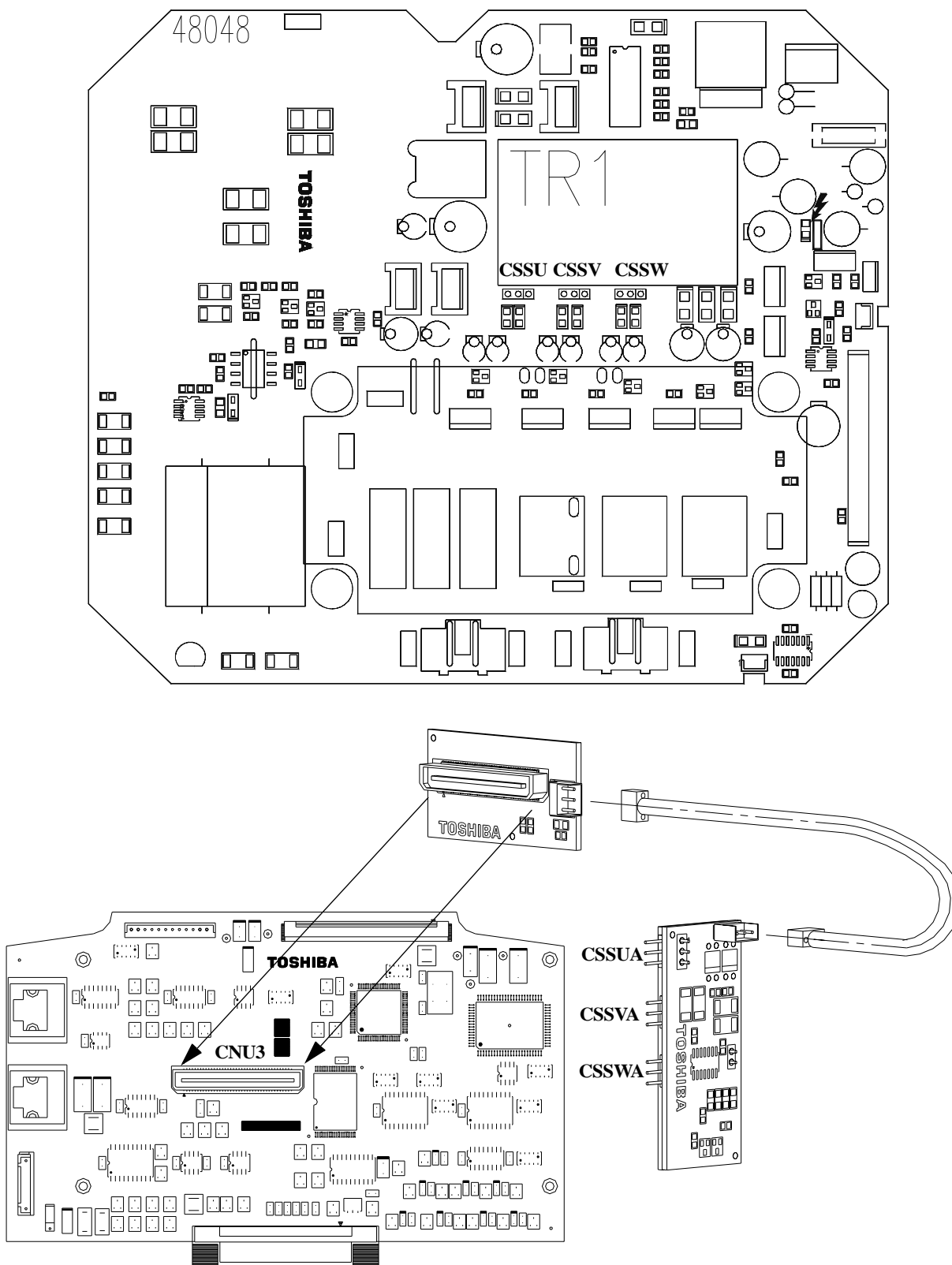


Figure 2. ASD Speed Search Board connection information ( $\geq 50$  HP).

